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# CATALOG 2020-2021

GLENDALE, ARIZONA CAMPUS



MIDWESTERN UNIVERSITY

*Tomorrow's Healthcare Team*

# MIDWESTERN UNIVERSITY COURSE CATALOG 2020-2021

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# MIDWESTERN UNIVERSITY

I welcome you to our Glendale Campus and your new academic community. The students of Midwestern University represent a dynamic group of individuals who share a passion for learning, a personal drive that prepares them for a long and successful professional healthcare career, and a commitment to excellence. Midwestern University is a special place and our students are active participants within the campus and external community.

It is our philosophy that students learn within our team environment by studying and sharing experiences with their peers while being mentored and coached by our faculty and staff. At Midwestern University, the commitment to excellence in education is the ultimate goal of mine and the entire University Administration, which takes a personal interest in the quality of education while providing a safe and secure environment in which to live and learn.

What makes us special? Our foundation is the dedicated faculty and staff who work diligently to provide you with outstanding educational opportunities. We believe in a continuum of education that begins as you enter Midwestern and never ends. It is our mission to provide you with the best education to prepare you to serve in your chosen career.

Midwestern University makes a commitment to its students that they will be intellectually prepared to serve the community as healthcare professionals who have the skills, ability, and leadership to meet the changing demands of healthcare. I am proud to say that our students and alumni reflect the positive human values we believe are essential within the changing healthcare environment in order to make a significant contribution to society. Our students care about their patients as well as their colleagues and families. Midwestern University provides you with dedicated faculty who excel in teaching, research, and service within their professions. The University exists to preserve, extend, and transmit knowledge and deepen understanding of the health and well being of the human person. Our tradition of excellence is based on a long legacy of dedicated teachers and professionals who have demanded academic excellence and respect for the dignity of the whole person.

Our colleges are known for their innovation and excellence in education. As a student within the Arizona College of Osteopathic Medicine, the College of Pharmacy-Glendale, the College of Health Sciences, the College of Graduate Studies, the College of Dental Medicine-Arizona, the Arizona College of Optometry, or the College of Veterinary Medicine, I know you will find our values and beliefs to be consistent. We are one academic community working together to provide you with an outstanding education.

I welcome you to this dynamic academic community. I hope you will find your days on the Glendale Campus of Midwestern University to be intellectually challenging and personally rewarding.

*Kathleen H. Goepfinger, Ph.D.*  
*President and Chief Executive Officer*

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## MISSION

Midwestern University's historical and sustaining philosophy dedicates the institution and its resources to the highest standards of academic excellence to meet the educational needs of the healthcare community.

## VISION

Midwestern University will provide a safe and healthy environment that challenges its faculty, staff, and students to:

- Promote and maintain the osteopathic philosophy
- Nourish intellectual creativity and foster the critical thinking and communication skills that stimulate personal growth and engender professional development
- Support the teaching, scholarly activity, and service capabilities of the University
- Respect, appreciate, and acknowledge the achievements of all members of the academic community
- Embrace cultural and social diversity in the academic community and the community-at-large

## HISTORY

*Midwestern University: A Legacy of Growth and Development*

Midwestern University has a proud and impressive history. Founded in 1900 as the American College of Osteopathic Medicine and Surgery by J. Martin Littlejohn, Ph.D., D.O., M.D. (1865-1947), the organization was incorporated in Chicago, Illinois, to train physicians in a not-for-profit environment.

Dr. Littlejohn hired talented faculty that enabled the College to establish a reputation as a leader in medical education, research, and clinical practice. The early faculty mentored their students in the art and science of osteopathic medicine while teaching surgery, principles and practices of osteopathy, anatomy, and basic science. The growth of our osteopathic college is intertwined with that of the osteopathic medical profession itself. Ever since 1874 when a country doctor, Andrew Taylor Still, announced his new theory of osteopathy and began the first college in 1892, the profession has grown in reputation and acceptance around the country and many international settings.

Today, Midwestern University is still governed by the strong principles of the founding administration and faculty. We are an independent, not-for-profit corporation organized primarily to provide graduate, and postgraduate education in the health sciences. We are dedicated to the education and development of our students, faculty, and staff in an environment that encourages learning and personal development.

From the earliest days of our founding college, the development of the University has been impressive. The vision of the University leadership is to serve the needs of society by developing the healthcare team of tomorrow, while students learn the art and science of their professions within a safe and secure campus environment.



The Downers Grove, Illinois, Campus was purchased in 1986, and the Chicago College of Osteopathic Medicine (CCOM) moved from its prior home in Hyde Park, Illinois, to this western suburb. Following the relocation of the College, the Board of Trustees voted to begin the development of new academic programs within the health sciences. The Chicago College of Pharmacy (CCP) began in 1991, the College of Health Sciences (CHS) began in 1992, the College of Dental Medicine - Illinois (CDMI) in 2009, the Chicago College of Optometry (CCO) in 2014 and the College of Graduate Studies (CGS) in 2018. In 1993, the Board of Trustees unanimously approved a single, educational mission for the institution, and Midwestern University emerged. Today the Downers Grove Campus, located on 105 acres, has 20 buildings that include academic classrooms, laboratories, a state-of-the-art library and auditorium building, science building, student commons, recreation center, and student housing. The University also opened the MWU Multispecialty Clinic in 2013.

The Glendale, Arizona, Campus was founded in 1995 when the Board of Trustees approved the purchase of land and the building of this new campus. The Arizona College of Osteopathic Medicine (AZCOM) began in 1995, the College of Health Sciences in 1996, the College of Pharmacy-Glendale (CPG) in 1998, the College of Dental Medicine (CDMA) in 2006, the Arizona College of Optometry (AZCOPT) in 2008, the College of Veterinary Medicine (CVM) in 2012 and the College of Graduate Studies (CGS) in 2018. The campus has seen rapid growth in the number of buildings, academic programs, faculty, staff, and students. Today the Glendale Campus, located on 156 acres, has 52 buildings that provide for academic classrooms, state-of-the-art laboratories, student commons, auditorium, recreation center, student housing, a Multispecialty Clinic, the Dental Institute, the Eye Institute, the Therapy Institute, and the Animal Health Institute.

Midwestern University has developed strong partnerships with healthcare providers and facilities around the country to aid in the education of students in all of its academic programs. The history of the institution is reflected in the many alumni who have successful careers and a deep affection for their college and University. The Administration and the Board of Trustees are dedicated to fulfilling our mission of excellence and service. We remain committed to our tradition of providing quality health care education. We are educating tomorrow's healthcare team.

## ACCREDITATION

Midwestern University is accredited by the Higher Learning Commission (230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413; 800/621-7440; [www.higherlearningcommission.org](http://www.higherlearningcommission.org)).

Please refer to the specific college sections of this catalog for further information on program and professional accreditation.

### *Minnesota Registration*

Midwestern University is registered as a private institution with the Minnesota Office of Higher Education pursuant to sections 136A.61 to 136A.71. Registration is not an endorsement of the institute. Credits earned at the institute may not transfer to all other institutions.

### *Texas Workforce Commission*

Midwestern University is not regulated in Texas under Chapter 132 of the Texas Education Code.

### *State Authorization Reciprocity Agreement (SARA) Initiative*

Midwestern University is an institutional participant in the SARA Initiative.

## ARTICULATION AGREEMENTS

Midwestern University has agreements with Arizona State University and Grand Canyon University. Aside from these two articulation agreements, college-specific articulation agreements are included in the college subsections of the Catalog.

## CONFERRAL OF DEGREES

The State of Arizona Board of Private Postsecondary Education has approved all current degree programs at Midwestern University's Glendale campus. All degrees are conferred by the authority granted by this Board.

## EQUAL OPPORTUNITIES FOR ALL

Midwestern University maintains a policy of nondiscrimination for all students regardless of race; color; religion; creed; national origin or ancestry; ethnicity; sex (including pregnancy); gender (including gender expression, gender identity; and sexual orientation); marital status; age; disability; citizenship; past, current, or prospective service in the uniformed services; genetic information; or any other protected classes recognized by state or local laws, or any other characteristic protected under applicable federal, state, or local laws.

## RIGHT TO CHANGE REQUIREMENTS

This Catalog is not a complete statement of all applicable procedures, policies, rules, and/or regulations. Midwestern University reserves the right to change the Catalog or any University policies or procedures from time to time. Those changes include, but are not limited to, changes to the calendar; admission and degree requirements; fees; procedures, policies, and/or regulations; course offerings, contents, formats, delivery methods and modalities, and other pedagogical methods; programs, including objectives

and mission and vision statements; academic schedules and scheduling; class schedules and scheduling; offering patterns; events; class offerings and availability (including cancelling scheduled classes); events; and other academic activities. The University may change, modify, or alter, with or without notice, any information contained in the Catalog, Student Handbook, or other issued materials or information at its sole discretion. Students are responsible for understanding all requirements of the University, making themselves aware of any changes, and conforming to those changes. Tuition and fees are set regardless of any change made by Midwestern University.

## FACILITIES

The 156-acre Glendale Campus boasts a scenic location situated 15 miles outside of downtown Phoenix. Facilities on the campus include:

- Cactus Wren Hall, the newest classroom and laboratory building on campus, containing lecture halls, conference rooms, and classrooms (78,000 sq ft).
- Sahuaro Hall, with lecture halls, conference rooms, and laboratory classrooms boasting the finest in educational equipment and medical resources (64,850 sq ft).
- Cholla Hall, with two lecture auditoria, modern pharmacy laboratories, multi-use classrooms, and a computer lab (37,976 sq ft).
- Ocotillo Hall, with cutting-edge practice labs, classrooms, and a 600-seat dividable auditorium (40,000 sq ft).
- Agave Hall, with state-of-the-art anatomy and osteopathic manipulative medicine labs, as well as several multi-purpose spaces (40,000 sq ft).
- Glendale Hall, featuring classrooms, faculty offices, and a dental simulation lab (130,000 sq. ft.).
- Foothills Science Center, which houses faculty research facilities (26,765 sq ft).
- Mesquite Hall, home of the Clinical Skills & Simulation Center which offers human and technology-based simulation models for MWU students to practice clinical skills; features 19 clinical and 6 specialty exam rooms, a mock OR/ER, scrub room, and student testing/faculty observation areas with high-resolution video.
- 2,600-seat Auditorium with classroom space for lectures and large campus events (40,000 sq ft).
- Recreation & Wellness Hall, with gymnasium and exercise facilities, and special rooms for music, crafts, and dance/aerobics (26,135 sq ft).
- Four Barrel Student Center buildings, which are home to University departments including Admissions, Financial Aid, Development and Relations, Communications, Human Resources,

Information Technology, Campus Security, and the Stagecoach Dining Hall. Student amenities include lounges, game room, and outdoor basketball courts and a sand volleyball court.

- Comprehensive medical library with computer resources and study rooms.
- Chanen Interfaith Chapel, with space for personal reflection, student organizations, special events.
- The Midwestern University Multispecialty Clinic, offering comprehensive family medical treatment in six specialty areas, including Family Medicine, Foot and Ankle Services, Osteopathic Manipulative Medicine and Pharmacy Services.
- The Midwestern University Therapy Institute offers therapeutic specialty services for the entire family in several disciplines, including Physical Therapy, Occupational Therapy, Clinical Psychology, Low Vision Rehabilitation, Sports Vision Performance Training, Vision Therapy, and Speech-Language Pathology.
- The Midwestern University Dental and Eye Institutes, providing community dental and eye care and experiential education for our students.
- The Animal Health Institute, a complex of community veterinary facilities including the Companion Animal Clinic, the Equine and Bovine Center, and the Diagnostic Pathology Center, providing healthcare and services for animals of all sizes and types.

## HOUSING

### Student Apartment Complex

The apartment complex consists of studios and one- and two-bedroom apartments that feature ample study and living space; kitchen with range, oven, and refrigerator; wireless Internet; and cable television. The complex also has a swimming pool, volleyball court, sand play area for children, picnic and barbecue areas for residents and their guests.

For further information regarding on campus housing on the Glendale Campus, students may contact the Director of Residence Life at 623/572-3848 or the Office of Student Services at 623/572-3210.

## AMERICANS WITH DISABILITIES ACT POLICY

Midwestern University makes reasonable accommodations for the physical and mental limitations of students, faculty and staff to the extent that such accommodation does not impose an undue hardship on the conduct of its business. The University's planning includes reasonable physical accommodation to the special needs of disabled individuals and disabled veterans, including access to the buildings, utilization of the restroom facilities, and mobility requirements within building and parking locations.

Disabled students' rights are protected under Section 504 of the Rehabilitation Act of 1973 and the Americans With Disabilities Act of 1990 (ADA). It is the policy of Midwestern University to ensure that no qualified student with a disability is excluded from participation in or subjected to discrimination in any University program, activity, or event.

## CRIMINAL BACKGROUND CHECKS

Due to growing nationwide concerns regarding the suitability of today's healthcare professionals, many hospitals, healthcare systems, clinics, physician offices, or pharmacies providing healthcare services require disclosure of an individual's criminal history. In addition, many state statutes also require disclosure of an individual's criminal history in order to apply for certain health professional certificates, registrations, and licenses. Existence of a criminal history may subject an individual to denial of an initial application for a certificate, registration, or license to practice in a clinical setting or result in the revocation or suspension of an existing certificate, registration, or license. In response to this growing trend, Midwestern University requires students to submit to criminal background checks.

It is the policy of Midwestern University that all accepted students must submit to a criminal background check prior to matriculation. In addition, students who remain enrolled must submit to a criminal background check as needed to remain eligible for continued participation and/or to participate in clinical rotations. A criminal background check may necessitate one or more of the following: 1) a standard criminal background check conducted through an approved background check agency, 2) a fingerprint background check conducted by an approved agency, in which the prints are submitted to both State Police and the FBI database and/or 3) an International Police Clearance. The procedure utilized to conduct the background check will be based upon the individual's residency status, country of origin, time in residence in the United States and specific program requirements. In accordance with the laws of the State of Illinois, CCOM students are required to undergo fingerprinting as part of the criminal background check process. Students in other programs may also be required to undergo fingerprinting. The criminal background check involves obtaining an authorization from a matriculating or current student that allows the University to obtain the student's individual criminal history. The results of the background check are reviewed by the Dean of Students to determine whether or not there is a record of misdemeanor and/or felony convictions. If there is a positive record, the Dean of Students will inform the appropriate College Dean and the Director of University Risk Management so the University can make a determination whether the criminal history will negatively impact the student's admission status or ability to complete the practical training/rotation

requirements of the degree program. Criminal background checks are conducted through the Office of Student Services as part of the initial student matriculation process and on an as-needed basis thereafter while a student is actively enrolled at Midwestern University.

1. All matriculating students must complete the Criminal Background Release and Consent Form to conduct the criminal background check. All newly admitted students who have submitted a matriculation deposit are provided with access to a copy of the University policy and the Criminal Background Release and Consent Form. By going to the Midwestern University website (<http://www.midwestern.edu>) and selecting MWUNET, the student can complete the Consent Form, which can be found under the Student Services Tab on the portal. The Policy can be accessed by logging into the Student Handbook under the Resource section and selecting 'Criminal Background Check Policy'.
  - Incoming pharmacy, optometry, and dental students will complete a criminal background check through the appropriate application agency (PharmCAS, OptomCAS, or ADEA). The results of those background checks will be forwarded to Midwestern University.
  - Incoming international students must complete an International Police Clearance, either under the guidance of Midwestern University or their application agency. If the international student has also resided in the United States within the seven year period prior to matriculation, the student must also complete a criminal background check. The International Police Clearance must be initiated by the student according to the guidelines of the country from which the Clearance is required.
  - Incoming students must complete the criminal background check requirement prior to matriculation. For students who are admitted close to their matriculation date, or for students whose situation may necessitate an extension, the criminal background check must be completed by the end of the first month of the first quarter of enrollment for their program. Failure to complete the background check within the stated timeframe jeopardizes their continued enrollment, and the student may be required to take a mandatory leave of absence.

2. The Office of Student Services will contract with a professional service to conduct the criminal background check.
3. The Dean of Students will review all criminal background reports and determine whether or not a misdemeanor or felony conviction record exists. If a felony or misdemeanor conviction exists, the Dean of Students will conduct a criminal background investigation. The investigation may include any of the following components:
  - Request for additional detailed information about the positive criminal background check report. This may entail one or more meetings with the student.
  - Collection of additional data, e.g., Federal Bureau of Investigation fingerprints and report, concerning the positive criminal background check report. Following the criminal background investigation, the Dean of Students, in consultation with the Academic Dean (or their designees), will determine whether or not the student should be disqualified from matriculation or continued enrollment. A record of criminal activity will not automatically disqualify a student from enrollment or continued enrollment. The University will consider such factors as (but not limited to) the nature of the crime, the age of the individual at the time the crime was committed, length of time since the criminal activity, any fines, sanctions or convictions, the nature of the clinical program and the relatedness of the conviction, and whether the University will be able to provide appropriate professional clinical training to the student. Students who are permitted to matriculate with a positive criminal background check are required to sign a waiver stating their understanding of the possible negative impact of their background check on their education, postgraduate training and licensure.
4. Failure to disclose criminal activity or material misrepresentation of information by an incoming student is deemed to be falsification of the application and may result in denial of admission, matriculation and/or dismissal from the program and University. Failure to disclose criminal activity or material misrepresentation of information by an enrolled student is deemed to be a violation of the student Code of Conduct and may result in dismissal from the program and University. Incoming and enrolled students must disclose any criminal activity, including misdemeanor or felony charges/convictions to their Academic Dean and the Dean of Students.
5. Failure of the student to present appropriate forms to the Office of Student Services for the purpose of conducting criminal background checks when requested will bar the student from initial matriculation and/or continued enrollment.
6. Students with a positive criminal background check are individually responsible for checking the licensing and certification requirements in any state where the student is interested in participating in a postgraduate residency training to determine whether or not their criminal background will be a barrier to participation.
7. Students are required to disclose to the Dean of Students and appropriate Academic Dean any arrests, criminal charges, or convictions against them during their entire period of enrollment as a student at Midwestern University. Disclosure must be made immediately after the incident that resulted in charges so the University can assess the impact of the incident on the student's academic progression. Such arrests, criminal charges, or convictions may negatively impact a student's ability to obtain and/or complete clinical rotations or preceptorships, post-graduate residency placement or licensure.
8. Midwestern University does not guarantee clinical rotations, post-graduate residency placement or licensure for students who have a positive criminal history. Clinical rotation placement, post-graduate residency placement, and licensure are governed by separate entities who use their own specific set of standards that may be different than those used by Midwestern University. In such cases, the University confidentially shares information about the student's positive criminal history with potential preceptors and practice site representatives as necessary and on a need-to-know basis. This may include releasing a copy of the original Criminal Background Check report for their review. This gives the preceptor and site representatives an opportunity to decide whether the student is acceptable to the site. For this reason, scheduling and completion of practical training/rotations and graduation may be delayed. In some instances, it will not be possible to arrange for practical training/rotations at specific sites. Under these circumstances, the college/program will work with the student to find a possible clinical rotation site that will accept a student with a positive criminal background check.
  - If this information is known by the University prior to the student's matriculation, the Academic Dean (or their designee) will meet with the potential student to discuss the consequences of the positive criminal background investigation on the student's ability to complete degree

- requirements, post-graduate residency placement and licensure so that appropriate action can be taken.
  - If this information is known by the University after the student's matriculation, the Academic Dean (or their designee) will meet with the student to discuss the consequences of the positive criminal background investigation on the student's ability to start/resume practical training/rotations and the student's ability to graduate, secure a post-graduate residency and obtain licensure so that appropriate action can be taken.
- 9. Records concerning a student's positive criminal background check are stored in a confidential file in the Student Services Office.
- 10. In the event that a student is assigned to a practical training/rotation site that requires a copy of the original Criminal Background Check report prior to a student's placement at the site, the student's criminal background check report and cover letter will be scanned into an encrypted password protected PDF file. The encrypted PDF file will be forwarded via email to the rotation site coordinator.

## HARASSMENT/UNLAWFUL DISCRIMINATION

Midwestern University believes in the dignity and worth of its students, faculty, staff, interns, and residents and therefore maintains a policy of nondiscrimination for all students, faculty and staff regardless of race, color, gender, gender identity, sex, sexual orientation, religion, national origin, ethnic origin, disability, status as a veteran, marital status, pregnancy status, or age. Any form of unlawful discrimination or harassment that has the effect of substantially interfering with the individual's performance or creates an intimidating, hostile, or offensive learning/working environment is not tolerated by the University. This policy/procedure establishes a protocol whereby those who believe they have been discriminated against or harassed may obtain redress promptly and equitably through formal and informal procedures of the University.

This policy applies to all members of the University community, each of whom is expected to report promptly complaints about violations. Students found to be in violation of this policy shall be subject to disciplinary action, which may include, but is not limited to, disciplinary warning, disciplinary probation, suspension, or dismissal. No action shall be taken against anyone who submits a complaint that he or she believes to be valid - regardless of the outcome of the investigation; however, any person found to be intentionally dishonest in making the allegations or to have made them maliciously is subject to University discipline.

## Definitions

*Unlawful Discrimination:* Unlawful discrimination refers to unfair or unequal treatment of an individual or group based on protected status, such as race, color, gender, gender identity, sex, sexual orientation, religion, national origin, ethnic origin, disability, status as a veteran, marital status, pregnancy status, age or other protected group status as defined by law.

*Harassment:* Harassment includes all unwelcome conduct (whether verbal, physical, visual or written) based on an individual's protected status, such as race, color, gender, gender identity, sex, sexual orientation, religion, national origin, ethnic origin, disability, status as a veteran, marital status, pregnancy status, age, or other protected group status as defined by law. Among the types of conduct prohibited by this policy are teasing, jokes, slurs, epithets, and negative stereotyping based on another person's protected status. Even where the conduct is not sufficiently severe or pervasive to rise to the level of a legal violation, MWU discourages any such conduct in the workplace and/or any of our related educational settings and reserves the right to take remedial action for all conduct it deems inappropriate.

## Complaint Process

### *Informal Complaint Resolution*

Any member of the MWU community may seek advice, or information, on matters related to harassment without having to lodge a formal complaint. Students who feel they are being harassed, or are uncertain as to whether what they are experiencing is harassment, are encouraged to talk to the Dean of Students. The complaining party (the "complainant"), will be informed as to the options available under this policy, including upgrading the informal complaint to a formal written complaint (see below #2). At the complainant's request, steps will be taken to resolve the complaint informally. The aim of the informal resolution process is to ensure that the alleged offending behavior ceases and that the matter is resolved promptly. The name of the complainant will be held in confidence during the informal resolution process, unless and until the complainant agrees that additional people must be informed in order to facilitate a solution. The Dean of Students will have the discretion to determine when the situation warrants notification of an alleged offender. If deemed advisable, constructive, confidential informal discussion to increase awareness will be undertaken with the person alleged to have violated this harassment policy. An informal complaint may also be elevated to a formal complaint by the Dean of Students because of the severity of the factual allegations made by the complainant or because of the frequency of allegations against the alleged offender (see section below).

### *Formal Complaint Resolution*

Prior to any formal action, a formal complaint must be

reduced to writing, identifying both the complainant and the alleged offender.

1. After a complaint has been reduced to writing, an investigation of the alleged harassment will be initiated by the Dean of Students, if possible, within 3 working days. For complaints against faculty, staff, administrators and preceptors, the Dean of Students and the Director of Human Resources will initiate a joint, formal investigation of the allegations, with the right to interview other parties in relation to the complaint in order to conduct a fair and thorough investigation.
2. The investigation will include, at a minimum, an interview with the complainant. The alleged offender will be interviewed if it is determined that the allegations, if true, would constitute a violation of this policy. The alleged offender will then be informed of the nature of the allegations, the identity of the complainant, the facts surrounding the allegations, and will be afforded a full opportunity to respond to the allegations. Any other person who may have information regarding the alleged harassment may also be interviewed.
3. Notes and documentation of all interviews relating to the investigation will be maintained. All matters related to the investigation shall remain confidential to the extent permitted by law, provided it does not interfere with MWU's ability to investigate or take corrective action.
4. The Dean of Students will report his or her findings to the college dean/department or division head/program director of the alleged offender for disposition typically within 10 working days of the receipt of the written complaint. For incidents involving faculty, staff, administrators and preceptors, the findings will be reported to the Vice-President of Human Resources, as well as the college dean/department or division head/program director when applicable.
5. The report shall include the allegation, the investigative process, the persuasiveness of the evidence, and the credibility of the witnesses. The report shall arrive at one of the following 3 findings based upon the preponderance-of-the-evidence standard (i.e., that is more likely than not that harassment/unlawful discrimination occurred):
  - a. Harassment/unlawful discrimination has occurred;
  - b. Harassment/unlawful discrimination did not occur; or
  - c. There is inconclusive evidence as to whether harassment/unlawful discrimination occurred.
6. Upon review, the college dean/department or division head/program director or Vice-president of Human Resources responsible for receiving the

report will recommend or take appropriate disciplinary action, if applicable.

7. Notification of the findings and disposition as recommended by the college dean/department or division head/program director or Vice-President of Human Resources shall be provided, confidentially, in writing, to both the complainant and the alleged offender.
8. The complainant or the alleged offender may appeal the decision of the college dean/department or division head/program director or Vice-President of Human Resources or Dean of Students.
9. All complaints and associated resolutions will be kept on file in the Office of the President in accordance to HLC/NCA accreditation requirements and in the Office of the Dean of Students when complaints/resolutions involve students.

### **Appeal by a Student**

1. A student's request for appeal must be submitted in writing to the President within 14 calendar days of the date of notification of findings. The President can designate the appropriate Vice President, Chief Academic Officer to review the case.
2. The appeal shall proceed according to the procedures stated in section 1 of the student handbook.

### **Protection Against Retaliation**

MWU shall not in any way retaliate against any individual who informally or formally complains of harassment. Retaliation is a serious violation of this harassment policy. Any person found to have retaliated against another individual for reporting harassment will be subject to disciplinary action up to and including dismissal.

## **SEXUAL MISCONDUCT**

The University is committed to ensuring the safety and security of all its members. Sexual misconduct is a serious violation of the standards set by the University community since it creates an atmosphere of distrust and inequality and will not be tolerated. Sexual misconduct includes sexual harassment, sexual abuse, sexual assault or rape, domestic violence, dating violence, and stalking. This policy/procedure establishes a protocol whereby those who believe they have been subjected to sexual misconduct may obtain redress promptly and equitably through the policies and procedures of the University.

This policy applies to all members of the University community, regardless of position/status, gender or sexual orientation. Each member of the University community is expected to report promptly complaints about violations. Any student found to be in violation of this policy shall be



subject to disciplinary action, which may include, but is not limited to, disciplinary warning, disciplinary probation, suspension, or dismissal. Any action taken by the University is independent of actions taken by external law enforcement agencies. No action shall be taken against anyone who submits a complaint that he or she believes to be valid - regardless of the outcome of the investigation; however, any person found to be intentionally dishonest in making the allegations or to have made them maliciously is subject to University discipline.

**No Retaliation Statement:** No action shall be taken against anyone who submits a complaint that he or she believes to be valid - regardless of the outcome of the investigation; however, any person found to be intentionally dishonest in making the allegations or to have made them maliciously is subject to University discipline.

### **Title IX**

Title IX of the Educational Amendments of 1972 prohibits sexual discrimination. Sexual harassment and sexual violence are considered forms of sexual discrimination, and are therefore violations of Title IX. Violations of the University Sexual Misconduct Policy must be reported to Dr. Ross Kosinski, Dean of Students - Title IX Coordinator.

### **Confidentiality**

Employees of the University, including Resident Advisors in Housing, are required to report incidents of sexual misconduct to the Title IX Coordinator regardless of whether the student reporting the violation requests confidentiality. Campus counselors are not required to report, without the student's consent, incidents of sexual misconduct to the school in a way that identifies the student' (OCR) and therefore can be approached in confidence. Nonetheless, Midwestern University will make every effort to maintain the confidentiality of the student reporting the violation. However, requests for complete confidentiality may hamper the ability of the University to fully respond to the incident and restrict the University's ability to pursue disciplinary action. Furthermore, the University may determine that its requirement to provide a safe, non-hostile, and nondiscriminatory environment for all students supersedes the confidentially request of the student reporting the violation. Evaluations of requests for confidentiality will be made by the Title IX coordinator on each campus.

### **Illinois - Sexual Misconduct Definitions**

#### *Consent*

Consent is freely given agreement to the act of sexual penetration or sexual conduct in question. Lack of verbal or physical resistance or submission by the victim resulting from the use of force or threat of force by the accused shall not constitute consent. Silence is not consent. The absence of refusal is not consent. The manner of dress of the victim at the time of the offense shall not constitute consent. A person

who initially consents to sexual penetration or sexual conduct is not deemed to have consented to any sexual penetration or sexual conduct that occurs after he or she withdraws consent during the course of that sexual penetration or sexual conduct. An individual who is impaired due to alcohol or drug ingestion cannot give consent.

#### *Dating Violence*

Dating violence means violence by a person who has been in a romantic or intimate relationship with the victim. Whether there was such relationship will be gauged by its length, type, and frequency of interaction.

#### *Domestic Violence*

Domestic violence includes asserted violent misdemeanor and felony offenses committed by the victims current or former spouse, current or former cohabitant, person similarly situated under domestic or family violence law, or anyone else protected under domestic or family violence law.

#### *Force or threat of force*

Force or threat of force means the use of force or violence or the threat of force or violence, including, but not limited to, (1) when the accused threatens to use force or violence on the victim or on any other person, and the victim under the circumstances reasonably believes that the accused has the ability to execute that threat; or (2) when the accused overcomes the victim by use of superior strength or size, physical restraint, or physical confinement.

#### *Sexual Abuse*

A person commits criminal sexual abuse if that person: (1) commits an act of sexual conduct by the use of force or threat of force; or (2) commits an act of sexual conduct and knows that the victim is unable to understand the nature of the act or is unable to give knowing consent.

#### *Sexual Assault*

Sexual assault is:

An act of sexual penetration under the use or threat of force; or

An act of sexual penetration where the accused knows that the victim is unable to understand the nature of the act or is unable to give knowing consent; or

An act of sexual penetration in which the accused delivers (by injection, inhalation, ingestion, transfer of possession, or any other means) any controlled substance to the victim without the victims consent or by threat or deception for other than medical purpose; or

An act of sexual penetration on a victim under the age of consent by Illinois definition.

#### *Sexual Conduct*

Sexual conduct means any knowing touching or fondling by the victim or the accused, either directly or through clothing, of the sex organs, anus, or breast of the victim or the accused or any part of the body of a child under 13 years of age or

any transfer or transmission of semen by the accused upon any part of the clothed or unclothed body of the victim, for the purpose of sexual gratification or arousal of the victim or the accused.

#### *Sexual Harassment*

Sexual harassment is a form of harassment that may involve the behavior of a person of either sex against a person of the opposite or same sex, and occurs when such behavior constitutes unwelcome sexual advances, unwelcome requests for sexual favors, and other unwelcome verbal or physical behavior of a sexual nature where:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's education or employment;
2. Submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting the individual's welfare; or
3. Such conduct has the purpose or effect of substantially interfering with an individual's welfare, academic or work performance, or creates an intimidating, hostile, offensive, or demeaning education or work environment.

#### *Sexual Penetration*

Sexual penetration means any contact, however slight, between the sex organ or anus of one person and an object or the sex organ, mouth, or anus of another person, or any intrusion, however slight, of any part of the body of one person or of any animal or object into the sex organ or anus of another person, including, but not limited to, cunnilingus, fellatio, or anal penetration. Evidence of emission of semen is not required to prove sexual penetration.

#### *Stalking*

A person commits stalking when he or she knowingly engages in a course of conduct directed at a specific person, and he or she knows or should know that this course of conduct would cause a reasonable person to: (1) fear for his or her safety or the safety of a third person; or (2) suffer other emotional distress.

### **Arizona - Sexual Misconduct Definitions**

#### *Domestic Violence*

Domestic violence means any act which is a dangerous crime against children as defined in section 13-705 (dangerous crimes against children) or an offense defined in section 13-1201 through 13-1204 (endangerment, threatening or intimidating, assault, aggravated assault), 13-1302 through 13-1304 (custodial interference, unlawful imprisonment, kidnapping) 13-1502 through 13-1504 (criminal trespass in the third, second and first degree) or 13-1602, (criminal damage); section 13-2810 (interfering with judicial proceedings), section 13-2904, subsection A,

paragraph 1, 2, 3 or 6 (disorderly conduct), section 13-2916 (use of telephone to terrify, intimidate, threaten, harass, annoy or offend) or section 13-2921 (harassment), 13-2921.01 (aggravated harassment;), 13-2923 (stalking), 13-3019 (surreptitious photographing, videotaping, filming or digitally recording or viewing), 13-3601.02 (aggravated domestic violence ) or 13-3623 (child or vulnerable adult abuse), if any of the following applies:

1. The relationship between the victim and the defendant is one of marriage or former marriage or of persons residing or having resided in the same household.
2. The victim and the defendant have a child in common.
3. The victim or the defendant is pregnant by the other party.
4. The victim is related to the defendant or the defendant's spouse by blood or court order as a parent, grandparent, child, grandchild, brother or sister or by marriage as a parent-in-law, grandparent-in-law, stepparent, step-grandparent, stepchild, step-grandchild, brother-in-law or sister-in-law.
5. The victim is a child who resides or has resided in the same household as the defendant and is related by blood to a former spouse of the defendant or to a person who resides or who has resided in the same household as the defendant.

#### *Oral Sexual Contact*

Oral sexual contact means oral contact with the penis, vulva, or anus.

#### *Sexual Abuse*

A person commits sexual abuse by intentionally or knowingly engaging in sexual contact with any person who is fifteen or more years of age without consent of that person or with any person who is under fifteen years of age if the sexual contact involves only the female breast.

#### *Sexual Assault*

A person commits sexual assault by intentionally or knowingly engaging in sexual intercourse or oral sexual contact with any person without consent of such person.

#### *Sexual Conduct*

Sexual contact means any direct or indirect touching, fondling or manipulating of any part of the genitals, anus or female breast by any part of the body or by any object or causing a person to engage in such contact.

#### *Sexual Harassment*

Sexual harassment is a form of harassment that may involve the behavior of a person of either sex against a person of the opposite or same sex, and occurs when such behavior constitutes unwelcome sexual advances, unwelcome requests

for sexual favors, and other unwelcome verbal or physical behavior of a sexual nature where:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's education or employment;
2. Submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting the individual's welfare; or
3. Such conduct has the purpose or effect of substantially interfering with an individual's welfare, academic or work performance, or creates an intimidating, hostile, offensive, or demeaning education, or work environment.

#### *Sexual Intercourse*

Sexual intercourse means penetration into the penis, vulva, or anus by any part of the body or by any object or masturbatory contact with the penis or vulva.

#### *Stalking*

A person commits stalking if the person intentionally or knowingly engages in a course of conduct that is directed toward another person and if that conduct either: 1) Would cause a reasonable person to fear for the persons safety or the safety of that persons immediate family member and that person in fact fears for the persons safety or the safety of that persons immediate family member 2) Would cause a reasonable person to fear death of that person or that persons immediate family member and that person in fact fears death of that person or that persons immediate family member.

#### *Without Consent*

Without consent includes any of the following: 1) the victim is coerced by the immediate use or threatened use of force against a person or property. 2) The victim is incapable of consent by reason of mental disorder, mental defect, drugs, alcohol, sleep or any other similar impairment of cognition and such condition is known or should have reasonably been known to the defendant. For purposes of this subdivision, "mental defect" means the victim is unable to comprehend the distinctively sexual nature of the conduct or is incapable of understanding or exercising the right to refuse to engage in the conduct with another. 3) The victim is intentionally deceived as to the nature of the act. 4) The victim is intentionally deceived to erroneously believe that the person is the victim's spouse.

#### **Reporting Sexual Misconduct:**

All complaints will result in a formal investigation with a subsequent resolution. Students reporting violations have the right to file complaints with external law enforcement agencies as well as the University. University and law enforcement investigations will usually be conducted independently and simultaneously. The University standard

for determining the validity of a complaint is the 'preponderance of evidence' standard. Investigations of student complaints that involve another student or students will be undertaken by the Dean of Students- Title IX coordinator; however, investigations involving student complaints against a MWU employee(s) or employee(s) complaints against a student are undertaken jointly by the Dean of Students-Title IX coordinator and the Director of Human Resources. Student complaints concerning non-sexual harassment and unlawful discrimination are governed under the Student Handbook's section on Harassment and Unlawful Discrimination, which can be found in the Policies Section of the Student Handbook. Students who are charged with sexual misconduct are in violation of the University's "Code of Responsibilities of the Students of Midwestern University" as stated in Appendix 1 and of the University's "Bylaws and Regulations of the Code of Responsibilities and Rights of the Student of Midwestern University" stated in Appendix 2 of this handbook and can be disciplined under the judicial proceedings stated in Appendix 2, Section 4 of the Student Judicial System. Disciplinary sanctions imposed by the University on students may include, but are not limited to, disciplinary warning, disciplinary probation, suspension, or dismissal. Students charged with violations may also be prosecuted under Illinois or Arizona criminal statutes. Employees will be disciplined according to University Human Resources guidelines.

#### **Procedure:**

##### **Initiating an investigation of sexual misconduct:**

To institute proceedings regarding allegations of sexual misconduct, the following procedures shall be followed:

1. Nature of the act and related circumstances are to be reported in written detail and submitted to:
  - The involved student(s) or employee(s),
  - The appropriate College Dean, and
  - The Dean of Students.
2. The written statement must include the name of the involved student or employee, the name and status of the reporting person, and the nature of the alleged act. The confidentiality of the student reporting the violation will be maintained if possible. The written statement may be sent to the involved student via the University email/mail system or delivered in person. Should a student so involved refuse or fail to accept delivery of the statement after a bona fide attempt is made to deliver, the requirement of notification will be considered to have been met. All correspondence related to the proceedings is considered to be confidential material. Correspondence to employees will be handled via Human Resources.
3. Temporary suspension: Should a student action be of such a nature that it is felt that he/she must be relieved of his/her right to attend Midwestern

University, the student may be temporarily suspended from the college on recommendation of the Dean of Students. Any temporary suspension may continue until such time as the issue in dispute is resolved under the process outlined below. Suspension of employees will be handled by Human Resources.

#### *Resolution of conduct matter*

Any issue concerning student conduct will be resolved by utilizing the office of the Title IX Coordinator (Dean of Students). The Title IX Coordinator is authorized to receive complaints regarding sexual misconduct, conduct investigations and determine the validity of the charges. The Title IX Coordinator also makes recommendations regarding appropriate disciplinary action to the applicable Academic Dean. The Dean of Students has been assigned this role to ensure consistent and fair resolution of student conduct issues. In sexual misconduct cases involving a student(s) and an employee(s) of the University, the investigation will be jointly conducted by the Title IX Coordinator (Dean of Students) and the Director of Human Resources. Complaints against vendors will be conducted by the Title IX Coordinator in the same fashion as a student complaint.

#### *Method of resolution*

1. Upon receipt of the written complaint lodged against the student, the Title IX Coordinator will set a time to meet with the student charged with the violation regarding the issue. The interview will preferably be conducted in person, although a phone interview is acceptable if the student is at a distant location. The Title IX Coordinator has the right to interview other parties in relation to the incident to determine the validity of the complaint. The student filing the complaint will also be interviewed. Both the student filing the complaint and the accused student have the right to have an advisor present during all meetings/interviews/proceedings.
2. After interviewing the student accused of the violation, the student filing the complaint and other involved persons, the Title IX Coordinator will render a decision regarding the validity of the complaint. The validity will be based upon whether it was more likely than not that the incident occurred (preponderance of the evidence standard). If the complaint is deemed valid, the Title IX Coordinator will recommend disciplinary action for the accused student (s) to the appropriate Academic Dean. The Academic Dean will be notified of the recommendation within 5 school days of the aforementioned interview unless prevented by extenuating circumstances. A copy of the Title IX Coordinator's investigation into the complaint, including all supporting evidence, will be submitted

- to the Office of the President in Glendale and the Office of Accreditation in Downers Grove.
3. In a joint investigation with Human Resources, a copy of the investigation and all supporting evidence will be submitted to the Vice-President of Human Resources. If the complaint is determined to be valid and the perpetrator is an employee, the Human Resources Department will impose the appropriate sanction per HR policy. If the complaint is determined to be valid, and the perpetrator is a student, the process outlined above in subsection b in which the appropriate Academic Dean determines sanctions will be followed. A copy of the joint investigation into the complaint, including all supporting evidence, will also be submitted to the Office of the President in Glendale and the Office of Accreditation in Downers Grove.
4. Typically, within 5 school days after receiving the recommendation of the Title IX Coordinator, the Academic Dean will notify the accused student in(s) writing of his/her decision including, if applicable, any disciplinary action. Any disciplinary action must conform to Appendix 1, Section Five of the Code of Responsibilities and Rights of Students of Midwestern University. A copy of the Academic Dean's decision must be sent to the Title IX Coordinator and the Office of the President in Glendale and the Office of Accreditation in Downers Grove for inclusion in the student's disciplinary file. The student or employee reporting the violation will also be notified, in writing, of the outcome of the investigation.
5. In a joint investigation with Human Resources, the Vice-President of Human Resources will notify the accused employee in writing of disciplinary action. The student reporting the violation will also be notified, in writing, of the outcome of the investigation.
6. If the student/employee does not accept the Academic Dean/Vice-President of Human Resources' decision, the student/employee may appeal to the President within 5 school days of notification of college dean/Vice-President's decision, by submitting a written statement containing the basis and reasons for the appeal including all relevant facts. The President will request a copy of the Title IX Coordinator's findings and decision, as well as all relevant information from the investigation. Meetings with the President will be audio recorded with the permission of the student. The student may request a copy of the recording. The President will act upon the appeal by (a) confirming the original decision, (b) altering any penalties imposed, or (c) requesting the student/employee, the Coordinator, and/or the applicable college dean/Vice-President of Human Relations to submit additional information prior to rendering a decision. Both the student/employee

reporting the incident and the accused student/employee have the right of appeal utilizing the guidelines listed above. Both the student/employee reporting the violation and the accused student/employee must be notified of the outcome of the appeal in writing.

- The final decision rests with the President. A copy of the President's decision must be sent to the Academic Dean, Coordinator and the Office of the President in Glendale, and the Office of Accreditation in Downers Grove for inclusion in the student's disciplinary file.

*Record keeping in conduct matters*

Records of the above proceedings shall be kept in accordance with the following guidelines:

- All records related to disciplinary investigations/actions are secured in the Office of the Title IX Coordinator (Dean of Students).
- All records related to disciplinary appeals are secured in the Office of the President.
- All records related to disciplinary investigations/actions/appeals are maintained in perpetuity
- A student may see any and all records related to his/her disciplinary investigation/action/appeal in accordance with the college regulations concerning inspection of records as spelled out in Guidelines for Access to and Disclosure of Educational Records Maintained by Midwestern University. The identity of the student reporting the violation will be redacted, if the reporting student has requested confidentiality.
- All documentation related to disciplinary investigations/actions/appeals are kept on file in the Office of the President in Glendale and Office of Accreditation in Downers Grove in accordance with the Higher Learning Commission of the North Central Association of Colleges and Schools requirements.
- The University will disclose to the alleged victim of a crime of violence, or a non-forcible sex offense, the results of any disciplinary hearing conducted by the University against the student who is the alleged perpetrator of the crime or offense upon written request. If the alleged victim is deceased as a result of the crime or offense, the University will provide the results of the disciplinary hearing to the victim's next of kin, if so requested.

**Procedures for Reporting a Sexual Assault on Campus**

Any student who is involved in or witnesses a sexual assault should contact Campus Security immediately (Downers Grove, dial 630/515-7111; Glendale dial 623/572-3201). Students have the option to notify law enforcement

authorities, including local police, and the option to be assisted by campus authorities in notifying such authorities. It is extremely important to preserve any evidence related to the crime as may be necessary to provide proof of the assault. The student should not bathe or shower, use the restroom, change clothes, comb his/her hair, clean up the crime scene or move or touch anything the offender may have touched. If Campus Security is contacted in an emergency, they will notify the police and the Coordinator. The Manager of Residence Life will also be notified if emergencies occur within campus housing. The following is a list of emergency campus telephone numbers.

***Downers Grove Campus***

Security	7111
Police	911
Resident Advisor on Duty	(630/515-7111) Reached through Security
Dean of Students	630/515-6470

***Glendale Campus***

Security	623/572-3201
Police	911
Resident Advisor on Duty	209-1854
Dean of Students	623/572-3210

**Counseling Services for Sexual Assault Victims and Witnesses**

The University has counseling services for students who are victims of or have witnessed an act of sexual misconduct (including sexual assault, attempted sexual assault, sexual abuse, dating violence, domestic violence, or stalking). Student victims of an alleged act of sexual misconduct have options for requesting a change in academic situations and on-campus residence arrangements if such requests are reasonably available. In addition to seeking assistance from the Coordinator, students may also seek assistance from the following University personnel or outside resources:

**In Illinois:  
University Personnel**

Coordinator	630/515-6470
Manager of Residence Life	630/971-6400
Assistant Coordinator	630/515-7142
Wellness Center Personnel	630/515-7676
Student Counselor	630/515-7142

### ***Community Resources***

YWCA of DuPage - 24-Hour Crisis Hotline	630/971-3927
Family Shelter Service Hot line	630/469-5650
Northwest Action Against Sexual Assault 24-Hour Hotline	847/228-0990
<b>Mutual Ground Hotlines</b>	
24-Hour Sexual Assault Hotline	630/897-8383
24-Hour Domestic Violence Hotline	630/897-0080
Y.W.C.A.R.E.S. (South Suburban YWCA)	708/748-5672

### **In Arizona: University Personnel**

Coordinator	623/572-3329
Manager of Residence Life	623/572-3348
Associate Coordinator	623/572-3357
Assistant Coordinator	623/572-3213
Office of Student Services	623/572-3210
Student Counselor	623/572-3629

### ***Community Resources***

Glendale Police Victim Assistance Hotline	623/930-3000
Domestic Violence Hotline	1-800-799-7233
Maricopa Crisis Hotline	1-800-631-1314

### **Sexual Misconduct Education and Awareness**

Midwestern University provides educational programming that consists of primary prevention and awareness programs for all incoming students and new employees and ongoing awareness and prevention campaigns for students, faculty, and staff that:

1. Identify sexual misconduct which includes sexual harassment, sexual abuse, sexual assault or rape, domestic violence, dating violence, and stalking as prohibited conduct;
2. Define what behavior constitutes sexual harassment, sexual abuse, sexual assault or rape, domestic violence, dating violence and stalking;
3. Defines 'consent to sexual activity' under University policy and state regulations
4. Covers information on reporting sexual violence, assisting victims and survivors of sexual violence,

and preventing sexual violence through bystander training.

5. Explains rights of accuser and accused, including the right to file reports with external law enforcement agencies and the right to an advisor.

## **ACADEMIC POLICIES**

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the college/school/program Academic Policy section for additional policies that apply to students enrolled in a specific college/school/program.

### **Attendance**

The policy for class attendance is determined by each course director/coordinator. Students should refer to their course syllabus for additional attendance requirements. Students are expected to satisfy these attendance requirements in order to receive course credit.

Midwestern University encourages 100% attendance by students at all course-related sessions, lectures, laboratories, and clinical assignments. Each course director/coordinator has the prerogative to establish their own attendance requirements and policies. Unless a department's/division's policy differs, class attendance is mandatory for all students for the first session of each course in each quarter as well as on the first day of class after scheduled vacations. There is also a mandatory attendance policy for all students during clerkship/preceptorship and experiential rotations. If illness, a personal emergency, personal incapacitation, or other exceptional problem of a serious nature causes a student to be absent from a rotation or a session requiring mandatory attendance, the student must immediately notify the department/division or program responsible for the course and follow stated course policies and procedures. Unexcused absences during mandatory attendance sessions may result in course failure. Refer to specific course policies and procedures for course attendance requirements set forth by each department/division, program, or college.

### **Class Rank**

Class rank is calculated annually on July 1 for continuing students and one month before the official program/college graduation date for graduating students. Class rank may be accessed through the student's personal page at <http://online.midwestern.edu/>.



### **Classroom Visitation**

Each faculty member has the responsibility and authority to determine who, in addition to the enrolled students, may visit his or her classes. Anyone wishing to visit a class must request permission from the course director, the Department Chair/Program/Division Director, and the faculty member who is presenting the lecture.

### **Classroom/Exam Etiquette**

In order to maintain an appropriate classroom environment that is most conducive to teaching and learning, students are expected to behave in a manner that is not disruptive or disrespectful to any person and that does not adversely affect teaching or learning of any person. If cell phones need to be turned on during classroom time, then they must be set to the vibrate mode. All calls must be made/received outside of the classroom as this type of activity is disruptive to the teaching/learning environment and is disrespectful to others in the classroom. Students who do not abide by this policy may be asked to leave the classroom. Abuse of this policy could result in disciplinary procedures.

Children are not typically allowed in the classroom. Students who have an unforeseen temporary need to bring a child into the classroom must receive prior approval from the lecturer.

Students must abide by the policies and procedures of the University Testing Center when taking examinations or other assessments therein. Students must abide by the procedures of the college or department/division/program when taking examinations or other assessments on campus outside of the University Testing Center.

### **Closed Meeting Policy**

All students enrolled in Midwestern University's academic programs are considered graduate students. As such, the University holds the student accountable for his/her actions and decisions. During the student's enrollment any and all required meetings with faculty committees, faculty, or University/college administrators, are closed to only the involved student. All invited or voluntary formal or informal meetings, telephone discussions, or conference calls with faculty committees, faculty or University/college administrators are closed to only the involved student.

### **Course Auditing**

An enrolled student can audit a course under the following conditions. The student must first receive the written approval of the course director and the Department Chair/Program Director/Division Director. Once these approvals have been acquired and received by the Registrar, the student is registered for the course as an auditor and appears on the course roster. Students auditing courses are expected to attend class. An auditing student may be administratively withdrawn from a course when, in the judgment of the instructor and Department Chair/Program Director/Division Director, the attendance record justifies

such action. Academic credit is not issued to audited courses, and the possibility does not exist to change the course status from audit to full credit.

Enrolled MWU students are charged 25% of the tuition costs to audit a course.

### **Course Credit Policy**

Midwestern University has defined course credits across all colleges and programs in alignment with the federal credit hour definition: that is, one credit hour is equivalent to one hour (50 minutes) of lecture and two (2) hours of out-of-class work each week. Over a usual ten-week quarter of instruction, the following contact times are assigned for every one credit hour based on the specific type of learning activity:

- Lecture: 1 hour of lecture and 2 hours of out-of-class work for each week of instruction
- Laboratory: 2-4 hours of contact time for each week of instruction
- Case discussion, interactive group problem-solving, recitation, or workshop: 2 hours of contact time for each week of instruction
- Other activities: 3 hours of contact time. Exam time can be considered part of contact time such that an instructor has the option to count time spent on assessments as part of contact time
- Online or distance education: 3 hours of student work for each week. Student work includes reading, research, online discussion, instruction, assigned group discussion, and preparation of papers or presentations.

Some colleges or programs offer condensed courses that are offered over a shorter period of time than the usual ten-week quarter of instruction. Midwestern University follows the federal credit hour definition. The following contact times are assigned for every one credit hour based on the specific type of learning activity:

- Lecture: 10 hours of lecture and 20 hours of out-of-class work
- Laboratory: 20-40 hours of contact time
- Case discussion, interactive group problem-solving, recitation or workshop: 20 hours of contact time
- Online or distance education: 30 hours of student work. Student work includes reading, research, online discussion, instruction, assigned group discussion, and preparation of papers or presentations.

Experiential education or rotation credits are determined by different formulae depending on the college or program.

- For AZCOM, CCOM, CCP, CPG, CDMA, CDMI, CVM, AZCOPT, CCO: Each week of full time experiential education (equivalent to 40 hours of instruction) is equivalent to 1.5 credits.
- For CHS and CGS: Each week of full time experiential education (equivalent to 40 hours of instruction) is equivalent to 1 credit.

If approved, some Colleges or Programs may allow the inclusion of full-time student participation on Midwestern University - sanctioned mission trips as experiential education or rotation time. In this case, the course credit policy for experiential education or rotations applies. The minimum amount of credit per mission trip that can be applied to a stand-alone course is 0.5 credit hours.

The Curriculum Committee of the College approves the number of credits hours for all courses including those utilizing alternative delivery methods. The determination/assignment of credit hours should reflect the overall educational content of the course and the academically engaged time required to achieve the desired outcome for the typical student. Academically engaged time may be measured by the type, quantity, and required level of mastery of the course content.

#### **Course Prerequisites**

Prerequisites for courses may be established by the college/department/program that administers the course. Prerequisites are recommended to the Curriculum Committee for approval and are listed with the course description in the University Catalog.

On a case-by-case basis, prerequisites may be waived upon recommendation of the college/program Promotions, Academic Progress/Review, or Student Promotion and Graduation Committee; and with the approval of the department chair that delivers the course, and Program Director, Associate Dean or Dean of the college. In case of a conflict, the ultimate decision will be made by the Dean of the college.

#### **Final Course Grades Due**

All course directors or course coordinators must submit to the Registrar the final grades for students by the end of the day on the Tuesday following final exam week each quarter.

## **GRADE APPEALS POLICY**

### **Appeal of Non-Failing Course Grades**

A student who wishes to appeal a non-failing course grade must make the appeal to the course director within one week following posting of the grade. The course director must act upon the student's appeal within one week following receipt of that appeal. A narrative explaining the basis of the appeal must accompany the request. An appeal must be based on one of the following premises:

1. Factual errors in course assessment tools
2. Mathematical error in calculating the final grade
3. Bias

If the appeal is denied, the student has the right to appeal the decision to the course director's immediate supervisor within one week of receipt of the course director's denial. The course director's supervisor should notify the student of his/her decision within one week following receipt of the student's reappeal. The decision of the course director's supervisor is final.

### **Appeal of Course Grades Subject to Academic Review**

A student whose academic progress will be subject to review by his/her Promotion/Academic Review Committee and who wishes to appeal a grade must do so in an expedited manner prior to the scheduled meeting of the Committee. In this case, an appeal of a didactic course grade must be submitted within one business day following posting of the grade and must be based on one of the premises stated above. The course director must act on this appeal within one business day. If the appeal is denied, the student has the right to appeal the decision to the course director's immediate supervisor. The course director's supervisor should notify the student of his/her decision within one business day following receipt of the student's reappeal. The decision of the course director's supervisor is final. An appeal of a failing clinical clerkship or rotation grade must be submitted within two business days after a grade for rotation is posted. The course director must act on this appeal within two business days of receipt of the grade appeal. If the appeal is denied, the student has the right to appeal this decision to the course director's immediate supervisor. The course director's supervisor should notify the student within two business days following receipt of the student's reappeal. The decision of the course director's supervisor is final. Any extension of the time for student appeal or course director's decision must be approved by the College Dean. The student is responsible for notifying the chair of the Promotion/Academic Review Committee that a grade appeal has been filed prior to the meeting of the Committee.

All appeals and decisions must be communicated in written form.

### **Graduation Walk-Through Policy**

A walk-through candidate is defined as a student who has not satisfied academic requirements for a particular degree, but will complete all academic requirements for the degree within one quarter immediately following the official scheduled end of the academic program for his/her class.

All degree candidates for graduation and graduation walk-through candidates must be approved sequentially by the College/Program faculty, College Dean, Faculty Senate, President, and Board of Trustees.

A walk-through candidate must submit an official request to participate in a graduation ceremony and the request must be approved by the Dean four weeks prior to the ceremony.

The Dean may grant late submission of a Walk-Through Request due to unforeseen circumstances.

A graduation walk-through candidate will not receive a diploma until he/she has successfully completed all academic requirements for graduation.

### **Incomplete Grades**

The grade (I) incomplete may be assigned by a course director when a student's work is of passing quality but is incomplete or if a student qualifies for reexamination. It is the responsibility of the student to formally request an extension from the course instructor. By assigning an I (incomplete) grade, it is implied an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. To resolve an incomplete grade, an instructor will resubmit the new grade on-line. All incomplete grades must be resolved within 10 calendar days from the end of final examinations for the quarter. In the case of courses ending prior to final examination week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade with notice to the Registrar. If an incomplete grade remains beyond the 10 calendar days, it is automatically converted to a grade of (F) failing by the Registrar, which signifies failure of the course.

### **In-Progress Grade**

An in-progress (IP) grade may be assigned when extenuating circumstances make it necessary to extend the grade completion period past 10 days (e.g., illness, family death). Authorization by the Dean is required, and the completion period should not typically exceed one quarter with notification of the Registrar.

### **Last Day to Add/Drop Courses**

The last day that a student may add or drop a course is Friday of the first week of the course. To add or drop any course after the course begins, a student must complete a course add/drop request which is located on the student portal at <https://online.midwestern.edu/student/mwuadddrop.cgi>

Students are able to submit "add" requests for most electives, but assistance from an academic advisor, program director or dean is required to add core courses and restricted electives. Any course "add" request submitted on behalf of a student, must first be approved by the student before it is forwarded for final approval and Registrar processing. The status of approvals and final processing can be tracked online.

Courses dropped after the first Friday of the week in which the course starts may be recorded as "W" (Withdrawal), "WF" (Withdrawal/Failing), or "F" (Failing). Grades will be

noted on the transcript in accordance with the college guidelines stated in the catalog.

### **Leave of Absence**

There are two types of leaves of absence: mandatory and voluntary. A student may be put on a mandatory leave of absence for academic, medical, or administrative reasons. Alternatively, a student may voluntarily request to take a leave of absence for bereavement, jury duty, maternity leave, medical reasons, military duty, or other personal reasons.

MWU students requesting a leave of absence must comply with the following:

1. Make an appointment with the Program Director/College Dean to discuss the leave of absence.
2. A student must provide written notification and documentation, if applicable, to the Program Director/Dean stating the reason for the leave of absence from MWU. If approved, the Dean will conditionally approve a leave of absence until all clearances are obtained.
3. The student must receive clearance of his/her leave of absence from the MWU departments on the [online.midwestern.edu](http://online.midwestern.edu) leave system within seven calendar days from the date of the Dean's approval. This time frame will allow offices such as Student Financial Services and the Registrar to process the leave of absence, prepare the required financial aid exit, and calculate the return of unearned Federal Title IV aid and all other aid, as appropriate.
4. Upon submission of all completed documentation and adherence to all clearance procedures, the Dean will provide an official letter granting a leave of absence to the student.

The student is withdrawn from all courses if the leave of absence is granted in the midst of an academic quarter. Once the Dean conditionally approves the leave, the Department Chairs/Program Director/course directors receive an automated electronic notification of the student's withdrawal. A grade of "W" (Withdrawal) or "WF" (Withdrawal/Failing) appears on the official transcript. The course director is responsible for submitting the correct grade. Students on the approved leave are obligated to pay their premium for long-term disability insurance.

All leaves of absence are granted for specific periods of time. Typically, a single leave of absence will not exceed 12 months, and consecutive or multiple interrupted leaves of absence will not exceed 18 months. At a minimum of 30 days prior to the end of the leave period, the student is required to submit written notification to the Dean and Registrar of an intention to return. If the leave of absence was granted for medical reasons, a letter must be provided to the Dean from the treating physician verifying that the student is both

physically and mentally capable of resuming the academic program prior to registering for classes. To request an extension of a leave of absence, a student must resubmit another written notification as described above. If an individual fails to return to MWU at the agreed-upon date, the student is considered to have withdrawn from the University and must reapply for admission. Leaves of absence can only be initiated through the Office of the Dean.

Students on leaves of absence are ineligible to run for or hold student organizational/club/class offices and are not permitted to work for the University.

#### **Bereavement Leave**

Students may request a short-term leave of absence due to death of a member of the student's immediate family. The student should follow the Leave of Absence policy. Students who find it difficult to come to campus during this time to arrange a leave in person should contact the Dean immediately to make leave arrangements. The duration of the leave shall usually be up to 5 consecutive working days. The immediate family includes any of the following persons: mother, father, spouse/domestic partner, son/daughter (including stepchildren and foster children), brothers, sisters, grandparents, grandchildren, spouse's parents/grandparents, or such persons who have reared the student.

#### **Jury Duty**

Students who have been requested to appear for jury duty and cannot do so while attending classes and/or clinical rotations may bring the original jury duty request to the Office of Dean or the Office of Student Services. The College Dean or Dean of Students will give the student a letter requesting that the student be excused from jury duty. Students should be aware that individual counties/states may not excuse them from jury duty even if a letter is submitted.

#### **Maternity Leave**

Enrolled students who become pregnant can request a leave of absence for maternity reasons. The request must be in writing and sent to the College Dean; however, prior to officially requesting a maternity leave, pregnant students must contact the Office of the Dean to discuss how a leave will affect their progress in the academic program and to review options available to them. The amount of leave time granted depends largely on the personal needs of the student and the timing of the birth within the academic program. In addition, students must inform the Office of the Dean of their intentions to return to classes at least one month prior to the end of the leave of absence period. A final decision is reached after careful consideration is given to personal and professional circumstances.

#### **Medical Leave**

Enrolled students who become seriously ill can request a leave of absence for medical reasons. The request must be in writing and sent to the College Dean; however, prior to

officially requesting a medical leave the student must contact the Office of the Dean to discuss how a leave will affect their progress in the academic program and to review options available to them. The amount of leave time depends on the severity of the illness. All medical leaves require documentation from a physician/specialist, including a diagnosis and a statement as to why the student cannot continue with his/her coursework. Additional documentation from the physician/specialist that the student is medically capable of returning to classes must be submitted to the Dean at least one month prior to the end of the leave of absence period. Approval for the medical leave of absence, as well as the ability to return to classes, is reached by the Dean after careful consideration is given to the supportive medical documentation and to personal and professional circumstances.

#### **Military Leave**

Midwestern University is committed to supporting students called to active military duty. Students called to such duty will be considered on military leave. Students called to active duty should immediately notify the College Dean and provide their pertinent call-up papers. Students returning to MWU from active duty will be eligible for reinstatement as full-time MWU students once they have notified the Dean and have supplied any pertinent military papers requested by the Dean.

Students called to active military duty will be entitled to receive refunds of tuition and fees if the withdrawal is prior to the sixth week of the quarter. After the tenth week, he/she will receive both grades and credit hours for courses in which he/she is earning a passing grade.

Preclinical students with less than two-thirds of assignments/exams completed will be encouraged to restart the courses once they return. Departments, however, will have the prerogative to make special arrangements. Clinical students returning to MWU will be reinstated as closely as possible to the previous point of progress in the clinical experience. The point of entry and order of clinical rotations for the clinical student will be determined by the College Dean and by the chair of the department in which the student was doing the clinical rotation. No additional tuition will be due from students for the resumption of any "incompletes" for work that they started before leaving for active military duty. Tuition charges for students restarting classes or for subsequent academic quarters will be set at the tuition rates in effect at the time the student returns from military duty. The College Dean will provide leadership to facilitate the re-entry of students into their programs as close as possible to the point when they were called to active military duty. The Dean of Students will provide leadership to facilitate student programming to address issues of stress and personal crisis and assist students in need of counseling because of a call-up.

### **Reexamination (Retest)**

Reexamination occurs when the student fails a course, but qualifies for a reexamination. It is the prerogative of the course director to offer or not offer a reexamination for a course failure and to determine the eligibility criteria for a reexamination. If a course director has a reexamination policy, it must be stated in the course syllabus.

If a student qualifies for a reexamination, a grade of "I" must be submitted to the Registrar at the end of the quarter. The reexamination must be completed within 10 calendar days starting from the last day of final examinations for the quarter. If the student passes the reexamination, the grade of "I" will be converted to the minimum passing grade of the college/program. If the student fails the reexamination, the grade of "I" will be converted to a grade of "F".

### **Registrar**

The Registrar maintains, prepares, and verifies all academic records, grades, and transcripts. The main number of the Office of the Registrar is 630/515-7600 (Downers Grove Campus) and 623/572-3325 (Glendale Campus). Registrar services can be accessed at <https://www.midwestern.edu/registrar>.

### **Registration**

Registration is done automatically for all students by the University Registrar. Exceptions to this rule include students registering for special schedules (extended course of study) and electives. Students registering for special schedules should contact the Office of the Dean, CHS Program Director's Office or CGS Program Director's Office, if applicable, for assistance.

### **Retake**

A retake may be offered when formal repetition of an entire course or a portion of the course is required due to course failure, or in the College of Health Sciences when a "C" letter grade has been earned. A course may be retaken when any of the following occur:

1. No reexamination is offered by the department.
2. The student has failed the reexamination.
3. The student fails to meet eligibility criteria for reexamination, if offered by the course director.

It is the decision of the Student Promotion and Graduation/Preclinical Promotions/Clinical Promotions/Academic Review Committee of each college/school/program to recommend a retake of a course. The committee, in conjunction with the approval of the department chair, program director and/or course coordinator, will determine the nature of the retake and the timeframe for completion of the repeated course. The course may be repeated at MWU or at an outside institution, if offered. The options for repeating a course at MWU may

include a directed readings remedial course with examination, repeating the course in its entirety the next academic year, or taking a specially designed course that contains the appropriate student work hours needed to meet the credit hours of the failed course. The repeat course must be completed in a regularly scheduled quarter. In either case, the student must be registered for the course and will be charged a flat rate of \$1,500 per quarter for retake courses, individually or in aggregate, that total one to five credit hours and \$3,000 per quarter for retake courses, individually or in aggregate, that total six credits or more. The Student's Dean or Program Director will issue a Course Retake Plan Letter to the Student specifying the courses included in the Course Retake Plan. Only the courses in the Course Retake Plan Letter qualify for the retake tuition rate. Retake courses may be taken with additional non-retake courses during the same quarter. Applicable tuition rates will be applied to non-retake courses. A student will not be charged more than the full-time per quarter tuition rate during any quarter, except in the instance of course overload situations, including while completing a retake course or courses. The maximum allowable grade that can be earned as a course retake is determined by college policy.

A course at an outside institution that is eligible as a replacement for the course that the student failed at MWU, must be approved by the department or program that offers the course at MWU as a satisfactory replacement for the failed course. A student must earn a minimum grade of "C" (not C-) in a replacement course completed at an outside institution and submit an official transcript to the Dean/Program Director in order to apply the credit toward the degree requirements of the college or program. Students are responsible for all costs associated with repeating a failed course at another institution.

### **Retention of Tests or Written Assignments**

Instructors will retain examinations or written assignments not returned to students for a period of one quarter after course completion. After that time, materials are destroyed.

### **Transcripts and Duplicate Diplomas**

The University releases transcripts and duplicate diplomas upon receipt of a request from a student or graduate. All requests should be submitted through the Document Request Center (<http://online.midwestern.edu>.)

1. No phone requests are honored.
2. Allow one week for processing.
3. There is no charge for a transcript release for MWU students prior to graduation; however, graduates and transferring students are required to pay a nominal amount per official transcript release.
4. Individuals who are no longer students at MWU are charged the same rate as an alumnus.

5. Transcripts and diplomas will not be issued for any student with a past-due account balance with MWU or the MWU Clinics.
6. Transcripts and diplomas will not be issued for any student or alumnus who has not completed a financial aid exit interview, if aid was borrowed while attending MWU.

A graduate can request a duplicate wall diploma through the online student/alumni portal. For current pricing on transcripts and diplomas, please refer to the Registrar website at [www.midwestern.edu/registrar](http://www.midwestern.edu/registrar)

### Travel and Lodging for Clinical Education/Fieldwork

It is the student's responsibility to assure that he/she has made appropriate arrangements for lodging and transportation to/from clinical education/rotation/fieldwork sites throughout the curriculum. The University does not generally provide for the cost of transportation and lodging. Travel arrangements are the sole responsibility of the students. Students are not considered an agent or an employee of the University and are not insured for any accidents or mishaps that may occur during any traveling that is done as part of the student's professional program. Students are usually responsible for all expenses associated with clinical education, such as transportation, meals, housing, professional attire, laboratory fees, etc.

## WITHDRAWAL

### Withdrawal from One or More Courses

Any student who wishes to withdraw from one or more courses must first discuss their decision with their course director(s) and/or advisor, then submit a course add/drop request online at <https://online.midwestern.edu/student/mwuadddrop.cgi>. No course may be dropped after the last day of the course. No withdrawals are allowed during the final examination period. The course director is responsible for submitting the correct grade or grade notation. Withdrawal requests must be approved by the program director, if applicable, and/or by the college dean. Approval for withdrawal from a core curriculum course is granted only for extraordinary circumstances. Students should be aware that withdrawal from a core course may result in a significant extension of the students' professional program and may alter financial aid assistance. Approved course withdrawals are graded according to the following policy:

Time at Which Course Withdrawal is Requested	Course Grade at the Time of Withdrawal	Action
Prior to and including the first Friday of the course	N/A	No grade - course does not appear on the transcript
After the first Friday and up to 50% of the course duration is completed	N/A	W
Greater than 50% and up to 80% of the course duration is completed	Passing Failing	W WF*
Greater than 80% of the course duration is completed	Passing Failing	W WF* or F

\*A "WF" may be considered a failure by an Academic Review/Promotion Committee. In the case of courses that span two or three full quarters with a single grade assigned at the end of the course, students may withdraw from the course during any of the quarters in which the course is administered. If the assigned grade at the time of withdrawal is a "WF", the grade of "WF" will be considered a grade equivalent for all completed quarters of the course as well as the quarter during which the withdrawal was initiated.

### Withdrawal from the College/University

The decision to withdraw from the University is a serious matter. Any student who withdraws from a college or a program is dropped from the rolls of the University. As such, if he/she decides at some later date to reenter the program, he/she must reapply for admission and, if accepted, assume the status of a new student.

Students contemplating withdrawal must inform the Program Director, if applicable, and the Dean of the decision to voluntarily withdraw and voluntarily relinquish his/her position in the program. The student must contact the Office of the Dean and must complete the appropriate clearance procedures. The withdrawal process includes the clearing of all financial obligations of MWU (including the mailroom, clinical education, library, security, housing, etc.) and a financial aid exit interview. If the withdrawal occurs before the completion of a course, the student must complete a course add/drop form. The student will receive one of the following grades: "W" (Withdrawal) or "WF"



(Withdrawal/Failing) or "F" (Failing). If the student completes the course before withdrawing, a final grade will be assigned. Following completion of these withdrawal procedures, the designation "Withdrawal" will be placed in the student's permanent record. The designation "Unofficial Withdrawal" is placed in the permanent record of any student who withdraws from his/her program without complying with the above procedures. For more information, see the Financial Aid sections on Notification of Withdrawal and Tuition Refund Policies.

## ADMISSIONS

Prospective students interested in enrolling in any college of Northwestern University should contact the Office of Admissions at either the Downers Grove or the Glendale campuses to request admissions information and application materials. For specific admission standards of the respective colleges, refer to the appropriate college sections of the catalog.

Office of Admissions	Office of Admissions
<b>Midwestern University</b>	<b>Midwestern University</b>
555 31st Street	19555 North 59th Avenue
Downers Grove, IL 60515	Glendale, AZ 85308
630/515-7200	623/572-3215
800/458-6253	888/247-9277
AdmissIL@midwestern.edu	AdmissAZ@midwestern.edu

### Admission Deferment

Deferments are only considered under extreme circumstances in which a physical illness or medical condition of the applicant or their immediate family member precludes the student from beginning classes at the start of the academic year. For the 2020-2021 academic year only, deferments may also be considered for an international student who is unable to obtain an F-1 visa due to the declaration of a global pandemic. If granted by the Dean, a student may defer their admission for one year only.

To initiate the deferred admissions process, a student must request a deferment in writing to the Director of Admissions by the date designated in their matriculation agreement. For deferments requests related to physical illness, the request must be accompanied by a letter(s) from a physician(s) documenting the conditions that prevent the student from beginning their full time studies. Once all appropriate documentation has been received, the Director of Admissions will forward it to the Dean for review. The Director of Admissions may provide a recommendation on the deferment to the Dean.

The Dean will respond to a written request with a letter to the student detailing the specific conditions associated with the deferment including the start and end dates of the approved deferment period. Typically, the conditions include:

- At the time of the deferral request, the student must submit their deposit monies by the deposit deadline date designated in the matriculation agreement.
- The student must provide a written letter to the Dean in which he/she states his/her intent to end the deferment and to begin classes. This letter must be received by the Dean a minimum of 30 days prior to the start of classes.
- For deferments due to physical illness or medical conditions of the student, the student must provide a letter from a physician(s) stating that the student can begin full time studies. The letter must be submitted to the Dean at least 30 days prior to the start of classes.

Students that have been granted a deferment are not required to re-apply.

### Articulation Agreement Between Northwestern University Programs

At the time of application, students enrolled in a Northwestern University program are guaranteed an admission interview with another Northwestern University program if the student:

1. Is in good standing in the academic program in which the student is currently enrolled or has completed the program within the last 12 months prior to the application and does not have any pending misconduct charges against him/her;
2. Meets all admission requirements for the professional program of interest;
3. After a minimum of two full-time quarters of study, achieves a minimum Northwestern University grade point average, derived from all courses completed at Northwestern, that is equal to or greater than 3.0; and
4. Achieves a score on the professional entrance exam that is not less than one standard deviation below the mean score for students who matriculated into the professional degree program in the previous year.

Note: Students must meet all application deadlines for the professional program of interest. A guaranteed interview does not guarantee admission into the professional program.

### International Applicants

An international student must complete a minimum of 30 semester hours of coursework from a regionally accredited college or university in the United States, or from a recognized post-secondary Canadian institution that uses English as its primary language of instruction and

documentation. Of the 30 semester hours, 15 hours must be in the sciences, 6 hours in non-remedial English composition, and 3 hours in speech/public speaking.

Applicants who wish to receive credit for prerequisite coursework completed outside the U.S. or at a Canadian institution that does not use English as its primary language of instruction and documentation must submit an official, detailed, course-by-course evaluation obtained from one of the following evaluation services:

- Education Credential Evaluators (ECE): 414/289-3400 (www.ece.org, e-mail: eval@ece.org)
- World Education Service (WES): 212/966-6311 (www.wes.org)
- Josef Silny & Associates International Education Consultants: 305/273-1616 (www.jsilny.org, e-mail: info@jsilny.org)

International applicants who do not provide documentation of acceptable U.S. or Canadian course/degree equivalency will not receive credit, and will be required to complete all prerequisite courses at an accredited college or university in the United States, or at a recognized post-secondary institution in Canada that uses English as its primary language of instruction and documentation.

For clarification about recognized post-secondary institutions in Canada that use English as a primary language of instruction and documentation, international applicants should contact the Midwestern University Office of Admissions.

### **Matriculation Process**

The matriculation process begins after applicants receive notification of their acceptance. To complete the matriculation process, applicants must:

1. Submit the matriculation agreement and required deposit monies by the date designated in the matriculation agreement. Deposits are applied towards the first quarter's tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 days) prior to the first day of classes. Students who are accepted to MWU less than one month prior to the first day of classes will have 30 calendar days from the date of their acceptance to submit all official transcripts to the Office of Admissions. Any special circumstances or requests for exceptions to this policy must be sent to and approved by the Office of the Dean of the College. Students who fail to submit all official final transcripts by the stated deadline may jeopardize their acceptance or continued enrollment in the College.

3. Submit completed medical files documenting completion of a physical exam, immunizations, tuberculosis and titer blood testing as instructed by the Office of Student Services and detailed in the Student Handbook.
4. Meet the Technical Standards for the College.
5. Submit proof of medical and disability insurance coverage. Students may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of their choice, as determined by the Office of Student Services. Insurance must be maintained throughout the entire period of enrollment.
6. Submit additional documents as requested by the Office of Admissions or College.
7. Students who are requesting an F-1 visa or who are not U.S. citizens or permanent residents must prepay tuition and in some cases other mandatory program fees for the first year of their educational program 6 weeks before the first day of the first quarter of each academic year. Furthermore, the student must prepay tuition and in some cases other mandatory program fees for each successive year at the start of each academic year on the University's stated due date.
8. Submit a signed Credit Policy Statement.
9. Authorize and pass the MWU criminal background check and/or fingerprinting background check as required by the specific College/School/Program.
10. Submit a signed MWU Drug-Free Workplace and Substance Abuse Policy Statement.

Applicants who fail to satisfy these matriculation requirements or who omit or falsify information required on official admission documents automatically forfeit their seat in the program. Any individual accepted for admission to the College/Program who does not comply with stated timelines for submission of all required materials will be notified by the College/Program regarding missing materials and the potential forfeiture of his/her seat.

## **STUDENT SERVICES**

The mission of the Office of Student Services is to offer a broad range of services in the arena outside the formal boundaries of the classroom that support, enhance, nurture, and promote the growth and development of Midwestern University students by contributing to their professional, cultural, social, intellectual, physical, and emotional well being. It is within the mission of Student Services to promote awareness, understanding, and acceptance of all individuals in a diverse world society and to promote a sense of respect, appreciation, and community among the colleges that can be carried on throughout students' professional lives.

The Office of Student Services on the Glendale campus is composed of the Dean of Students, Associate Dean, Assistant Dean, Student Activities, Residence Life, Student

Counseling, and the Wellness & Recreation Center. The Office of Student Services supports all colleges and interacts with students to develop and support programs and services that enrich students' experiences on campus. Examples of these programs include: MWU Student Government, MWU Student Tutoring Program, student social and recreational activities, orientation, academic counseling, stress and time management seminars, multicultural and diversity programming, crisis intervention and personal counseling, intramural sports and other developmental activities. The Office of Student Services, housed in the Barrel II Student Center, has an open-door policy and is available to students on a continuing basis offering the support, advice, and encouragement needed to meet students' concerns and challenges.

### **New Student Orientation**

Orientation programs are planned each year to welcome and facilitate the integration of new students into each of the colleges of the University. In addition, students are provided with opportunities to interact socially with peers, meet faculty, administration and staff members, learn about University services available on campus and develop a sense of belonging to the University community and individual college communities.

### **Student Government**

Student government provides a forum for discussing and resolving student concerns, initiating recognition of new student organizations, and conducting reviews of existing student organizations. Student government functions at two levels: (1) the University and (2) the College. The following is a brief description of how student government functions at both levels.

#### *University Level*

All students are represented through a campus-wide Student Senate. The Student Senate is composed of representatives from AZCOM, AZCOPT, CDMA, CHS, CGS, CPG and CVM. The members of the Executive Board are the Speaker of the Student Senate, the Vice Speaker, and the Secretary. Meeting every month, the Student Senate provides a mechanism for governance of campus-wide activities and functions. It also provides a vehicle for the exchange of ideas and perceptions concerning student issues that cross college lines.

The Student Senate is required to develop and publish bylaws that describe: (1) the name of the Senate, (2) purpose, (3) objectives of the Senate, (4) operation and relationship with the college student councils, (5) membership and procedures for the election of officers/liaisons and their terms of office, (6) duties of Senate members, (7) meeting schedules, (8) parliamentary procedure, (9) procedural considerations (quorums, role of individual class officers, etc), and (10) adoption and amendment procedures.

#### *College Level*

Individual college student councils function to provide governance for student issues related to the individual colleges, as well as conducting all class and college-wide elections. Adoption of bylaws governing the individual college student councils is at the discretion of the elected/appointed officers of these councils. College student councils are encouraged to adopt bylaws that are consistent with the bylaws of the other college student councils.

Individual college student councils are required to develop and publish bylaws that describe: (1) the name of the student council, (2) purpose, (3) objectives of the council, (4) operation and relationship with other college student councils, (5) membership and procedures for the election of officers/representatives and their terms of offices, (6) duties of student council members, (7) meeting schedules, (8) parliamentary procedure, (9) procedural considerations (quorums, role of individual class officers, etc), and (10) adoption and amendment procedures.

### **Student Counseling**

The Glendale Campus has two full-time Student Counselors. The Student Counselors are available to help students effectively deal with many issues through individual, couples, and family counseling.

Counseling by the on-campus Student Counselors is subsidized through student activity fees and is provided free of charge to all students of Midwestern University. Based on an assessment by the counselor, at times it may be necessary to utilize alternate resources for specialized interventions. Referrals will be made to an appropriate specialist; however, these referrals may or may not be covered under the student's health plan. Under these circumstances the student is required to meet expenses not covered under their health plan.

### **MWU Student Tutor Program**

Midwestern University offers peer-tutoring services through the Office of Student Services to those students having academic difficulty. Tutoring is designed to enhance test-taking skills, modify study habits, and/or focus on critical material and content.

### **Student Health**

As deemed appropriate for the protection of students and patients and in accordance with our clinical affiliation agreements, Midwestern University requires that all students possess health insurance and submit documented proof of immunity against certain diseases during their enrollment.

### **Wellness and Recreation Hall**

Committed to the concept of "wellness," Midwestern University encourages students to utilize the Wellness and Recreation Hall. This facility contains rooms for dance/aerobics, weight training, music, crafts, racquet ball, as

well as volleyball and basketball in a full sized gymnasium. There are also outdoor basketball courts and sand volleyball courts.

Additionally, students may participate in many intramural sporting activities that are sponsored by the University, including flag football, volleyball, soccer, basketball, softball, and ping-pong tournaments. Group activities such as cycling, running, hiking, martial arts, and yoga also occur on a regular basis.

## OFFICE OF STUDENT FINANCIAL SERVICES

### Introduction

The Office of Student Financial Services provides students with information about federal, state, and private sources of financial assistance; helps students coordinate the financial aid application and renewal processes; and assists students in making informed decisions about the financing of their education. The Office of Student Financial Services is also responsible for the billing and collection of all tuition, fees, and institutional housing owed for each quarter.

Midwestern University has a very strong commitment to financial literacy through the "Sensible Strategies" program. While many students make substantial, long term financial obligations for their professional education, we are committed to assisting our students to become smart, informed consumers through a variety of student-focused programs and events.

### *Financial Aid Disclosure*

Changes in federal, state and/or university policies could affect the Office of Student Financial Services' information printed in this catalog. MWU reserves the right to make changes in any or all of the information contained therein and to apply such revision accordingly.

### Contact Information

Students may contact us by calling 623-572-3321 Monday through Friday between the hours of 8:00 AM and 4:30 PM Arizona Standard Time or by emailing financial aid at [azfinaid@midwestern.edu](mailto:azfinaid@midwestern.edu) or student accounts at [azstudentaccounts@midwestern.edu](mailto:azstudentaccounts@midwestern.edu).

Midwestern University  
Office of Student Financial Services  
Suite 400, Barrel III  
19555 N. 59th Avenue  
Glendale, AZ 85308

### Eligibility Requirements

All students seeking financial aid must meet general eligibility requirements regarding citizenship, selective service, financial need, and satisfactory academic progress. Students must also complete several certification statements.

Students who are currently in default and have not made satisfactory loan repayments or owe a refund on a Title IV program do NOT qualify for any form of federal aid. Students who have an established history of debt nonpayment may qualify for Federal loan programs but do NOT qualify for campus-based aid.

### Loss of Eligibility Due to a Drug Conviction

A student who is convicted of a state or federal offense involving the possession or sale of an illegal drug that occurred while enrolled in school and receiving Title IV aid is not eligible for Title IV funds. [An illegal drug is a controlled substance as defined by the Controlled Substance Act and does not include alcohol and tobacco.]

A borrower's eligibility is based on the self-certification on the Free Application for Federal Student Aid (FAFSA). Convictions that are reversed, set aside, or removed from the student's record, or a determination arising from a juvenile court proceeding do not affect eligibility and do not need to be reported by the student.

A student convicted of a drug-related offense while enrolled in school, and receiving Title IV aid, loses Title IV eligibility as follows:

1. For the possession of illegal drugs:
  - First offense: one year from the date of conviction
  - Second offense: two years from the date of the second conviction
  - Third offense: indefinite period
2. For the sale of illegal drugs:
  - First offense: two years from the date of conviction
  - Second offense: indefinite period

A school must provide a student who loses Title IV eligibility due to a drug-related conviction with a timely, separate, clear and conspicuous written notice. The notice must advise the student of his or her loss of Title IV eligibility and the ways in which the student may regain that eligibility.

### Regaining Eligibility after a Drug Conviction

A student regains eligibility the day after the period of ineligibility ends following a first or second offense; or when the student successfully completes a qualified drug rehabilitation program that includes passing two unannounced drug tests given by such a program. A student will become ineligible as a result of any further drug convictions.

Students denied eligibility for an indefinite period can regain eligibility after completing any of the following three options:

1. Successfully completing a rehabilitation program (as described below, which includes passing two unannounced drug tests from such a program);
2. Having the conviction reversed, set aside, or removed from the student's record so that fewer than two convictions for sale or three convictions for possession remain on the record; or
3. Successfully completing two unannounced drug tests which are part of a rehab program (the student does not need to complete the rest of the program).

A drug rehabilitation program is considered approved for these purposes if it includes at least two unannounced drug tests and meets one of the following requirements:

- The program received or is qualified to receive funds directly or indirectly under a federal, state or local government program.
- The program is administered or recognized by a federal, state or local government agency or court.
- The program received or is qualified to receive payment directly or indirectly from a federally or state licensed insurance company.
- The program is administered or recognized by a federally or state-licensed hospital, health clinic, or medical doctor.

When a student regains eligibility during the award year, MWU may award campus-based aid for the current payment period (quarter) and Direct Loans for the period of enrollment (academic year).

### **Financial Aid**

The Office of Student Financial Services helps coordinate four types of financial aid: Scholarships, Federal Work-Study, Veterans' Educational Benefits, and Loans.

### **Scholarships**

#### **All Programs**

MWU has a variety of scholarships available to current students. Please check the Student Financial Services scholarships webpage for a complete listing of available scholarships.

#### **WICHE's Professional Student Exchange Program**

WICHE's Professional Student Exchange Program (PSEP)

The Arizona Colleges of Osteopathic Medicine, Optometry, Dental Medicine, Pharmacy, Veterinary Medicine, and the College of Health Sciences Physician Assistant, Occupational Therapy, Physical Therapy, and Podiatric Medicine participate in the PSEP administered by the Western Interstate Commission for Higher Education (WICHE), under which legal residents of western states without a public professional school in these fields may receive preference in admission and funding to help with tuition costs at MWU.

To be eligible for this program, the student must contact the WICHE Certifying Officer in his/her state of legal residence for the program application. The number of students supported by each state for each field depends upon state appropriations. For addresses of state certifying officers, go to <http://www.wiche.edu/psep/cert-off> or write to:

WICHE Professional Student Exchange Program  
3035 Center Green Drive  
Suite 200  
Boulder, CO 80301-2204  
303/541-0200  
<http://www.wiche.edu>

### **Federal Work-Study**

Student employment is available to eligible students who apply for work-study and demonstrate financial need by completing a FAFSA for the applicable award year. Qualifying students may work on campus, or off-campus if performing community service activities or research. A contract must be in place prior to working off-campus. The Office of Student Financial Services determines the total amount students may earn annually. This is NOT a loan program. Students who obtain Federal Work-Study employment are paid bi-weekly. Awards are based on allocations of federal funding. Students may not start work as a Federal Work-Study student without first receiving approval from Student Financial Services.

### **Federal Student Loans**

#### **All Programs**

1. Direct Unsubsidized Loan: Graduate students enrolled at least half-time in a degree seeking program may borrow up to \$20,500 per academic year with an aggregate maximum of \$138,500. Students enrolled in the osteopathic medicine, veterinary medicine, dental medicine, optometry, podiatry, clinical psychology and pharmacy programs are eligible for higher an increased annual loan amount and may borrow the aggregate loan maximum of \$224,000. Current information on interest rates, loan fees and repayment plans for Federal Direct Loans is available at: <https://studentaid.gov/understand-aid/types/loans/interest-rates>
2. Direct Graduate PLUS Loan: Graduate students enrolled at least half- time in a degree seeking program may borrow up to the annual cost of attendance minus other aid. Current information on interest rates, loan fees and repayment plans for Federal Direct Loans is available at: <https://studentaid.gov/understand-aid/types/loans/interest-rates>

### *Dentistry, Optometry, Podiatry and Pharmacy*

Health Professions Student Loan (HPSL): Graduate students enrolled full time in a degree-seeking program in dentistry, optometry, podiatry or pharmacy may be eligible for HPSL funding. Priority consideration is given to third- and fourth-year students with exceptional financial need based on both student and parent income. HPSL is administered by the Department of Health and Human Services. Award amounts are determined according to number of applicants and availability of funds. HPSL is a subsidized loan with a 5% fixed interest rate and a 12-month grace period before interest accumulates. Students must be enrolled full-time to receive HPSL funding.

### *Osteopathic Medicine Programs*

Primary Care Loan (PCL): Priority consideration is given to certain third or fourth-year students with exceptional financial need who are committed to practicing primary care medicine. This loan offers a one-year grace period and a residency deferment of up to four years. The interest rate is fixed at 5%. Students must agree to enter and complete a residency training program in primary care medicine not later than four years after the date on which they graduate. Students must also agree to practice primary care medicine through the date on which the loan is repaid in full. Students must be enrolled full-time to receive PCL funding.

### **Non-Federal Student Loans**

#### *Osteopathic Medicine Institutional Loan Programs*

CCOM/AZCOM Loan: This institutional loan program is offered to third and fourth-year students. Loan amounts and the availability of funding vary from year to year. Interest will accrue at 5% per annum immediately after graduation unless the student enters into an approved internship. Repayment begins 6 months after graduation, unless the student enters into an approved internship/residency.

#### *Other Resources:*

Many lenders also offer private loans to students to supplement their federal financial aid. Such loans are not subject to federal student loan regulations. Terms of repayment, including interest rates, vary by loan. Lenders perform a credit check and determine a loan applicant's creditworthiness before approving these loans.

### **Veterans' Educational Benefits**

Midwestern University is approved by the Arizona State Approving Agency to certify enrollment for veteran education benefits for eligible programs. Students who receive education benefits for veterans are required to provide official military transcripts to the Office of the Registrar when requesting certification for those benefits. Midwestern University reviews all prior education and training for VA

benefit recipients. Midwestern University does not participate in the Yellow Ribbon Program.

In accordance with Title 38 US Code 3679(e) Midwestern University adopts the following additional provisions for a student who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill® benefits while payment to the institution is pending from the VA. If such payments or disbursements under Chapter 31 or 33 are delayed, Midwestern University will not:

- Impose any penalty or late fee;
- Deny the student access to classes, libraries, or other institutional facilities, or
- Require the student secure alternative or additional funding up to the amounts covered by Chapter 31 or 33.

To qualify for this provision, students may be required to submit to the Office of the Registrar no later than the first day of class:

1. A Certificate of Eligibility (COE) for entitlement to educational assistance under chapter 31 or 33;
2. A "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website – eBenefits, or a VAF 28-1905 form for chapter 31 authorization purposes;
3. A written request to use such entitlement;
4. Provide additional information necessary to properly certify the enrollment for benefits.

For more information go to the Office of the Registrar at <https://www.midwestern.edu/admissions/military-and-veteran-students.xml>

Students may also contact the Office of the Registrar by email at [azregistrar@midwestern.edu](mailto:azregistrar@midwestern.edu).

Midwestern University  
Office of the Registrar  
Suite 400, Barrel III  
19555 N. 59th Avenue  
Glendale, AZ 85308  
623-572-3325

### **Financial Aid for Repeat Courses**

Students repeating a previously passed course may be eligible to receive Federal financial aid for the repeated course. Federal regulations define "passed" as any grade higher than an "F," regardless of program policy requiring a higher qualitative grade or measure to have been considered to have passed the course.

Students repeating a failed course(s) may be eligible for federal aid to cover the cost associated with the repeat of the



failures(s) as long as Satisfactory Academic Progress standards (SAP) are met. Those ineligible for Federal aid may qualify for private loans. Students should contact the Office of Student Financial Services to determine eligibility.

### Website Information for Financial Aid

Additional information regarding scholarship and loan programs, tuition payment plans, links to federal websites, and the Sensible Strategies financial literacy program can be accessed on the Midwestern University Student Financial Services webpage at:

<https://www.midwestern.edu/admissions/tuition-and-financial-aid.xml>

### Applying for Financial Aid

#### *Budget and Cost of Attendance*

Each class has an established Cost of Attendance (COA) or budget designed to cover a student's educational and living expenses; funding is only allowed within the parameters of the start/end dates of the academic year. The standard COA for each class, developed in accordance with federal guidelines, allows for a reasonable standard of living for a single student in the community. Each year the major components of the budget are reviewed and modified, if necessary, based on changes in costs. To help verify allowable expenses and amounts included in budgets remain reasonable, the Office of Student Financial Services will periodically survey students to gather information about 'actual' expenses they have incurred.

Representative expense categories in every budget include:

- Tuition and Fees
- Books and Supplies
- Room and Board
- Transportation Expenses
- Personal Expenses including insurances

Some programs may include technology, equipment, or other fees as well. In all instances, federal regulations govern what is allowable in the budgets.

While many students find it necessary to borrow to pay for their education, we highly encourage students to live as modestly as possible with a thrifty budget, to minimize debt, and that good choices now can lead to financial freedom down the road and lower repayment after graduation. The staff in the Office of Student Financial Services are always available to discuss any questions surrounding budgeting within our COA limits.

#### *Online Application Process*

The online financial aid application and instructions are updated annually and made available to all enrolled students. Newly accepted students who have paid their matriculation deposit will have additional access to other relevant financial aid resources in Canvas on their student portal.

### Glendale Tuition and Fees

*Glendale Tuition and Fees (for academic year 2020-2021)*

Please Note: Tuition rates are subject to change each academic year for all enrolled students. *Historically, tuition has increased between 3.75% and 7.00% annually. Programs with a trailing summer session will be subject to annual tuition increases for those summer sessions.*

Program	Tuition
Arizona College of Osteopathic Medicine <sup>1</sup>	\$71,146
College of Pharmacy - Glendale	\$62,009
College of Dental Medicine - Arizona <sup>2</sup>	\$80,118
Arizona College of Optometry <sup>3</sup>	\$43,060
Veterinary Medicine	\$64,243
Physician Assistant Studies <sup>4</sup>	\$51,583
Occupational Therapy	\$43,880
Biomedical Sciences, Master of Arts	\$46,825
Biomedical Sciences, Master of Biomedical Science	\$40,035
Podiatric Medicine <sup>5</sup>	\$45,320
Cardiovascular Science <sup>6</sup>	\$43,747
Nurse Anesthesia	\$47,419
Doctor of Nurse Anesthesia Practice	\$28,136
Clinical Psychology	\$37,146
Physical Therapy <sup>7</sup>	\$41,729
Master of Public Health	\$11,592
Speech Language Pathology <sup>8</sup>	\$42,342

All programs have an annual student services fee of \$687. Additional fees may be assessed, including disability insurance or other charges, as determined by each college. Students enrolled less than full-time will be charged per-credit-hour basis. All rates and fees are subject to change.

Additional Fees assessed by Program:

<sup>1</sup>Arizona College of Osteopathic Medicine:

- Diagnostic Kit - First Year Only - \$515

<sup>2</sup>College of Dental Medicine - Arizona:

- Technology Fee - First Year Only - \$1,028
- Student Equipment Fee-First Year Only - \$1,075
- Supply Fee - All Years - \$5,289
- Instrument Rental Fee - All Years - \$2,440
- Simulation Laboratory and Clinic Fee - All Years - \$6,348

<sup>3</sup>Arizona College of Optometry:

- Equipment Kit Fee - First Year Only - \$3,540
- Diagnostic Set - First Year Only - \$885

<sup>4</sup>College of Health Sciences - Physician Assistant:

- Equipment Fee for Physical Diagnosis & Therapeutic Skills Kit - First Year Only - \$600

<sup>5</sup>Arizona School of Podiatric Medicine:

- Technology Fee - First Year Only - \$997
- Surgical Instrument Fee - \$600

<sup>6</sup>Cardiovascular Science:

- Technology Fee - First Year Only - \$998
- Taskstream Software - First Year Only - \$77

<sup>7</sup>College of Health Sciences - Physical Therapy:

- Physical Therapy Kit - First Year Only - \$230

<sup>8</sup>College of Health Sciences - Speech Language Pathology:

- Simucase, an SLP web-based simulation program \*first year only - \$99
- Calipso Software - First Year Only - \$90
- MBSImP - First Year Only - \$79
- Brain Dissection - First Year Only - \$90

### Tuition Payment

Tuition for full-time students is an annual rate that is payable over 1, 2, 3, or 4 quarters per year depending on the academic schedule of the student. Any student enrolled, where the course load meets the full-time definition, will pay the full-time tuition rate. Students exceeding the maximum prescribed course load will pay overload charges. Students extending their program will be charged the annual tuition rate for their additional year of enrollment. Students extending their program by one quarter or less will be

charged according to their enrollment status. Students completing their clinical rotations pay a fixed tuition rate each quarter. Students are not charged on a per credit basis, but pay a fixed tuition rate each quarter during the completion of their rotations based on the annual tuition of the program.

Students are encouraged to pay all tuition and fees via Midwestern's secure website at <https://online.midwestern.edu>. Options for online payment include electronic check payment, debit or credit card. MWU accepts American Express, Discover, MasterCard and Visa. For those paying by mail or in person, all checks and money orders should be made payable to Midwestern University, with the MWU student ID number indicated on the front. Cash payments are limited to \$250 or less. Tuition due dates will be publicized on [www.midwestern.edu](http://www.midwestern.edu). If tuition payments are made through the mail, please address the envelope as follows:

Midwestern University  
Office of Student Financial Services  
Suite 400, Barrel III  
19555 N. 59th Avenue  
Glendale, AZ 85308

Students who fail to pay balances owed as scheduled will have their account processed according to Midwestern University's Overdue Accounts Policy.

### Payment Plans

Payment plans that allow students to divide an unpaid balance into three equal payments over the course of a quarter. Policies regarding the payment plans:

1. All financial aid must be applied toward the unpaid balance due accepting student payment plan.
2. It will be mandatory for students to utilize MWU's electronic billing and payment system, available at <https://online.midwestern.edu>, to set up the payment plan each quarter.
3. A minimum balance of \$200 is required to participate in a payment plan
4. The plan is interest free.
5. A \$25 fee will be charged per quarter. This fee is to cover costs associated with payment plan enrollment, maintenance, billing and collections. The fee will be charged and is due with the first payment.
6. A 1.5% late fee will be applied to accounts at 10 days late, and the balance will be accelerated to be due in full.
7. Any unpaid balance must be paid in full by the end of each quarter.
8. To maintain eligibility, students must adhere to the payment plan due dates and not be, or have been late on any current or prior MWU payment plans.

### *Prepayment Plans*

Students have the option to prepay the entire amount of tuition for their program at the tuition rate for the academic year for which tuition is paid. Prepayment of the entire program's tuition must be paid in full by the first day of matriculation.

A student may also choose to prepay tuition a year at a time in advance, for the full academic year, at the benefit of the current tuition rate. For example, a student matriculating in the 2020-2021 academic year in September 2020, who wishes to prepay the annual tuition amount, must make this prepayment by the first day of matriculation in September 2020. Another example is, if this same student does not choose to prepay at matriculation, but later decides to prepay year-three at the current year-two rate, this prepayment for year-three must be made by the first day of year-two classes. Any exceptions to this policy must be approved by the Director of Finance.

All accepted International matriculates who are requesting an I-20 document in order to obtain an F-1 student visa OR who are not U.S. citizens/ permanent residents/ eligible non-citizens must prepay tuition, and in some cases other mandatory program fees for the first year of their educational program 45 days prior to the first day of the first quarter. Continuing international students must prepay tuition and, in some cases, other mandatory program fees for each successive academic year on the University's stated due date.

### *Credit Cards*

The Office of Student Financial Services accepts credit cards for payment of tuition, fees, insurances, on-campus housing, and other direct costs; however, the following requirements must apply:

1. All financial aid funds must first be applied to the balance before using a credit card for payment.
2. Credit card payments will not be accepted on accounts already paid in full, unless the student provides written authorization to hold the 'prepayment' for future quarters for which the student owes a balance after applying financial aid funds.
3. When using a third party's credit card, the Student Financial Services Office must receive authorization from the cardholder.
4. MasterCard, Visa, Discover and American Express are accepted.

## **Important Information about Fees and Charges**

### *Fee Charges*

All full and part-time degree seeking students enrolled in an academic year must pay the student services and applicable program specific fees. Students who are enrolled 3 or 4

quarters per year will be charged the full annual student services and program specific fees. Students who are enrolled in a program that ends with 1 quarter over the summer, or 2 quarters over the summer and fall will be charged 25% or 50% of the annual student services and program specific fees, respectively. The student services fee funds such areas as the recreation center, sports intra-murals, counseling services, operation of the student lounge, student government, student representation in government, and student events on and off-campus. The program specific fees fund the items described above in the Tuition and Fees section.

### **Add/Drop Period**

Charges will be re-assessed accordingly for courses added/dropped within the add/drop period depending on the student's revised enrollment status (i.e. full-time, half-time, less than half-time, etc.). Please note that if all courses are dropped and a student is determined to be withdrawn for the entire quarter, tuition and fee charges may be assessed and will be based upon guidelines stated in the MWU Refund Policy: Return of Title IV and VII Funds.

### **Partial Course Load**

Students registered for courses that total fewer than 12 credit hours per quarter are considered to have a partial course load. Prior authorization from the College Dean is required before students can begin a quarter with a part-time course load. In such circumstances, tuition is charged on a per credit hour basis. The rate for each quarter hour is calculated based on the current quarterly full-time tuition divided by the standard credit hours of the program the student is enrolled in for the respective quarter enrolled. The per-credit hourly rate is multiplied by the enrolled credit hours to equal the tuition charge for the quarter.

### **Course Overload**

Students registered for more courses than the prescribed schedule in a given quarter are considered registered for a course overload. Students must receive prior approval from the College Dean. Tuition is billed for the additional courses as follows:

- Course overloads are billed the annual tuition rate plus an additional per-credit rate.
- The per-credit rate is calculated by dividing annual tuition by the number of quarters to determine a quarterly rate. The quarterly rate is divided by the prescribed course load credit hours as specified for the program (below).
- Course overloads are defined as follows per quarter: AZCOM >29 credit hours; CPG >21 credit hours; CHS Graduate >23 credit hours; CHS Podiatric Medicine >27 credit hours; CGS Graduate > 23 credit hours; CDMA >30 credit hours; AZCOPT >30 credit hours; CVM >26 credit hours.

### **Overdue Accounts**

The Student Accounts department within the Office of Student Financial Services will follow up with students to collect past due accounts. The overall goal is to encourage all students to pay their balance on time so that they are not faced with the consequences as outlined below.

Consequences of past due accounts can include any and all of the items listed below:

1. A 1.5% late fee will be assessed at 10 days past due for all balances of \$500 or more. Balances of \$499 or less are assessed a fixed \$7.50 late fee.
2. Past due notices will be sent via email.
3. Follow-up contacts will be made but are not limited to phone calls.
4. At 15 days past due, the College Dean will be notified of the delinquency.
5. At 30 days past due, student may be dropped from enrollment by the College.
6. If a student is suspended or terminated from MWU, he/she must reapply for admission to MWU.
7. Withholding of academic transcripts.
8. Continued non-payment of account puts the student at risk of being referred to a third party for collection. This may result in a collection fee assessed and the delinquent account may be reported to one or more of the national credit bureaus.

Note: A student may be exempt from payment deadlines and permitted to continue in school without risk of suspension. However, students must notify Student Accounts of any, and all circumstances that may necessitate an exception to the payment deadlines. Exceptions to this policy may be made for the following reasons:

1. Circumstances beyond the student's control (i.e. non-arrival of financial aid funds applied for well in advance of the due date);
2. A payment plan has been approved by the Office of Student Financial Services

### **Returned Checks**

A fee may be charged on any returned check. After two returned checks a student will be required to pay by cashier's check or money order. No exceptions will be made.

### **Receiving Funds**

#### **Living Expense Loan Refund**

Students who borrow funds for their living expenses will receive periodic refunds via direct deposits to cover such expenses including room and board, transportation expenses, books and supplies, and personal expenses including insurances. Students have the obligation to budget funds

appropriately so they are able to cover their expenses month to month.

Through our comprehensive "Sensible Strategies" program, the Office of Student Financial Services provides a variety of resources to assist students with important money management skills; these include budgeting, credit cards, managing your credit, money management for couples, and our innovative financial literacy tools. Go to the Financial Services Sensible Strategies webpage for information on programs, events, and helpful resources.

#### **Direct Deposit**

Direct deposit for financial aid refunds is mandatory. Students requesting an exception to this requirement must submit an annual appeal to the Director of Student Financial Services & Registrar explaining the circumstances that make it impossible for funds to be electronically transmitted to the student's personal checking or savings account.

MWU will not be held responsible for any bank fees or charges that result due to insufficient funds in a student's bank account. MWU is also not responsible for late charges on any past due bills a student may incur. It is the student's responsibility to ensure the deposited funds have cleared their bank.

Direct deposit or refund checks made in error to the student must immediately be returned in full to MWU.

#### **Satisfactory Academic Progress for Financial Aid Eligibility**

As required by Federal law, reasonable standards of satisfactory academic progress for maintaining financial aid eligibility have been established by MWU for all degree granting programs. These standards apply to all students.

##### *Purpose*

To establish, publish, and apply reasonable standards of satisfactory academic progress for financial aid eligibility as required by federal law for all aid types, including federal, state, or institutional assistance and veterans' educational benefits administered by MWU.

##### *Policy*

Federal regulations require that all students receiving Federal Title IV financial aid funds maintain Satisfactory Academic Progress (SAP), which states that both qualitative (GPA) and quantitative (pace/maximum timeframe) measures must be met and maintained for continuous financial aid eligibility as outlined in the MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility.

##### *Qualitative Measures*

- The GPA measurement is fixed. MWU does not use the graduated measurement.

- The Biomedical Sciences (M.A.) students are evaluated each quarter since the program is one year in length. All other programs are reviewed annually at the end of spring quarter.
- All students must maintain at least a "C" average each year in their respective programs in order to progress (MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility).
- Grades affect the cumulative GPA for summer courses taken at another institution used to advance to the next class level at MWU. Grades from students matriculating into a program from another school do not affect the GPA.
- If a Biomedical Sciences (M.A) student does not meet the minimum GPA standard at the end of a quarter, they will be placed on financial aid warning. If students don't meet the standards at the end of the next quarter, they will be placed on financial aid suspension with the right to appeal. All other students that don't meet the minimum GPA standard by the end of spring quarter will be placed on financial aid suspension with the right to appeal.
- All other students that don't meet the minimum GPA standard by the end of spring quarter will be placed on financial aid suspension with the right to appeal.

#### *Quantitative Measures*

The quantitative measure defines the pace at which all students must progress to ensure program completion within the maximum timeframe permitted. This period of time cannot exceed 150% of the published length of each program. The completion ratio is calculated by dividing the cumulative "successfully completed" credit hours by the cumulative "attempted" credit hours. Transfer credit hours are included in the completion ratio for all programs. Students must earn a minimum of 67% of their cumulative credits attempted (not including audited courses) at the time of evaluation, and all periods of enrollment are included regardless whether or not the student receives financial aid. Less-than-full-time enrollment is prorated. Pace is evaluated quarterly for the Biomedical Masters of Arts students and annually for all other students.

Grades of "W" (withdrawals) made after the first week of classes will be included in the number of attempted credit hours and calculated against the quantitative (pace) measure. Grades of "I" (incomplete) will be included in the number of attempted credit hours as well, but will not be included in the qualitative (GPA) measure.

Students are governed by the performance standards of the department in which they are enrolled: Programs longer than a year must meet both quantitative/qualitative measures on an annual basis; programs one year or less must meet both measures at the end of each quarter.

#### *Maximum Time Frame*

MWU is a graduate/professional school. Maximum time frame is defined by the length of the program. Length of programs is measured in years for clinical programs and credit hours for non-clinical programs. See chart titled MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility below for specific timeframes by program.

#### *Quarterly SAP Reviews*

The quarterly SAP review process applies to students enrolled in the Biomedical Science (M.A.) program. When an unsatisfactory SAP determination has been made at the end of a quarter, a financial aid "warning" is issued. Students remain eligible for Title IV aid in the quarter immediately following a financial aid warning, and no further action is necessary unless a student wishes to file an appeal. If SAP is not achieved by the end of a financial aid warning period, a financial aid "suspension" status is issued for the following quarter. Students may be put on probation and made eligible for Title IV or Title VII funding during a probationary period once an appeal is approved by the Financial Aid Committee.

#### *Quarterly SAP Review Appeals*

Any student placed on financial aid suspension will be notified of the loss of financial aid eligibility. Students must complete the SFS Appeal Form and work with their academic department to come up with an approved academic plan. Both the SFS Appeal Form and approved Academic Plan must be submitted to the Office of Student Financial Services, who will forward it to the University Financial Aid Committee for consideration. The University Financial Aid Committee will only review completed appeals; all required documentation must be included.

Students are limited to a maximum of one (1) appeal of their financial aid status during the course of their enrollment in the Biomedical Science (M.A.) program at MWU. Students who do not attain satisfactory academic progress at the conclusion of their period of financial aid probation will be placed on financial aid suspension permanently and will not regain financial aid eligibility for the remainder of their enrollment in the Biomedical Science (M.A.) program at MWU.

#### *Annual SAP Reviews*

Students cannot receive Title IV financial aid funds unless the suspension is successfully appealed and the student is placed on probation. A student on probation status may receive Title IV financial aid for a subsequent quarter. For students who need longer than one quarter (payment period) an Academic Plan is developed to help ensure that h/she can meet SAP standards by a specific point in time. While programs have discretion to determine the length of the Academic Plan, students must be monitored at the end of each quarter to confirm all components as specified in their

Academic Plan are being met. Probation statuses may be suspended and student will lose eligibility for Title IV financial aid at the end of any quarter where Academic Plan requirements are not met. Once Title IV eligibility is lost, students must continue at their own expense until SAP requirements as set forth in this policy are achieved.

#### *Annual SAP Review Appeals*

Students must complete the SFS Appeal Form and work with their academic department to come up with an approved academic plan. Both the SFS Appeal Form and approved Academic Plan must be submitted to the Office of Student Financial Services, who will forward it to the University Financial Aid Committee for consideration. The University Financial Aid Committee will only review completed appeals; all required documentation must be included.

Students are limited to a maximum of two (2) appeals of their financial aid status during the course of their enrollment in any single program at MWU that is not covered by the quarterly SAP appeals process above. Students who do not attain satisfactory academic progress at the conclusion of their second nonconsecutive period of financial aid probation will be placed on financial aid suspension permanently and will not regain financial aid eligibility for the remainder of their enrollment in that specific program at MWU.

#### *Financial Aid Suspension*

A financial aid "suspension" is issued at the end of the spring quarter for students not meeting satisfactory academic progress. Any student placed on financial aid suspension will be notified of the loss of financial aid eligibility.

#### *Financial Aid Warning*

A financial aid warning is for one quarter (payment period) only. Any Biomedical Sciences M.A. students that are not achieving SAP for the first time at the end of a quarter are automatically placed on financial aid warning. Students are informed that they are still eligible for federal aid, but they must achieve a 2.75 GPA and/or 67% pace by the end of the quarter. If they don't they will be placed on financial aid suspension with the right to appeal. Students are allowed one warning period.

#### *Financial Aid Probation*

Not used too often. It is the policy that all students submit an academic plan with their SAP appeal application. Academic plans are developed by program directors, faculty advisors, or the Dean's office. The student meets with the academic advisor regarding the academic plan throughout the academic year and also take advantage of the tutoring services on campus.

#### *Maximum Appeals*

Any student placed on financial aid suspension will be notified of the loss of financial aid eligibility. Students must complete the SFS Appeal Form and work with their academic department to come up with an approved academic plan.

Both the SFS Appeal Form and approved Academic Plan must be submitted to the Office of Student Financial Services, who will forward it to the University Financial Aid Committee for consideration. The University Financial Aid Committee will only review completed appeals; all required documentation must be included.

Students are limited to a maximum of two (2) appeals of their financial aid status during the course of their enrollment at MWU (Biomedical students get only one). Students who do not attain satisfactory academic progress at the conclusion of their second nonconsecutive period of financial aid probation will be placed on financial aid suspension permanently and will not regain financial aid eligibility for the remainder of their enrollment period at MWU.

#### *Regaining Eligibility*

A student who chooses not to appeal or have their appeal denied have the option of attending at their own expense. Students who attend at their own expense will be eligible to have their aid reinstated after successfully completing the quarter (i.e., meeting SAP standards). Students in this situation should contact the financial aid office for counseling.

*Treatment of non-punitive grades, repeated courses, audit courses, pass/fail courses, withdrawals and incompletes*  
Grades of "W" (withdrawals) made after the first week of class will be included in the number of attempted credit hours and calculated against the quantitative (pace) measure.

A student who has "W's" (withdrawals) for a quarter are placed on a leave of absence and will return the following academic year to retake those classes. If the student goes on a leave of absence in the winter or spring quarters, often times the program will have the student retake many of the courses in the quarter(s) that he/she did not achieve a high grade.

Grades of "I" (incomplete) will be included in the number of attempted credit hours as well, but will not be included in the qualitative (GPA) measure.

Classes in which students are auditing cannot be included in the amount of credit or contact hours earned when determining eligibility for financial aid. In addition, the following grades will not be considered as credit or contact hours earned/attempted for purposes of awarding federal financial aid: "I" Incomplete, "IP" In-Progress, "F" Failure, or "W" Withdrawal or "WF" Withdrawal/Failing. Therefore, audited courses are not included in either the GPA or Pace.

Pass/Fail courses are included in both the attempted and completed hours, but not the GPA.

Repeated courses are included in the GPA and Pace (attempted and completed). A program usually only allows a student to repeat a course once.

Midwestern University does not have remedial courses.

Non-punitive grades are not addressed in MWU policy. Courses assigned an "I" grade must be completed within 10 calendar days from the end of the final examinations for the quarter or they will be automatically converted to a grade of "F". An "IP" grade may be assigned when extenuating

circumstances make it necessary to extend the grade completion period past 10 calendar days. Authorization of the Deans is required and the completion period should not typically exceed one quarter.

## MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility

<b>Clinical Programs</b>	<b>Published Length</b>	<b>150% Limit</b>
Osteopathic Medicine	4 years	6 years
Pharmacy	3 years	4.5 years
Physician Assistant	2.25 years	3.33 years
Occupational Therapy	2.25 years	3.33 years
Cardiovascular Science (M.S.)	2 years	3 years
Podiatric Medicine	4 years	6 years
Master of Nurse Anesthesia	2.25 years	3.33 years
Doctor of Dental Medicine	4 years	6 years
Optometry	4 years	6 years
Physical Therapy	3 years	4.5 years
Veterinary Medicine	4 years	6 years
Speech Language Pathology	2 years	3 years
<b>Non-clinical Programs</b>	<b>Published Length</b>	<b>150% Limit</b>
Biomedical Sciences (M.B.S.)	88.5 credits	132.75 credits
Biomedical Sciences (M.A.)	45 credits	67.5 credits
Doctor of Nurse Anesthesia Practice	54 credits	81 credits
Master of Public Health	56 credits	84 credits

### Academic Status Chart for Determining Financial Aid Eligibility and Enrollment Status

<b>Academic Status</b>	<b>Credit hours per quarter</b>
<b>Full-Time</b>	12 minimum
<b>Three-Quarter Time</b>	9-11 credit hours
<b>Half-Time</b>	6-8 credit hours
<b>Less than Half-Time</b>	1-5 credit hours

*Please Note:* Classes in which students are auditing cannot be included in the amount of credit or contact hours earned when determining eligibility for financial aid. In addition, the following grades will not be considered as credit or contact hours earned/attempted for purposes of awarding federal financial aid: "I" Incomplete, "IP" In-Progress, "F" Failure, or "W" Withdrawal or "WF" Withdrawal/Failing.

The above policy is subject to change during the academic year. If revised, an addendum will be distributed to all enrolled students.

### Financial Aid Eligibility Policy and Procedure—Leave of Absence/Withdrawals/Return of Title IV Funds

#### Policy

1. Students requesting a leave of absence while enrolled at Midwestern University must adhere to the policies and procedures established by the College Dean. In addition, students receiving federal financial aid must understand and follow Federal Title IV and Title VII leave of absence regulations as stated in this policy, which may affect the amount of financial assistance received. As stipulated by federal financial aid regulations, any student, including a student receiving Title IV or Title VII assistance, shall be granted a leave of absence under the following conditions:
  - The student must request the leave of absence in writing to the Program Director, if applicable, with approval from the College Dean. The letter should clearly



- state the reason(s) for the requested leave of absence.
- MWU may not charge the student tuition or any educational expenses during a long-term leave of absence (90 days or more). However, in order to continue coverage for long-term disability insurance and/or health and dental insurance, a student on leave is obligated to pay an insurance premium. In addition, a student living on campus will be responsible for paying rent, utilities, and covered parking charges.
  - Students on leave of absence are entitled to all the programs and benefits afforded by the student services fee; accordingly, the annual fee will not be refunded.
  - A subsequent leave of absence may be granted for the same student due to an unforeseen circumstance such as military duty, jury duty or a circumstance covered under the Family and Medical Leave Act of 1993 (FMLA).
  - Any additional leaves of absence requests may not exceed a total of 180 days in a 12-month period. This 12-month period begins with the first day of the initial leave of absence.
  - A student on an approved leave of absence will retain in-school status.
  - There must be a reasonable expectation that a student will return from a leave of absence to continue enrollment at MWU.
2. Students granted short term leave of absences (90 days or less) will maintain financial aid eligibility and all charges will remain on the student account.
  3. For purposes of administering federal financial aid, a student who is receiving Title IV or Title VII financial aid funds and is granted leave of absence that does not meet the above guidelines will be considered to have withdrawn from MWU (for financial aid purposes only). Any student whose College Dean grants a leave of absence of 90 days or more must adhere to the leave of absence policy and reinstatement procedures established by the dean.
    - A subsequent leave of absence, not to exceed 30 days, may be granted for the same student due to an unforeseen circumstance such as a military duty, jury duty, or a circumstance covered under the Family and Medical Leave Act of 1993 (FMLA).
    - A student on an approved leave of absence will retain in-school status.
  4. If the student who is receiving financial aid fails to return from the leave of absence, the student will be considered to have withdrawn from MWU (for financial aid purposes only) as of the first day in

which the leave of absence was granted. The Office of Student Financial Services will have 45 days after the day of determination to calculate a refund and return funds to the lender (30 days if withdrawal happens between quarters). For students who do not begin attendance at MWU, SFS must return the amount of unearned Title IV Funds no later than 30 days after the institution becomes aware that the student will not or has not begun attendance. If a student who is not receiving financial aid is granted a leave of absence and fails to return at the end of the approved period, the disposition of such a case will be decided on an individual basis.

5. Upon receipt of an LOA notification, the Office of Student Financial Services informs the student of loan obligations, possible revisions in aid, deferment options, and consequences of failure to return.
6. A student on leave of absence may receive health, dental and disability insurance coverage for the entire period of the leave, but must prepay the entire amount of the premiums during the leave. In addition a student may continue to live in on-campus housing for the duration of the leave, but must pay in advance each quarter.
7. All outstanding balances must be paid in full prior to a student's return from a leave of absence.

#### **Notification of Withdrawal**

1. A student's withdrawal date is the student's last date of attendance at a documented academically related activity (exam, turning-in of assignment, etc.), or the midpoint of the period for a student who leaves without notifying the institution, or for students who officially withdraw, the date the student began the prescribed withdrawal process.
2. A student must provide written notification and documentation, if applicable, to the appropriate College Dean or Program Director, stating the reason for withdrawal from MWU. If approved, the College Dean will conditionally approve a withdrawal until all clearances are obtained.
3. The student must receive clearance for withdrawal from the MWU departments on the <http://online.midwestern.edu> leave system within seven calendar days from the date of College Dean's conditional approval. This time frame will allow offices such as Student Financial Services and the Registrar to process the withdrawal, prepare the required financial aid exit, and calculate the return of unearned federal Title IV aid and all other aid, as appropriate.
4. Upon submission of all completed documentation and adherence to all clearance procedures, the College Dean will provide an official letter of withdrawal to the student. If a student does not complete the online exit counseling requirement,

the Registrar will withhold official academic transcripts.

### **Return of Title IV Policy**

In establishing a refund policy, MWU has instituted and adheres to all requirements included in the Federal Formula for Return of Title IV Funds as specified in Section 484B of the Higher Education Act of 1965 (as amended). This policy will apply to Title IV and VII funding.

Student Financial Services (SFS) office is required by Federal law to recalculate financial aid eligibility for students who withdraw, take a leave of absence, or are dismissed prior to completing 60% of the quarter. If a R2T4 calculation is required during a quarter, SFS must return the amount of unearned Title IV funds to Department of Education no later than 45 days after the student's withdrawal date.

#### *Withdrawal date*

The calculation for Return of Title IV funds is based upon the official withdrawal date determined by the Registrar's Office. A student's official withdrawal date would be the date the student began the official withdrawal process or the date of the student's notification, whichever is earlier. If a student did not begin the official withdrawal process or provide notification of his or her intent to withdraw, the student's withdrawal date would be the date the school becomes aware that the student ceased attendance. The Office of Student Financial Services are also notified by the College Dean's office.

The number of days completed is divided by the total number of days in the enrollment period to identify the percentage of time the student has completed. The percentage of Title IV aid earned is equal to the percentage of the enrollment period completed. After 60% of the enrollment period is completed, there is no return of the Title IV funds for that period and the student is considered to have earned 100% of the Title IV funds received. If a student officially withdraws while on a schedule break of five consecutive days or more, the withdrawal date is the last date of scheduled class attendance prior to the start of the scheduled break.

#### *Refund Policy*

The refund policy includes the following guidelines:

1. Title IV funds include the following programs available at MWU - Direct Unsubsidized loans, Direct Graduate PLUS loans, and the Federal Work-Study (FWS) program. However, FWS monies awarded or earned by the student will always be excluded from the refund calculation.

2. Title VII funds include Health Professions Student Loans (HPSL) and Primary Care Loans (PCL).
3. Withdrawal On or Before the First Day of Classes of the Quarter for Which the Student Is Charged.
  - 100% of tuition, University housing, and all other fees will be credited.
4. Withdrawal After the First Day of Classes up to 60% of the Quarter for Which the Student is Charged.
  - Tuition, student services fee, and university housing charges will be prorated on a daily basis proportional to the number of days completed divided by the number of days in the payment period for which the student was enrolled.
  - University meal plans are credited based on the amount used during the quarter.
  - Information technology fee - If a student withdraws before matriculation, or after the first day of classes through the 60% point of the first quarter only, the information technology fee will be adjusted accordingly provided that the equipment/software is returned in the same condition in which the student received it, as determined by the University Information Technology Service, and the student withdraws from the college.
  - Title VII recipients will have future disbursements cancelled if the students is not enrolled full-time in subsequent quarters.
5. Withdrawal after the 60% mark of the Quarter for which the student is charged:
  - No refund of tuition will be made.
  - University housing for the quarter will be credited according to the terms on the housing contract.
  - All credits on University meal plan costs will be based on the remaining balance in the quarter.
6. If a Subsequent Quarter(s) Has Been Prepaid
  - Tuition and other fees will be adjusted accordingly.

7. Student services fee, disability and health insurance fees paid to the University will not be refunded if a current student withdraws after the first day of class for the quarter.
8. All applicable refunds will be distributed in the following order as prescribed by federal law:
  - Direct Unsubsidized Loan
  - Direct Graduate PLUS Loan
  - Other Title IV Aid Programs
  - Other Federal Sources of Aid including Title VII funding
  - Other state or private aid \*
  - Institutional Aid (departmental loans and scholarships)\*\*
  - The Student \*\*\*

\* MWU will refund scholarship monies in accordance with the sponsoring agency's policy.

\*\* All refunds of institutional aid will be prorated based on the remaining weeks of the current quarter. Subsequent quarters of awarded institutional funds will be cancelled; therefore, no refunds will be made.

\*\*\* MWU will only refund monies to a student who does not owe a repayment of non-institutional funds or who does not have unpaid current year charges owed to the institution.

9. Students who borrowed and received monies from the Federal Direct Loan Program (Unsubsidized Loans, Graduate PLUS Loans); Institutional (MWU) Loans, Health Professions Student Loans, Primary Care Loans and/or private loans will be legally responsible and obligated to repay in accordance with the terms and conditions outlined in the promissory note(s).
10. Upon request by the student, examples of refund worksheets and calculations will be available for distribution in the SFS office.
11. Students who feel that individual circumstances warrant exceptions from

published policy may appeal the MWU Refund Policy. Student appeals need to be submitted to the Director of Student Financial Services.

#### *Post-Withdrawal Disbursements*

If the total amount of title IV loan assistance that the student earned is greater than the total amount of title IV loan assistance that was disbursed to the student as of the date of the institution's determination that the student withdrew, the difference between these amounts must be treated as a post-withdrawal disbursement.

If a R2T4 calculation is required, SFS must provide written notification to the student prior to making any post-withdrawal disbursement within 30 days of the student's withdrawal date. MWU must receive permission from the student before we can release the post-withdrawal disbursement.

#### **Institutional Refund Formula (Cash and Private Loans)**

If a student withdraws during a quarter, MWU will determine the amount of tuition and fees that were unearned by the institution. It will be calculated by determining how many remaining calendar days there are in the payment period divided by the total calendar days in the payment period. (Scheduled breaks of five or more calendar days are excluded in the calendar day count.) The Institution will pay back to the student (or lender) the unearned amount. After 60% of the days in the payment period have passed, the institution will have earned the total amount paid for that payment period. This method will be applied regardless of whether or not the student received any form of financial aid.

#### **Tuition Assistance (TA) Refunds (Military & Veterans' Educational Benefits)**

All Tuition Assistance (TA) funds will be returned according to the university's institutional refund policy. Up to the start date, 100% of all TA funds will be returned to the appropriate military service when the service member fails to: begin attendance, start a course (regardless if the student starts other courses), or the course is cancelled. All TA Funds will be returned directly to the military service, not to the service member.

# ACADEMIC CALENDAR

## Summer Quarter 2020

Classes Resume (PM-II/PM-III)	May 18, 2020
<b>Memorial Day *No Classes*</b>	<b>May 25, 2020</b>
Orientation (PS-I/PA-I/NA-I/PT-I)	May 26 - 29, 2020
Last Day to Add/Drop Classes (PM-II/PM-III)	May 29, 2020
Last Day to Add/Drop Classes (PS-III)	May 29, 2020
Classes Resume (PS-III)	June 1, 2020
Classes Resume (PT-II/PT-III/OT-II/OT-III/MBS-II/CP-I/CP-II/CP-III/DM-III/ DM-IV/OP-III/SLP-II/DNAP)	June 1, 2020
Classes Begin (PS-I/PA-I/NA-I/PT-I/MPH)	June 1, 2020
Pre-Clinical Quarter (PA-II)	June 1 - July 10, 2020
Last Day to Add/Drop Classes (PS-I/PA-I/NA-I/PT-I/PT-II/PT-III/OT-II/OT-III/ MBS-II/CP-I/CP-II/CP-III/DM-III/DM-IV/OP-III/SLP-II)	June 5, 2020
Boards Break (PM-III)	June 15 - July 3, 2020
<b>Independence Day (Observed) *No Classes*</b>	<b>July 3, 2020</b>
Last Day of Classes (PM-II)	July 24, 2020
Quarterly Exams (PM-II)	July 27 - 31, 2020
Quarter Break (PM-II)	August 3 - 7, 2020
Last Day of Class (PS-I/PA-I/NA-I/PT-I/PT-II/PT-III/OT-II/OT-III/MBS-II/CP-I/ CP-II/CP-III/DM-III/DM-IV/OP-III/SLP-II)	August 7, 2020
Program Completion (DNAP)	August 7, 2020
Last Day of Class (PS-III)	August 7, 2020
Last Day of Classes (MPH)	August 9, 2020
Quarterly Exams (PS-III)	August 10 -14, 2020
Quarterly Exams (PS-I/PA-I/NA-I/PT-I/PT-II/PT-III/OT-II/OT-III/MBS-II/CP-I/ CP-II/CP-III/DM-III/DM-IV/OP-III/SLP-II)	August 10 - 14, 2020
Last Day of Class (PM-III)	August 14, 2020
Quarter Break (PS-I/PA-I/NA-I/PT-I/PT-II/PT-III/OT-II/OT-III/MBS-II/CP-I/CP-II/ CP-III/DM-III/DM-IV/OP-III/SLP-II)	August 17 - 28, 2020
Quarterly Exams (PM-III)	August 19 - 21, 2020
Program Completion (PA-III/CP-IV/CP-V)	August 21, 2020
Quarter Break (PM-III)	August 24 - 28, 2020
<b>Commencement (CHS (PA/OT/CP/NA/DNAP)/CGS)</b>	<b>August 27, 2020</b>
<b>Fall Quarter 2020</b>	

Orientation (MS-I/PM-I)	August 3 - 5, 2020
Classes Begin (MS-I/MS-II/PM-I/PM-II)	August 10, 2020
Last Day to Add/Drop Classes (MS-I/MS-II/PM-I/PM-II)	August 14, 2020
Orientation (OT-I/MA/MBS-I/CVSP-I/CP-I/DM-I/OP-I/VM-I/DNAP/SLP-I)	August 24 - 26, 2020
Classes Begin (PS-I/PS-II/PA-I/NA-I/PM-III/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/ MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/ OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I/SLP-II)	August 31, 2020
Last Day to Add/Drop Classes (PS-I/PS-II/PA-I/NA-I/PM-III/PT-I/PT-II/OT-I/ OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/PM-III/DM-I/DM-II/DM-III/ DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I/SLP-II)	September 4, 2020
<b>Labor Day *No Classes*</b>	<b>September 7, 2020</b>
Last Day of Classes (PM-III)	September 25, 2020
Quarterly Exams (PM-III)	September 28 - 30, 2020
<b>White Coat Ceremony</b>	<b>October 3, 2020</b>
Last Day of Classes (MS-I/MS-II/PM-I/PM-II)	October 16, 2020
Quarterly Exams (MS-I/MS-II/PM-I/PM-II)	October 19 -23, 2020
Quarter Break (MS-I/MS-II/PM-I/PM-II)	October 26 - 30, 2020
Last Day of Classes (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/ MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/ OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I/SLP-II)	November 6, 2020
Quarterly Exams (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/ MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/ OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I/SLP-II)	November 9 - 13, 2020
Thanksgiving Break (PS-I/PS-II/PA-I/NA-I/PM-III/PT-I/PT-II/OT-I/OT-II/MA/ MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/ OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I/SLP-II)	November 16 - 27, 2020
<b>Winter Quarter 2020</b>	
Classes Begin (MS-I/MS-II/PM-I/PM-II)	November 2, 2020
Last Day to Add/Drop Classes (MS-I/MS-II/PM-I/PM-II)	November 6, 2020
Thanksgiving Break (MS-I/MS-II/PM-I/PM-II)	November 23 -27, 2020
Classes Resume (MS-I/MS-II/PM-I/PM-II)	November 30, 2020
Classes Begin (PS-I/PS-II/PA-I/NA-I/PM-III/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/ MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/ OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	November 30, 2020

Last Day to Add/Drop Classes (PS-I/PS-II/PA-I/NA-I/PM-III/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	December 4, 2020
Winter Break (MS-I/MS-II/PS-I/PS-II/PA-I/NA-I/PM-I/PM-II/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	December 21, 2020 - January 1, 2021
Classes Resume (MS-I/MS-II/PM-I/PM-II/PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	January 4, 2021
<b>Martin Luther King, Jr. Day *No Classes*</b>	<b>January 18, 2021</b>
CAREERxPO (CPG)	TBA
Last Day of Classes (MS-I/MS-II/PM-I/PM-II)	January 29, 2021
Quarterly Exams (MS-I/MS-II/PM-I/PM-II)	February 1 - 5, 2021
Spring Break (MS-I/MS-II/PM-I/PM-II)	February 8 - 12, 2021
Last Day of Classes (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	February 19, 2021
Quarterly Exams (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	February 22 - 26, 2021
Spring Break (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/OT-II/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/VM-III/DNAP/SLP-I)	March 1 -5, 2021
<b>Spring Quarter 2021</b>	
Classes Resume (MS-I/MS-II/PM-I/PM-II)	February 15, 2021
Last Day to Add/Drop Classes (MS-I/MS-II/PM-I/PM-II)	February 19, 2021
Classes Resume (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/DNAP/SLP-I)	March 8, 2021
Last Day to Add/Drop Classes (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/MA/MBS-I/MBS-II/CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/VM-II/DNAP/SLP-I)	March 12, 2021
Last Day of Classes (MS-I/MS-II/PM-I/PM-II)	April 23, 2021
Quarterly Exams (MS-I/PM-I/PM-II)	April 26 -30, 2021
Quarterly Exams (MS-II)	April 26 - May 7, 2021
Quarter Break (PM-I/PM-II)	May 3 -14, 2021
Quarterly Exams (MS-I/MS-II/PM-I/PM-II)	May 3 - 14, 2021
Quarter Break (MS-I)	May 3 - July 30, 2021

Quarter Break (MS-II)	May 10 - June 4, 2021
Last Day of Classes (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/MA/MBS-I/MBS-II/ CVSP-I/CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/ VM-II/DNAP/SLP-I)	May 14, 2021
Quarterly Exams (PS-I/PS-II/PA-I/NA-I/PT-I/PT-II/OT-I/MA/MBS-I/MBS-II/CVSP-I/ CP-I/CP-II/CP-III/DM-I/DM-II/DM-III/DM-IV/OP-I/OP-II/OP-III/VM-I/ VM-II/DNAP/SLP-I)	May 17 - 21, 2021
Prep for Clinical Practice (CVSP-I)	May 24 - 28, 2021
Quarter Break (PS-I/PS-II)	May 24 - 28, 2021
Quarter Break (NA-I/OT-I/MA/MBS-I/MBS-II/CP-I/CP-II/CP-III/DM-III/DM-IV/ PT-I/PT-II/DNAP/SLP-I)	May 24 - June 4, 2021
Quarter Break (DM-II/OP-I/OP-II/OP-III/VM-I/VM-II)	May 24 - August 20, 2021
Program Completion (PT-III)	May 25, 2021
Quarter Break (CVSP-I)	May 28 - June 5, 2021
<b>Memorial Day *No Classes*</b>	<b>May 31, 2021</b>
<b>Commencement (AZCOM)</b>	<b>June 2, 2021, Morning</b>
<b>Commencement (CVM)</b>	<b>June 2, 2021, Afternoon</b>
<b>Commencement (CDMA/AZCOPT)</b>	<b>May 28, 2020, Morning</b>
Program Completion (CVSP)	June 3, 2021
<b>Commencement (CDMA/AZCOPT)</b>	<b>June 3, 2021, Morning</b>
<b>Commencement (CPG)</b>	<b>June 3, 2021, Afternoon</b>
<b>Commencement (CGS/CHS (PM/PT/CVSP/SLP))</b>	<b>June 4, 2021, Morning</b>

BMS=Master of Arts & Master of Science in Biomedical Science /CGS=College of Graduate Studies / CP=Clinical Psychology / CVSP=Cardiovascular Science / DM=Dental Medicine / MPH=Master of Public Health / MS=Medicine / NA=Nurse Anesthesia / OP=Optometry / OT=Occupational Therapy / PA=Physician Assistant / PM=Podiatric Medicine / PS=Pharmacy / PT=Physical Therapy / VM=Veterinary Medicine / DNAP=Doctor of Nurse Anesthesia / SLP=Speech Language Pathology

# ARIZONA COLLEGE OF OSTEOPATHIC MEDICINE

## MISSION

Midwestern University Arizona College of Osteopathic Medicine educates students to exhibit professionalism, provide patient care, and serve their communities in order to become qualified osteopathic physicians.

The mission will be achieved by meeting the following objectives:

1. Incorporate clinical teaching into the curriculum.
2. Incorporate osteopathic principles and practice, including osteopathic manipulative treatment, into the curriculum.
3. Incorporate basic scientific principles.
4. Provide opportunities for research and scholarly activity for students, residents, and faculty.
5. Prepare students for COMLEX-USA Level 1, Level 2 CE, and Level 2 PE to support completion of the program and graduation.
6. Demonstrate student acquisition of the osteopathic core competencies.
7. Assess the performance of AZCOM graduates.
8. Encourage participation in community service by students, residents, and faculty.
9. Support postgraduate training programs associated with Midwestern University, including osteopathic recognition program development.
10. Equip students to be successful in residency placement.
11. Provide faculty and staff development opportunities.
12. Provide financial literacy programs and events.
13. Support mental health and wellness for students, residents, and faculty.

## ACCREDITATION

The Arizona College of Osteopathic Medicine is accredited by the American Osteopathic Association (AOA)/Commission on Osteopathic College Accreditation (COCA). COCA is recognized as the accrediting agency for colleges of osteopathic medicine by the United States Department of Education and the Council of Postsecondary Accreditation (COPA). AZCOM is currently accredited through 2021.

For further information, please contact the Commission on Osteopathic College Accreditation, American Osteopathic Association, 142 E. Ontario St., Chicago, IL 60611; 800/621-1773; or [www.osteopathic.org/accreditation/](http://www.osteopathic.org/accreditation/).

## DEGREE DESCRIPTION

Upon graduation from Arizona College of Osteopathic Medicine, the Doctor of Osteopathic Medicine (D.O.) degree is granted. The usual length of the course of study is four academic years. The curriculum consists of two years of primarily didactic instruction followed by two years of primarily clinical rotations, including the applicable didactic material. Upon graduation with the D.O. degree, the graduate is eligible for postdoctoral residency training in all fields of medicine. Completion of requirements for a D.O. degree does not guarantee placement in a residency program, future employment, licensure, board certification, or credentialing.

Midwestern University's Arizona College of Osteopathic Medicine (AZCOM) program is designed to meet the educational requirements to become licensed to practice medicine in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Midwestern University Arizona College of Osteopathic Medicine has not made a determination that its Doctor of Osteopathic Medicine curriculum meets the territorial educational requirements for licensure or certification in the following territories: Puerto Rico and the U.S. Virgin Islands. Students in this program receive a direct notification that Midwestern University has not made a determination if their program meets the requirements in the above listed territories.



In addition, all Osteopathic Medicine graduates must complete a graduate medical education program (residency training program) to become licensed to practice.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## ADMISSIONS

The Arizona College of Osteopathic Medicine considers for admission those students who possess the academic, professional, and personal qualities necessary to become exemplary osteopathic physicians. To select these students, the College uses a rolling admissions process within a competitive admissions framework.

### Admission Requirements

Students seeking admission to AZCOM must submit the following documented evidence:

1. Completion of the admission course requirements.
  - Grades of C or better (grades of C- are not acceptable)
  - To be competitive, students should have minimum cumulative GPAs and science GPAs over 3.00 on a 4.00 scale
  - To receive a supplemental application, students must have minimum science and cumulative GPAs of 2.75 on a 4.00 scale
2. Completion of a bachelor's degree at a regionally accredited college or university prior to matriculation.
3. Competitive scores on the Medical College Admissions Test (MCAT).
  - Only MCAT exam scores earned from tests taken no more than three years prior to the matriculation date of the planned enrollment year are acceptable.
  - Register for MCAT exam through Association of American Medical Colleges website at <https://students-residents.aamc.org/applying-medical-school/taking-mcat-exam/>
4. Two letters of recommendation are required.
  - One letter from either a pre-medical advisory committee or science professor who has taught the applicant.
  - Second letter from either a D.O. or a M.D. Letters from osteopathic physicians are strongly recommended. Letters written by family members are not acceptable.

Students seeking admission to AZCOM must:

1. Demonstrate understanding of and interest in osteopathic medicine.

2. Demonstrate service orientation through community service or extracurricular activities.
3. Demonstrate motivation for and commitment to health care as demonstrated by previous work, volunteer work, or other life experiences.
4. Demonstrate verbal, nonverbal and written communication skills necessary to interact with patients and colleagues.
5. Pass the Midwestern University criminal background check and fingerprint clearance.
6. Commit to abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.
7. Meet the Technical Standards for the College.

### Admission Course Requirements

Biology with Lab	8 Semester/12 Quarter hours
General Chemistry with Lab	8 Semester/12 Quarter hours
Organic Chemistry with Lab	8 Semester/12 Quarter hours
Physics	8 Semester/12 Quarter hours
English Composition	6 Semester/9 Quarter hours

*Courses that may contribute to success in medical school include Anatomy, Physiology, and Biochemistry*

### Competitive Admissions

Within its competitive admissions framework, the College uses multiple criteria to select the most qualified candidates from an applicant pool that exceeds the number of seats available. AZCOM typically receives over 5000 applications for its 250 seats.

### Rolling Admissions

AZCOM uses a rolling admissions process in which applications are reviewed and interview decisions are made at each interval during the admissions cycle. Interviews are conducted and selection decisions for the College are made until the class is filled. Applicants are notified of their selection status within two to four weeks after their interview date. To be competitive within this process, candidates should apply early in the admissions cycle.

### Application Process and Deadlines

The official AACOMAS application deadline is January 1st; however, applicants are strongly encouraged to apply early in the cycle. Due to the large number of applications and the limited number of seats available, applications will be considered on a first-come, first-served basis only until all seats are filled.

### AACOMAS Application - January 1st Deadline

To initiate the application process, all applicants must register and apply online via the centralized application service administered by AACOMAS at <http://aacomas.aacom.org/>. The AACOMAS application is

typically available in May or June. As part of this process, students must submit official MCAT scores for tests taken no more than three years prior to the matriculation date, and official transcripts directly to AACOMAS. The Office of Admissions will not accept MCAT scores or transcripts submitted directly to Midwestern University. The deadline for submission of the AACOMAS application is January 1st.

1. **AZCOM Supplemental Application - March 1st Deadline**

Upon receipt of the AACOMAS application from the application service, the Midwestern University Office of Admissions will e-mail the supplemental application to all applicants who have earned minimum cumulative GPAs and science GPAs of 2.75. Applicants must complete and submit the supplemental application forms with their resume, essay responses, and nonrefundable/nonwaivable \$50 processing fee to the Office of Admissions. All supplemental application materials must be received in the Office of Admissions on or before the deadline of March 1st.

2. **Letters of Recommendation - March 1st Deadline**

Applicants must submit two letters of recommendation. One letter must be written by a pre-health advisory committee or science professor who has taught the applicant. The second letter must be written by a physician, either a D.O. or M.D. Letters from osteopathic physicians are strongly recommended. The required letters of recommendation must be received in the Office of Admissions on or before the deadline of March 1st. Letters must adhere to the following guidelines:

- a. The applicant's full legal name and AACOMAS ID number must be on the front page of the recommendation. The applicant must provide this information to evaluator.
- b. Letters must be sent directly to Admissions from the evaluator and must be printed on letterhead stationery, which includes the complete contact information for evaluator.
- c. The evaluator's academic degrees must be listed (e.g. Ph.D., D.O., M.D.).
- d. Applicants who have previously applied to AZCOM must submit new letters of recommendation.
- e. Letters from family members will not be accepted.

3. **Completed Applications - March 1st Deadline**

All application materials, including the AACOMAS application, MCAT scores (as reported to AACOMAS), two required letters of recommendation, and all supplemental application materials with the application fee must be received

in the Office of Admissions on or before March 1st. Only completed applications received by the Office of Admissions, on or before the deadline date, will be reviewed for potential fall enrollment.

4. **Application Reviews and Interview Decisions**

AZCOM uses a rolling admissions process to review completed applications and make interview decisions. Applications will not be reviewed until all required application materials have been received by the Office of Admissions, including the AACOMAS application, official MCAT scores (as reported to AACOMAS), supplemental application materials, processing fee, and both required letters of recommendation. Applicants complete their files as soon as possible to remain competitive in this process and to ensure full consideration of their applications.

*Please Note:* Applicants are responsible for tracking the receipt of their application materials and verifying the status of their required application materials on the University website. Instructions for accessing application information on the University website will be sent to applicants by the Office of Admissions. Applicants are advised to keep the Office of Admissions informed of any changes to mailing address and e-mail address. All requests for application withdrawals must be made in writing. Applicants are expected to act professionally in their interactions with AACOMAS and with AZCOM, and should follow the AACOMAS applicant protocol at all times.

**Interview and Selection Process**

Applicants must meet all of the admissions requirements listed previously to be considered for on-campus interviews. After the Office of Admissions receives all of the required application materials, applicant files are reviewed to determine whether applicants merit interview invitations based on established criteria of the Admissions Committee. Applicants who are invited to interview will be contacted by the Office of Admissions and receive instructions for scheduling their interviews via the University's web-based scheduling system. Additional applicants may be placed on an interview "Wait List" pending possible interview openings toward the end of the interview cycle.

When applicants accept interview appointments, they join other interviewees to meet with members of an interview panel selected from a volunteer group of basic scientists, current students, administrators, and clinicians. Panel members assess applicants for their academic and personal preparedness for medical school, and their understanding of the osteopathic physician's role in the healthcare team. They rate applicants on a standardized evaluation form relative to each variable. At the conclusion of the interviews, the panel members forward their applicant evaluations to the Admissions Committee. The committee may recommend to

accept, to deny, or to place the applicant on either the hold or alternate list. This recommendation is then forwarded to the Dean of AZCOM for final approval. The Dean, via the Office of Admissions, notifies accepted applicants within two to four weeks of their interview.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College. Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses. (The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete physical examination of a patient.)
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to lift 20 lbs.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt, completion of all responsibilities and the development of mature, sensitive, and effective relationships. Candidates must be able to tolerate physically, mentally, and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the

educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including osteopathic manipulative techniques. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least four weeks prior to matriculation (or if admitted later, within one week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Promotion and Graduation Committee.

### **Pre-Matriculation Commitments**

Applicants who have made commitments prior to their matriculation at AZCOM must be aware there may be curricular priorities that are not compatible with their tentative schedules. Students who wish to fulfill prior commitments must request time off from each course director and department chair during the first week of the academic year. MWU does not guarantee that time off for prior commitments will be approved. Enrollment deferments are not offered for pre-matriculation commitments, nor for enrollment in other degree or certificate programs.

### **Articulation Agreements with Other Institutions**

AZCOM has articulation agreements with the following institutions: Arizona Christian College, Arizona State University, Grand Canyon University, and Midwestern University College of Graduate Studies.

### **Reapplication Process**

After receiving either denial or end-of-cycle letters, applicants may reapply for the next enrollment cycle. Before reapplying, however, applicants should seek the advice of an admissions counselor.

To initiate the reapplication process, applicants must submit their applications to AACOMAS. Applications are then processed according to standard application procedures.

### **Transfer Admission**

AZCOM may elect to accept transfer students from other U.S. osteopathic medical schools as long as these students remain in good academic standing and provide acceptable reasons for seeking their transfers. The American Osteopathic Association (AOA)/Commission on Osteopathic College Accreditation (COCA) standards require that the last two years of instruction must be completed within the college of osteopathic medicine granting the D.O. degree.

Currently enrolled students are not granted advanced standing for individual courses completed at another institution. Full credit is granted for course work completed by students transferring from another institution for the purpose of completing their course of study at AZCOM.

Students requesting transfers must meet AZCOM's general requirements for admission and follow transfer procedures:

1. All inquiries for transfer to AZCOM must be submitted to the Office of Admissions.
2. The Office of Admissions will confirm the availability of rotation sites through the Office of the Dean of AZCOM.
3. If the Dean of AZCOM designates available transfer positions, applications will be sent.
4. Students must return their completed applications to the Office of Admissions and must include a statement of reason of transfer as well as the following from the COM:
  - Transcripts (must have no "F's" or repeated courses)
  - Class rank (must be in top 50%)
  - Dean's letter verifying "Good Academic Standing" and specifying that the student is eligible for readmission
  - Letter of reference from the Dean of Students indicating the student has no professional concerns
5. The Dean of AZCOM may require passage of COMLEX-USA Level 1 prior to transfer.
6. Completed applications are forwarded to the Dean of AZCOM.
7. A group appointed by the Dean of AZCOM conducts interviews with applicants.
8. Recommendations are forwarded to the Dean of AZCOM for final approval.
9. Applicants are notified by the Dean of AZCOM through the Office of Admissions of the final transfer decision.

## **GRADUATION REQUIREMENTS**

The degree Doctor of Osteopathic Medicine (D.O.) is conferred upon candidates of good moral character who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements.

Students must pass all didactic course work and rotation courses with a grade of "C," or better, in order to graduate.

Students must pass COMLEX-USA Level 1 and both components of the COMLEX-USA Level 2 examinations of the National Board of Osteopathic Medical Examiners (NBOME). There must be a minimum of 130 weeks of instruction between the date of matriculation and graduation. The current student outcomes and assessments can be accessed at [www.midwestern.edu/programs-and-admission/az-osteopathic-medicine.html](http://www.midwestern.edu/programs-and-admission/az-osteopathic-medicine.html).

### **Maximum Length to Degree Completion**

Except in the case of a student receiving another degree, in addition to the DO degree, the education program leading up to a DO degree may not exceed six years from the date of matriculation as stipulated by the American Osteopathic Association - Commission on Osteopathic College Accreditation (AOA-COCA).

## **LICENSURE REQUIREMENTS**

Licensure for the practice of medicine is granted on a state-by-state basis. Graduation from Arizona College of Osteopathic Medicine (AZCOM) meets one of the basic requirements for licensure in all 50 states.

Midwestern University's Arizona College of Osteopathic Medicine (AZCOM) is accredited by the American Osteopathic Association (AOA)/Commission on Osteopathic College Accreditation (COCA). COCA is recognized as the accrediting agency for colleges of osteopathic medicine by the United States Department of Education and the Council of Postsecondary Accreditation (COPA). AZCOM is currently accredited through 2021. Graduates are eligible to take the Comprehensive Osteopathic Medical Licensing Exam (COMLEX) series of examinations leading to licensure as a physician.

Midwestern University's Arizona College of Osteopathic Medicine (AZCOM) program is designed to meet the educational requirements to become licensed to practice medicine in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South

Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Midwestern University Arizona College of Osteopathic Medicine has not made a determination that its Doctor of Osteopathic Medicine curriculum meets the territorial educational requirements for licensure or certification in the following territories: Puerto Rico and the U.S. Virgin Islands. Students in this program receive a direct notification that Midwestern University has not made a determination if their program meets the requirements in the above listed territories.

In addition, all Osteopathic Medicine graduates must complete a graduate medical education program (residency training program) to become licensed to practice.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## CURRICULUM

### Instructional Program

As scientists and practitioners of the healing arts, osteopathic physicians subscribe to a philosophy that regards the body as an integrated whole with structure and function working interdependently. As an extension of this philosophy, osteopathic physicians treat their patients as unique persons with biological, psychological, and sociological needs, an approach that underscores the osteopathic commitment to patient-oriented versus disease-oriented healthcare. In recognition of this approach, Arizona College of Osteopathic Medicine (AZCOM) has developed, and continues to refine, a four-year curriculum that educates students in the biopsychosocial approach to patient care, as well as the basic medical arts and sciences.

Within this curricular format, AZCOM students spend their first two years completing a rigorous basic science curriculum and preparing for their clinical studies, including early simulated and clinical experiences. During their third and fourth years, students rotate through a variety of clinical training sites accruing 84 weeks of direct patient care experience. By stimulating intellectual curiosity and teaching problem-solving skills, the AZCOM curriculum encourages students to regard learning as a lifelong process.

Ultrasound is vertically integrated into the core concepts within the four-year curriculum. Student training throughout all four years includes both hands-on workshops and didactic sessions specific to diverse clinical disciplines. The hands-on workshops are developed in collaboration with clinical faculty, preclinical faculty, and consulting sonographers. Preclinical courses will offer students an opportunity to scan their peers, providing the most relevant active visual learning of real structure, function and variation of living tissue. These innovative tactile workshops will focus on reinforcing core

course information, while also providing early clinical training opportunities that align with core entrustable professional activities, as well as early development of identifiable core competencies. During the clinical years, hands-on training will include patient-based examinations and advanced clinical skills training, while reinforcing application of core information from preclinical courses (anatomy, physiology, pathology, and osteopathic principles and practices). These experiences will enhance early critical thinking skills, increase communication and interprofessional collaboration between clinical and preclinical faculty, improve and reinforce vertical integration of clinical and preclinical concepts in participating courses, as well as continually improving familiarity and competency in ultrasound concepts, use, and image interpretation.

### Total Curricular Hours

First Year	57.5
Second Year	54.0
Third Year	71.0
Fourth Year	62.5
Total	245.0

*Please Note:* AZCOM reserves the right to alter its curriculum however and whenever it deems appropriate.

### Year 1/Fall Quarter

ANATG	1516	Anatomical Sciences	8
BIOCG	1511	Biochemistry I	6
COREG	1560	Interprofessional Healthcare Fall A	0.5
MPSYG	1511	Introduction to Human Behavior I	1
OCMDG	1511	Osteopathic Clinical Medicine I	4
<b>Total</b>			<b>19.5</b>

### Year 1/Winter Quarter

ANATG	1526	Anatomical Sciences	6
BIOCG	1522	Biochemistry II	3
COREG	1570	Interprofessional Healthcare Winter A	0.5
MPSYG	1522	Introduction to Human Behavior II	1
OCMDG	1522	Osteopathic Clinical Medicine II	4
PHYSG	1521	Physiology I	5
<b>Total</b>			<b>19.5</b>

<b>Year 1/Spring Quarter</b>				CLMDG	1700	Introduction to Clerkship	1
ANATG	1536	Anatomical Sciences	4	CLMDG	1702	ACLS	1
COREG	1580	Interprofessional Healthcare	0.5	ICMDG	1630	Introduction to Clinical	3
	A	Spring				Medicine VI	
FMEDG	1531	Public Health, Medical Ethics	2	MPSYG	1634	Treatment of Psychiatric	0.5
		and Jurisprudence				Disorders	
MICRG	1531	Immunology	2.5	OMEDG	1636	Osteopathic Medicine VI	1.5
MPSYG	1533	Introduction to Human	1	PATHG	1633	Pathology III	5
		Behavior III		PHARG	1630	Pharmacology III	3
OCMDG	1533	Osteopathic Clinical Medicine	4	<b>Total</b>			<b>16</b>
		III		<b>Third Year</b>			
PHYSG	1532	Physiology II	4.5	*Total weeks includes orientation and a holiday			
<b>Total</b>			<b>18.5</b>	break/vacation.			
<b>Year 2/Fall Quarter</b>				Total:			71
CLMDG	1650	Health Outreach through	0.5	<b>Summer, Fall, Winter, and Spring Quarters (*44</b>			
	A	Medicine and		<b>weeks)</b>			
		Interprofessionalism Education		CARDG	1701	Cardiology Rotation	6
CMEDG	1613	Patient Care Experience I	0.5	CLMDG	1701	Osteopathic Clinical Medicine	5
ICMDG	1614	Introduction to Clinical	3.5			III	
		Medicine IV		FMEDG	1701	Family Medicine Rotation I	6
MICRG	1615	Microbiology I	4	FMEDG	1702	Family Medicine Rotation II	6
OMEDG	1614	Osteopathic Medicine IV	1.5	FMEDG	1703	Third Year Elective	6
PATHG	1611	Pathology I	5	IMEDG	1701	General Internal Medicine	6
PHARG	1610	Pharmacology I	3.5			Rotation I	
<b>Total</b>			<b>18/18.5</b>	IMEDG	1702	General Internal Medicine	6
<b>Year 2/Winter Quarter</b>						Rotation II	
CLMDG	1650	Health Outreach through	0.5	MPSYG	1701	Psychiatry Rotation	6
	B	Medicine and		OBYG	1701	Obstetrics/Gynecology Rotation	6
		Interprofessionalism Education		PEDIG	1701	Pediatric Rotation	6
CMEDG	1624	Patient Care Experience II	1	RURLG	1701	Rural Medicine	6
ICMDG	1625	Introduction to Clinical	4	SURGG	1701	General Surgery Rotation	6
		Medicine V		<b>Total</b>			<b>71</b>
MICRG	1625	Microbiology II	4	<b>Fourth Year</b>			
OMEDG	1625	Osteopathic Medicine V	2	*Total weeks include Osteopathic Clinical Medicine (OCM)			
PATHG	1622	Pathology II	5	Fourth Year Didactics, A and B.			
PHARG	1620	Pharmacology II	3.5	Total:			62.5
<b>Total</b>			<b>19.5/20</b>				
<b>Year 2/Spring Quarter</b>							
CLMDG	1631	Introduction to Imagining	1				

### Summer, Fall, Winter, and Spring Quarters (\*40 weeks)

CLMDG	1801	Osteopathic Clinical Medicine - Fourth Year Didactics - A	1.25
CLMDG	1802	Osteopathic Clinical Medicine - Fourth Year Didactics - B	1.25
ELECG	1801	Elective Rotations	36
EMEDG	1801	Emergency Medicine Rotation	6
IMEDG	1803	Subspecialty Internal Medicine Rotation	6
IMEDG	1804	Critical Care Rotation	6
SURGG	1802	Subspecialty Surgery Rotation	6
<b>Total</b>			<b>62.5</b>

### ELECTIVE PRECLINICAL COURSES

Students may register and take elective courses during years one and two. They may begin taking electives courses as early as the spring quarter of their first year through spring quarter of their second year. The most current offerings may be viewed on the Midwestern University intranet, but vary from year to year. All preclinical elective courses are graded on a pass/fail basis. Failure of elective courses carry the same weight as failures in core curriculum courses such as Anatomical Sciences, Biochemistry, etc. Courses may include:

- Addiction Medicine
- Advanced Gross Anatomy
- AZCOM Basic Cranial Course
- ECG Interpretation
- Essential Procedures in Surgery
- Humanity in Medicine
- Improving Patient Safety - Interprofessional
- Leadership in Healthcare Teams - Interprofessional
- Medical Hypnosis
- Obstetrics and Gynecology Clinical Skills Development
- Pediatrics
- Reproductive Healthcare: Cultural Competency and Sensitivity Issues
- Research - Multiple Disciplines
- Safe Opioid Practices - Interprofessional
- Table Trainers in Osteopathic Manipulative Medicine
- Teaching in the Anatomical Sciences
- Point of Care Ultrasound

### CLINICAL ROTATIONS

#### *Required Third Year Core Rotations*

Core rotations are required rotations that include assessment by a preceptor evaluation and a post rotation examination and, in some cases, small group participation. Core rotations include: Family Medicine, Internal Medicine, Surgery, Pediatrics, Cardiology, Psychiatry, and Obstetrics/Gynecology. There is a required elective rotation and a required rural rotation in third year. All required rotations, including the third year elective and rural rotation, must be done at established Midwestern University AZCOM rotation sites.

#### *Required Fourth Year Rotations*

Fourth year students complete core rotations in Emergency Medicine and Critical Care and required rotations in subspecialty medicine and subspecialty surgery. They may complete 16 weeks of rotations in any one discipline.

Students must successfully complete a minimum of 24 weeks of elective rotations during their fourth year in recognized disciplines of medicine. Students may schedule one four week elective at an approved site in international medicine and/or research.

Elective clinical rotations may be done at preapproved institutions, including military, in states where Midwestern University has a license or agreement to send its students. To be eligible for academic credit, elective rotation schedules must be planned with the assistance of, and approval by, the appropriate clinical Department Chair.

#### *Breaks/Vacation*

There is a holiday break at the end of the calendar year during the third and fourth years. For more information, reference the clinical clerkship manual.

Additionally, fourth year students are allowed a total of eight weeks of vacation. Students may not take more than four weeks of vacation per quarter.

### DEPARTMENT DESCRIPTIONS

#### **Department of Anatomy**

Through a comprehensive course of study in gross anatomy, embryology, histology, and neuroscience, the anatomy curriculum of the basic sciences provides thorough instruction in the morphology of the human body. The study of anatomy is particularly germane to osteopathic medicine because the relationship between structure and function is a fundamental tenet of osteopathic philosophy. Direct observation of human structure is the essence of the Anatomical Sciences course. All students participate in the dissection of the cadaver under the guidance of the Department of Anatomy faculty in dissection workshops.

Dissection is supplemented by the study of surface anatomy, models, osteologic specimens, radiographs and transverse sections. In addition, there are concurrent ultrasound workshops to demonstrate the clinical relevance of the anatomy being learned. The curriculum also includes the normal pattern of human development with an emphasis on the development of specific organ systems, the microscopic structure of cells and their organization into tissues and organs, and case studies to apply and reinforce clinical concepts.

#### **Department of Biochemistry and Molecular Genetics**

Biochemistry is the science concerned with the cellular constituents at the molecular level and all the reactions that take place within a living cell. The Department of Biochemistry and Molecular Genetics offers courses dedicated to the understanding of life at the biochemical, genetic, genomic and cellular level. By presenting this molecular knowledge, biochemistry enables physicians of any medical specialty to appreciate the alteration of a cell's properties, structures and functions in diseases. The biochemistry curriculum further builds on research advances to provide the foundation underpinning other basic biomedical sciences, leading to the clinical comprehension of molecular and cell biology, cell metabolism, medical genetics and nutrition. The curriculum also includes a set of workshops with small groups using case-based learning where biochemical concepts are reinforced and applied to select medical cases.

#### **Department of Clinical Education**

The Department of Clinical Education consists of the following clinical departments: Osteopathic Family and Community Medicine, Integrated Medicine, including the disciplines of Emergency Medicine, Radiology and Psychiatry, Internal Medicine, Maternal and Child Health, and Surgery and Anesthesia. The department contributes to all four years of the student's pre-doctoral training providing academic knowledge, clinical simulation, assessment and active clinical exposure and training. During the first two years, the student receives training in basic science courses and skills labs, as well as hands-on experiences with standardized patients during Objective Structured Clinical Examinations (OSCEs), and within Osteopathic Family and Community Medicine. In addition, there are regularly scheduled small groups and lectures to facilitate the clinical application of didactic learning and hands-on experiences. Through these courses, students gain foundational medical knowledge, demonstrate application of clinical skills, and develop professional skills needed for clinical experiences. During the third and fourth years, students build on their academic knowledge through clinical rotation exposure in physician's offices, clinics and hospitals, with direct patient care, post-rotation examinations, and other evaluative tools. Each student is assigned to a Clinical Coordinator who assists

them with rotation scheduling, documentation compliance, and coordination of applications to residencies. Department faculty maintain an open-door policy and are integrally involved in coaching and mentoring students regarding career choices and the residency match process. Through clinical rotations and faculty guidance, medical students gain competence in the integration of medical knowledge, development of differential diagnosis, the reporting of patient care and advancement of professional skills needed to advance to post graduate training in residency. The department also maintains a strong collaboration with the Midwestern University Osteopathic Postgraduate Training Institute (OPTI), where medical students are provided clinical rotation opportunities within medical facilities and programs associated with accredited residencies.

#### **Department of Integrated Medicine**

The Department of Integrated Medicine consists of three disciplines: Emergency Medicine, Human Behavior/Psychiatry, Radiology and Point of Care Ultrasound. Human Behavior and Psychopharmacology courses are offered in the first two years, as well as an Introduction to Imaging. Integration of osteopathic principles occurs in each of the courses offered during the four-year curriculum. Faculty regularly observe, debrief, and grade OSCE experiences throughout the four-year curriculum. During third year clinical rotations, the department manages the core clinical clerkship in Psychiatry. Student are also provided an opportunity to experience Emergency Medicine as an elective in third-year and as a core rotation in fourth year. A Radiology and Point of Care Ultrasound elective is offered during third and fourth years. Third year rotations consist of office-based, hospitalist-based, and residency-based rotation opportunities.

#### **Department of Internal Medicine**

The Department of Internal Medicine participates in the student's didactic undergraduate medical education throughout the four years at AZCOM. The first year involves instruction in patient care experiences, including instruction in history and physical examinations. Clinical cases are also introduced by the faculty in collaboration with the Basic Science faculty, during the first year, to facilitate integration of clinical relevance to basic science concepts. Second year students are given presentations in Cardiology, Pulmonology, Neurology, Rheumatology, and Gastroenterology facilitated through the Introduction to Clinical Medicine (ICM) course. Faculty members collaborate with the Department of Microbiology and Immunology in using clinical case correlates to demonstrate key principles as they relate to clinical care. Faculty participate in the Patient Care Experience (PCE) course with direct video monitoring of students, debriefing of their patient encounters, and SOAP note grading. Faculty also provide problem-oriented presentations prior to student participation in disease-specific



Observed Structured Clinical Exam (OSCE) experiences. The department is responsible for the required core clinical clerkship rotations in Internal Medicine during the third year in both residency and preceptor-based General Internal Medicine, as well as Cardiology. During fourth year, Critical Care, and one rotation within a medical subspecialty are offered. Third year rotations consist of office-based, hospitalist-based, and residency-based rotation opportunities. Elective rotations are also available in third year in Hematology/Oncology, Rheumatology, Gastroenterology, Neurology, Cardiology, Allergy and Immunology, Sports Medicine, Geriatrics, and Hospice Care. Fourth year elective rotations are available in Pulmonology, Infectious Disease, Nephrology, Endocrinology, and Critical Care.

### **Department of Maternal and Child Health**

The Department of Maternal and Child Health participates in the students' medical education during all four years at AZCOM through didactic lectures as well as hands-on skills workshops. In the first and second year, the department faculty participate, lecture and assist the Introduction to Clinical Medicine (ICM) courses on multiple aspects of women's health care. The department also offers an elective course for second year students who are interested in learning more about Obstetrics and Gynecology and is responsible for the required core clinical rotation in Obstetrics and Gynecology in the third year. A required pre-rotation component features intensive small groups where students participate in hands-on, skill-based workshops involving case presentation and simulation. The skills development workshop consists of a simulation delivery with an interactive birthing that mimics a true labor and delivery experience, followed by a hands-on vaginal delivery with a birthing model, and concluding with a review of suturing skills. The pediatric faculty teach, lecture and participate in workshops for Introduction to Clinical Medicine (ICM) as well as Patient Care Experiences (PCE). The department manages all third and fourth year pediatric rotations. Third year rotations consist of office-based, hospitalist-based, and residency-based rotation opportunities. There are also rural pediatric office rotations within and outside of the state of Arizona for interested students. Fourth year rotations provide opportunities for electives in pediatric subspecialties such as Pediatric Gastroenterology, Pediatric Cardiology, and Neonatology in the Intensive Care Unit.

### **Department of Microbiology and Immunology**

Through a comprehensive presentation of medical microbiology and immunology, the student is introduced to the fundamental characteristics of pathogenic microorganisms and immune mechanisms. Using an organ-system approach, students receive the information necessary for an understanding of the factors that make microbes pathogenic. Pertinent information for various diseases

includes the etiology, epidemiology, clinical manifestations, diagnostic procedures, and necessary methods for prevention and control. A separate course in immunology explores the immune system. The roles of cells and molecules in the protection of the human host as well as their roles in immunologically mediated disorders are explored. Insight into the mechanisms that provide effective defense from infection and malignancy is emphasized.

### **Department of Osteopathic Family and Community Medicine**

The Department of Osteopathic Family & Community Medicine includes faculty board certified in Family Medicine & Osteopathic Medicine, Preventive Medicine, Occupational and Environmental Medicine, and Neuromusculoskeletal Medicine. Faculty are involved in medical student training including the integration of osteopathic principles, theory and practice throughout the four years of medical school. Through weekly lecture and lab sessions, students develop physical examination and psychomotor skills for the practice of osteopathic manipulative medicine (OMM) in addition to skills in differential diagnosis, case presentation, EKG interpretation, SOAP note and prescription writing, evidence-based medicine, biostatistics, and community health practices. All systems of the body are discussed using a case-based format across the age span, carefully integrating the art of medicine and osteopathic principles with the concepts of medical diagnosis and treatment of common disease entities.

Prior to clinical rotations, all students participate in department-led procedural workshops, including dermatologic procedures and point of care ultrasound. During their third year, students are required to complete two core clinical clerkship rotations in Family Medicine. Third year rotations consist of office-based, hospitalist-based and residency-based rotation sites. Many students have the opportunity to work with department faculty in the Midwestern University Multispecialty Clinic on campus during one of these rotations. Third and fourth year students continue to receive ongoing education in osteopathic principles and practices through didactic lectures and labs delivered by department faculty.

The department offers an OMM Student Scholarship Program. This program offers an opportunity for students to enhance their knowledge of OMM and participate in teaching in the department. Scholars complete their clinical education experience over three calendar years instead of two. The OMM Scholar holds specific responsibilities within the department in addition to his/her regular academic requirements. During the scholarship period, the OMM Scholar becomes a vital part of the department. Included are unique opportunities in Advanced Osteopathic Education, Osteopathic Teaching, Leadership Development, Research, and Community Service. The department also supports a Neuromusculoskeletal Medicine (NMM) Plus

One Resident program at the Midwestern University Multispecialty Clinic.

### **Department of Pathology**

Under the tutelage of experienced physicians, specialty board certified in anatomic and clinical pathology, the department's mission is to transition students from the basic sciences learned in their first year into young doctors that can understand the mechanisms and manifestations of disease in a given patient, make a prompt and accurate diagnosis, and understand the pathophysiologic alterations that are targeted for treatment. Three quarters are taught throughout the second year. We begin with general pathology in the fall quarter, and move into specific organ systems later in the year. Teaching is primarily lecture based with comprehensive coverage of the full spectrum of afflictions affecting patients. Emphasis is placed on early clinical recognition from patient history and presenting signs and symptoms, as well as the selection of the appropriate laboratory and ancillary studies needed to make a definitive diagnosis. Rationale for surgical, pharmacologic and other medical interventions is presented. Liberal use of case studies in lectures and case-based examination questions incorporating clinical vignettes prepare students for their clinical rotations and for Level 1 of their COMLEX-USA examinations.

### **Department of Pharmacology**

The science of Pharmacology deals with properties and effects of drugs and, in a more general sense, with the interactions between chemical compounds and living systems. Medical pharmacology focuses on the mechanisms of action, toxicities, and therapeutic uses of biologically active substances in humans. Physicians utilize pharmacology not only to treat but also to prevent disease. At AZCOM, medical students are shown the correlation between pharmacology and related medical sciences, taught how to interpret the actions and uses of major classes of drugs, and instructed in the applications of pharmacodynamics to therapeutics. The course is designed to ensure that students are given the tools to use pharmaceuticals in all areas of the practice of medicine.

### **Department of Physiology**

The Department of Physiology offers courses that provide a comprehensive understanding of the functions of human organs and organ systems, as well as a sound basis for comprehending the adaptations and functional transitions that occur in disease. Mastery of physiologic concepts and problem-based learning are emphasized to provide a foundation that is conducive to the development of diagnostic skills. In addition to conventional didactic instruction, small group clinical case discussion sessions, workshops and simulations are used to promote critical thinking, problem solving, and application of physiologic concepts and principles to clinically relevant problems.

### **Department of Surgery and Anesthesia**

The Department of Surgery and Anesthesia participates in didactic teaching throughout the four years of medical school by teaching, lecturing, and participating in workshops. In the second year, the department offers a skills-based surgery elective. Several small group open forums are offered to interested second year students to provide information on how best to proceed in choosing rotations that will optimally prepare them for their pursuit of a residency in Surgery or Anesthesia. The department is responsible for the required core clinical rotation during the third year in General Surgery. Using both preceptor-based and ward-based clinical settings, this rotation helps the student transition from the classroom to the clinical environment by exposing the student to various aspects of patients in a General Surgery practice. Prior to the core General Surgery rotation, each student participates in a required skills-based workshop that maximize the student's learning potential and successful completion of the core surgery rotation. The hands-on skills lab consists of five separate stations including airway management; scrubbing, gowning, gloving and operating room etiquette; surgical documentation and chart review for patient management; wound closure principles and techniques; and an OMM station covering the diagnosis and treatment for common postoperative surgical problems. During the rotation, students are required to meet with department faculty in a small-group setting to formally present an interesting case in which they have participated during the rotation. During the fourth year, the department oversees elective surgical rotations including, Anesthesia, Burns, Colorectal, Neurological Surgery, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic and Reconstructive Surgery, Thoracic/Cardiovascular Surgery, Transplant Surgery, Trauma Surgery, Urology, and Vascular Surgery. Together with the Department of Internal Medicine, the department also coordinates a Surgical Intensive Care Unit (SICU) Core clinical rotation.

## **COURSE DESCRIPTIONS OVERVIEW**

Prerequisites for courses may be established by the department that administers the course. Prerequisites are recommended to the Curriculum Committee for approval and are listed within the course description in the catalog. Unless otherwise stated in the course descriptions below, courses have no prerequisites.

On a case-by-case basis, prerequisites may be waived upon approval of the Department Chair of the department that delivers the course.

### *ANATG 1516 Anatomical Sciences*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters with multiple

exams per module. The modules cover broad anatomical themes. Fall quarter begins with the segmented body plan, which includes back dissections and finishes with tubes within tubes, which includes thorax, abdomen and pelvis dissections. Curriculum delivery is through lectures, laboratory-based dissection workshops, ultrasound workshops, small group activities, and online resources. Student progress is evaluated through written and practical examinations.

8 credits

#### *ANATG 1526 Anatomical Sciences*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters, with multiple exams per module. The modules cover broad anatomical themes. Winter quarter begins with limb outgrowth, which includes lower extremity and upper extremity dissections, and finishes with pharyngeal arches and cranial nerves, which includes head and neck dissections. Curriculum delivery is through lectures, laboratory-based dissection workshops, ultrasound workshops, small group activities, and online resources.

6 credits

#### *ANATG 1536 Anatomical Sciences*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters, with multiple exams per module. The modules cover broad anatomical themes. Spring quarter begins with the sensorimotor head, which includes head and neck dissections, and finishes with brain and behavior. Curriculum delivery is through lectures, laboratory-based dissection workshops, ultrasound workshops, small group activities, and on-line resources. Student progress is evaluated through written and practical examinations.

4 credits

#### *BIOCG 1511 Biochemistry I*

Course modules feature proteins and enzymes emphasizing structure-function relationships; cell biology emphasizing how cells move and divide; molecular biology emphasizing the role of nucleic acids in expression of genetic information; intermediary metabolism emphasizing metabolism of carbohydrates, lipids, and amino acids; organs emphasizing the customization of biochemical pathways; hemostasis emphasizing the mechanisms leading to platelet plug and fibrin clot formation, including tests available to identify hemostasis disorders; and medical biostatistics emphasizing the concepts of sensitivity, specificity, positive predicative value and negative predicative value. Clinical aspects of

biologic processes during the fed and fasted states are emphasized. Workshops introduce the biochemical basis of clinical laboratory tests and illustrate clinical applications of biochemical concepts.

6 credits

#### *BIOCG 1522 Biochemistry II*

Course modules feature human nutrition emphasizing importance of nutrition in health and preventive medicine; human genetics emphasizing inheritance of selected genetic disorders; cell cycle regulation and molecular basis of cancer emphasizing the molecular and genetic basis of cancer and tumor progression; various types of anemia focusing on causes, lab tests and its related topics. Workshops introduce the biochemical basis of exercising muscle, myocardial infarction, obesity, common clinical laboratory tests and/or illustrate clinical applications of biochemical concepts. Selected workshops feature a modified problem-based learning environment.

3 credits

#### *CARDG 1701 Cardiology Rotation*

This third year, four-week rotation is designed to provide the student with a fundamental knowledge of Cardiology and to introduce students to basic procedures relevant to the practice of Cardiology. Both ambulatory and inpatient settings are utilized to expose the student to various aspects of the management of patients in a Cardiology practice. Rotation experiences include reading, lectures, seminars, small group sessions, patient care management, and a post-rotation examination.

6 credits

#### *CLMDG 1631 Introduction to Imaging*

This course provides clinical lectures to prepare students to recognize and understand the utilization of common imaging and imaging procedures.

1 credit

#### *CLMDG 1650A Health Outreach through Medicine and Interprofessionalism Education*

Health Outreach through Medicine and Interprofessionalism Education gives students an opportunity to participate in the H.O.M.E. program to work in interprofessional teams to provide acute episodic care and education for homeless and underserved clients. Students will learn about patient personal situations and barriers to care. The course addresses social determinants of health. Students will learn how to communicate with patients in a team setting. The importance of, and techniques for efficient interprofessional communication will be explored. Note: Offered to half of the class in fall or winter quarter. Students will be expected to enroll in either 1650A (fall) or 1650B (winter).

0.5 credits

*CLMDG 1650B Health Outreach through Medicine and Interprofessionalism Education*

Health Outreach through Medicine and Interprofessionalism Education gives students an opportunity to participate in the H.O.M.E. program to work in interprofessional teams to provide acute episodic care and education for homeless and underserved clients. Students will learn about patient personal situations and barriers to care. The course addresses determinants of health. Students will learn how to communicate with patients in a team setting. The importance of, and techniques for efficient interprofessional communication will be explored. Note: Offered to half of the class in fall or winter quarter. Students will be expected to enroll in either 1650A (fall) or 1650B (winter).  
0.5 credits

*CLMDG 1700 Introduction to Clerkship*

Introduction to Clerkship is presented in the spring quarter of the second year. The course objective is to prepare students to start their clinical clerkship rotations. It is comprised of the following components: 1) Large group lectures on administrative and clinical rotation requirements relevant to the beginning of clinical rotations. 2) Objective structured clinical examinations (OSCEs) which are conducted to evaluate and improve student's history and physical examination skills, interpersonal and professionalism skills, and proper documentation writing skills (SOAP notes) prior to beginning clinical rotations. 3) Workshop skills sessions on starting IVs, suturing, performing biopsies, and the use of ultrasound. 4) Online required LawRoom course modules.  
1 credit

*CLMDG 1701 Osteopathic Clinical Medicine III*

This course begins in summer of third year. Course includes: 1) Objective structured clinical examinations (OSCEs) throughout the academic year to evaluate student's history and physical examination, interpersonal and professionalism skills, and SOAP note writing documentation skills; 2) Large group lectures; 3) Two OMM workshops; 4) Online Law Room courses; 5) Online clinical Aquifer cases to assist in preparing for OSCE cases; 6) Required attendance at either an Arizona state medical board meeting, or an out-of-state medical board meeting. Students must pass their end-of-third year OSCEs to progress to fourth year. Students must take a COMSAE Phase II examination and achieve a predetermined baseline score in order to progress to the fourth year.  
5 credits

*CLMDG 1702 ACLS*

The Basic Life Support (BLS) and Advance Life Support Course (ACLS) is provided as a requirement for AZCOM students beginning their clinical rotations. It is a 1 credit course and meets the national standards set by the American Heart Association for BLS and ACLS courses. The course

must be passed in order to start clinical rotations.  
1 credit

*CLMDG 1801 Osteopathic Clinical Medicine - Fourth Year Didactics - A*

Osteopathic Clinical Medicine, Didactics, winter quarter is composed of lectures, workshops, and hands-on osteopathic manipulative medical techniques as well as osteopathic practices and principles that support the fourth year curriculum. The course is presented over two quarters. The course is offered asynchronously with the exception of hands-on osteopathic skills labs. Student learning is assessed through quizzes after each session on Canvas and via hands-on practical examinations.  
1.25 credits

*CLMDG 1802 Osteopathic Clinical Medicine - Fourth Year Didactics - B*

Osteopathic Clinical Medicine, Didactics, continues in spring quarter and is composed of lectures and workshops that support the fourth year curriculum.  
1.25 credits

*CMEDG 1613 Patient Care Experience I*

Students transition from a screening history and physical examination of patients without a chief complaint to a problem-focused history and physical examination for patients with a chief complaint. Emphasis on: 1) Generating differential diagnoses; 2) Obtaining a problem-focused history; 3) Performing a problem-focused physical examination; 4) Obtaining medical histories on patients; and 5) Documentation in a SOAP note format. Will practice formulating assessments along with diagnostic and treatment plans through interactive Objective Structured Clinical Examinations (OSCEs), and the review of case-related physical examination elements. Individual case-based OSCEs provide students the opportunity to conduct history and physical examinations on patients of various ages with different presenting complaints.  
0.5 credits

*CMEDG 1624 Patient Care Experience II*

A continuation of CMEDG 1613 with these major teaching goals: 1) Continue to develop skills in performing a problem-focused history and physical examination in an Objective Structured Clinical Examination (OSCE), or standardized patient with a chief complaint; 2) Review of case-related physical examination elements. Emphasis is on: a) obtaining a problem-focused history; b) performing a problem-focused physical examination; c) performing the history and physical examination professionally with appropriate interpersonal skills; d) generating reasonable case-based differential diagnoses; and e) providing proper

documentation skills by writing an appropriate case-based SOAP note. 3) Provide experience in properly performing a female breast/pelvic examination and male genitourinary/prostate examination.  
1 credit

*COREG 1560A Fall, 1570A Winter, 1580A Spring Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated. Offered in fall, winter and spring quarter. Each quarter is 0.5 credits.  
1.5 credits

*ELECG 1801 Elective Rotations*

There are 24 weeks of electives during the fourth year. Elective rotations may be done in two or four week blocks. Students may request to do electives in basic science or clinical research. Additionally, if approved, one 4-week elective can be used for an international rotation, or military officer training. All electives must be approved by the appropriate Department Chair. Additional policies regarding electives are provided in the Department of Clinical Education Rotation Manual.  
36 credits

*EMEDG 1801 Emergency Medicine Rotation*

This fourth year rotation consists of four weeks of emergency department experiences, and exposes the student to various aspects of managing patients in an emergency department setting. This rotation emphasizes diagnostic skills, ability to prioritize patient care and different views of problems that are typically seen in an emergency department setting. There is a national, standardized post-rotation examination at the conclusion of this rotation.  
6 credits

*FMEDG 1531 Public Health, Medical Ethics and Jurisprudence*

The course provides an overview of fundamental concepts and principles related to public health, epidemiology, clinical ethics, and medical jurisprudence. Core concepts necessary for the practice of evidence-based medicine will be presented in addition to examining topics related to the legal and ethical aspects of medicine frequently encountered in clinical

practice. In addition to preparing students for board examinations, completion of the course will provide students with the foundation needed to practice evidence-based medicine, provide compassionate and humane patient care, and ensure compliance with the law and standards of professional conduct.  
2 credits

*FMEDG 1701 Family Medicine Rotation I*

The Family Medicine I rotation consists of a four-week experience in third year, which is primarily preceptor-based, but may include both ambulatory and inpatient settings, some of which include residency-based opportunities. This service should expose the student to various aspects of the diagnosis and management of patients in a Family Medicine practice, including the incorporation of osteopathic principles and OMM. This experience is supplemented by small group tutorials, online cases and reading objectives. There is a national standardized post-rotation examination at the conclusion of this rotation.  
6 credits

*FMEDG 1702 Family Medicine Rotation II*

The Family Medicine II rotation consists of a four-week experience in third year, primarily preceptor-based, but may include both ambulatory and inpatient settings. This service should expose the student to various aspects of the diagnosis and management of patients in a Family Medicine practice, including the incorporation of osteopathic principles and OMM. This experience is supplemented by small group tutorials, online cases and reading objectives. There is a national standardized post-rotation examination at the conclusion of this rotation.  
6 credits

*FMEDG 1703 Third Year Elective*

Students may arrange for a third year elective rotation at established Midwestern University/AZCOM rotation sites. Any out-of-state site must be approved by the appropriate Department Chair. Rotations are subject to the current Department of Clinical Education Rotation Training Policy Manual. Rotations may be done in any department-approved specialty. No rotations with family members are permitted. There is no examination for this rotation.  
6 credits

*ICMDG 1614 Introduction to Clinical Medicine IV*

ICM IV is a blend of case-based curriculum, online modules, large group didactics, and small group workshops. In the case sessions, each week a new case is presented, and students must obtain a history and physical examination on the patient. Students work individually to determine problem lists, differentials and treatment plans. Students write SOAP notes and prescriptions based on their clinical case, and an in-

depth discussion of the case is provided by the faculty the following week. Additional sessions of this course provide further clinical correlations in either workshop, online module, or lecture format, with a strong focus on the pulmonary and cardiovascular systems. Evidence-based medicine (EBM), epidemiology, and clinical design-making concepts are incorporated throughout the course. Workshops include differential diagnosis, EKG interpretation, EBM, heart failure, cardiovascular ultrasound, and case presentations.

3.5 credits

#### *ICMDG 1625 Introduction to Clinical Medicine V*

ICM V is a blend of case-based curriculum, online modules, large group didactics, and small group workshops. In the case sessions, each week, a new case is presented, and students must obtain a history and physical examination on the patient. Students work individually to determine problem lists, differentials and treatment plans, and write SOAP notes, prescriptions, admission notes, and admission orders. An in-depth discussion of the case is provided by the faculty the following week. Additional sessions of this course provide further clinical correlations in either workshop, online module, or lecture format, with a strong focus on the gastrointestinal, renal, and genitourinary systems. Topics in evidence-based medicine and biostatistics are incorporated throughout the course. Workshops include jaundice and elevated liver enzymes, ultrasound and case presentations.

4 credits

#### *ICMDG 1630 Introduction to Clinical Medicine VI*

ICM VI is a blend of case-based curriculum, online modules, and large group didactics. In the weekly case sessions, students work in groups to determine problem lists, differential diagnoses, and initial treatment plans, and write notes, prescriptions, and admission orders. An in-depth discussion of the case is provided by the faculty the following week. Additional sessions include a workshop on obstetrical care and other lectures providing clinical correlations with a strong focus on the endocrine, neurologic and dermatologic systems, as well as obstetrics and gynecology. Topics in evidence-based medicine and biostatistics are incorporated throughout the course.

3 credits

#### *IMEDG 1701 General Internal Medicine Rotation I*

General Internal Medicine Rotation I includes hospital residency-based training. Reading assignments, learning objectives, small group sessions, and lectures will supplement the clinical experience. There is a national standardized post-rotation examination at the conclusion of this rotation.

6 credits

#### *IMEDG 1702 General Internal Medicine Rotation II*

General Internal Medicine Rotation II includes hospital department-based training or ambulatory internal medicine. Reading assignments, learning objectives, small group sessions, and lectures will supplement the clinical experience. There is a national standardized post-rotation examination at the conclusion of this rotation.

6 credits

#### *IMEDG 1803 Subspecialty Internal Medicine Rotation*

During the fourth year, each student will participate in at least one 4-week medical sub-specialty rotation in a discipline of their choice. Appropriate subspecialties include, but are not limited to Cardiology, Gastroenterology, Hematology, Oncology, Rheumatology, Pulmonology, Neurology, Infectious Disease, Nephrology, Allergy/Immunology, and Endocrinology. Rotation specific reading objectives supplement the clinical experience for each specialty.

6 credits

#### *IMEDG 1804 Critical Care Rotation*

Each fourth year student will participate in a four-week Critical Care rotation. The objectives for this rotation include examining, studying and participating in the management of patients in the hospital critical care setting. The student will become familiar with many common and some uncommon presentations encountered by the critical care physician, and will observe and perform procedures indicated for each patient. Rotation experiences include reading, lectures, patient care management, and a post-rotation examination.

6 credits

#### *IMEDG 1804S Surgical Intensive Care Unit Rotation (alt. choice)*

In fourth year, students may request a four-week Surgical Intensive Care Unit (SICU) rotation that satisfies their Critical Care core rotation. The SICU rotation enables the student to experience a surgeon-led ICU with post-op surgery and trauma patients. The SICU experience allows the student to learn about critically ill surgery and trauma patients; examination, presentations, procedures and surgery. The student is responsible for all required Critical Care core and SICU material. The student must pass the Critical Care core examination with an additional 15 SICU-related questions.

6 credits

#### *MICRG 1531 Immunology*

This course uses a didactic approach for a comprehensive coverage of immunology. Students are presented with information pertinent to fundamental principles of immunology, the cells and cell products involved in host defense mechanisms, their origin, function, and their roles in both health and infectious processes. The course is designed not only to instill basic principles in immunology but also to

discuss important topics for clinical practice and research, including immunizations, immunodiagnostics, and immunologically-mediated diseases, disorders, and deficiencies.

2.5 credits

*MICRG 1615 Microbiology I*

Fall quarter of this two-quarter course uses a didactic approach for a comprehensive coverage of medical microbiology. This course sequence includes discussion of basic classification, structure, metabolism and genetics of bacteria, viruses, parasites, and fungi, as well as discussion of individual pathogens in the context of infectious disease. The infectious disease portion of each course uses an organ systems approach, focusing on basic morphologic, culture and diagnostic modalities, physiology, virulence determinants, epidemiology, host-pathogen interactions, and management of disease with special emphasis on factors pertinent to clinical medicine and public health. Clinical correlations and case presentations are featured for each organ system.

4 credits

*MICRG 1625 Microbiology II*

Winter quarter of this two-quarter course uses a didactic approach for a comprehensive coverage of medical microbiology. This course sequence includes discussion of basic classification, structure, metabolism and genetics of bacteria, viruses, parasites, and fungi, as well as discussion of individual pathogens in the context of infectious disease. The infectious disease portion of each course uses an organ systems approach, focusing on basic morphologic, culture and diagnostic modalities, physiology, virulence determinants, epidemiology, host-pathogen interactions, and management of disease with special emphasis on factors pertinent to clinical medicine and public health. Clinical correlations and case presentations are featured for each organ system.

4 credits

*MPSYG 1511 Introduction to Human Behavior I*

This course begins with an introduction to the course, the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) and the biopsychosocial model used in psychiatric assessment. Students will learn the components of a psychiatric evaluation and learn basic interview skills. Topics in psychopathology include anxiety disorders, trauma related disorders, obsessive-compulsive and related disorders, and mood disorders.

1 credit

*MPSYG 1522 Introduction to Human Behavior II*

Students will be introduced to neuroanatomy, genetics, and neurochemistry. Common modalities of psychotherapy will

be introduced. Topics in psychopathology include psychotic disorders, eating disorders, substance disorders, sexual disorders, sleep disorders, and personality disorders. Students will also learn integration of biological and psychological principles in psychiatric interviewing and assessment.

1 credit

*MPSYG 1533 Introduction to Human Behavior III*

This course will cover the human life cycle beginning with childhood and progressing through death. Other topics will include neurocognitive disorders, end of life, ethics, cultural psychiatry, gender issues, and professionalism. The student will learn to integrate their knowledge of psychopathology into interview skills, diagnostic formulation and treatment planning.

1 credit

*MPSYG 1634 Treatment of Psychiatric Disorders*

Course focuses on treatment of psychiatric disorders. The primary goal of course will be to develop a biopsychosocial treatment plan for various psychiatric disorders. Topics will include psychopharmacology, psychotherapies, and coordination of care.

0.5 credits

*MPSYG 1701 Psychiatry Rotation*

Four-week rotation designed to provide students direct contact with psychiatric patients. This facilitates the development of skills in diagnosis, treatment, and management of psychiatric disorders and enhances critical thinking and problem solving. Inpatient, outpatient, crisis intervention, and residency-based settings are utilized. There is a national standardized post-rotation examination at the conclusion of this rotation.

6 credits

*OBYG 1701 Obstetrics/Gynecology Rotation*

This third year, four-week rotation is designed to provide the student with the fundamental knowledge base in obstetrics and gynecology (OB/GYN). The student will be introduced to basic procedures relevant to the practice of OB/GYN, to facilitate an understanding of the approach to clinical problem solving in OB/GYN, and promote acquisition of skills in the diagnosis, management, and prevention of common obstetrical and gynecological conditions. Rotation settings include both hospital residency-based and ambulatory center-based sites. There is a national standardized post-rotation examination at the conclusion of this rotation.

6 credits

*OCMDG 1511 Osteopathic Clinical Medicine I*

This course introduces students to osteopathic clinical medicine with weekly lectures and laboratory experiences.

Instruction begins with an orientation to the osteopathic profession including the distinctive contribution of the osteopathic profession to the delivery of health care, followed by training in professionalism and basic history and physical examination skills with emphasis on the head, eyes, ears, nose, throat and neck and including the osteopathic structural examination. Students will learn the proper use of diagnostic equipment, as well as palpatory techniques, identification of anatomic landmarks, evaluation of motion, and evaluation of soft tissues. Normal and abnormal findings are emphasized and illustrated through clinical cases. Students will learn how to take a complete history from a patient and practice the skill of patient presentation. Students will be taught the components of physician documentation and will practice patient care documentation multiple times throughout the course. The laboratory sessions reinforce lecture content and identify and develop the practical skills needed to diagnose patients and perform manipulative procedures. The development of clinical reasoning skills is emphasized and training is enhanced by guest lecturers, peer table-trainers, osteopathic scholars, interdisciplinary training with optometry, ocular and musculoskeletal ultrasound, history and physical experiences, and geriatric case discussions. Students are evaluated by graded history & physicals, written examinations, laboratory participation, and an Osteopathic Core Competency Assessment (OCCA).  
4 credits

#### *OCMDG 1522 Osteopathic Clinical Medicine II*

This course continues to develop the practical skills necessary to diagnose and treat patients with weekly lectures and laboratory experiences. The course progresses into the pathophysiology of the musculoskeletal system and structural-functional disturbances that can occur and introduces additional history and physical exam skills, enhanced by cardiopulmonary auscultation simulation, ultrasound and blood draw and injection labs. Normal and abnormal findings are emphasized and illustrated through clinical cases. Students will continue to learn how to take a complete history from a patient and practice the skill of patient presentation. Students will be taught further components of physician documentation and will practice patient care documentation multiple times throughout the course. The laboratory sessions reinforce lecture content and additional diagnostic and manipulative treatment procedures will be taught and practiced in the laboratory setting. The development of clinical reasoning skills is emphasized and training is enhanced by guest lecturers, peer table-trainers, osteopathic scholars and history and physical experiences. Students are evaluated by graded history & physicals, written examinations, laboratory participation, and an Osteopathic Core Competency Assessment (OCCA).  
4 credits

#### *OCMDG 1533 Osteopathic Clinical Medicine III*

This course continues to develop the practical skills necessary to diagnose and treat patients with weekly lectures and laboratory experiences. The course reinforces skills taught in the fall and winter quarters and progresses to skills for the remaining body systems, with emphasis on the neurologic system, the dermatologic system, lymphatics, the female genitourinary system, as well as continued discussion of the musculoskeletal system and high-yield board topics. Normal and abnormal findings are emphasized and illustrated through clinical cases. Students will continue to learn how to take a complete history from a patient and practice the skill of patient presentation. Students will be taught further components of physician documentation and will practice patient care documentation multiple times throughout the course. The laboratory sessions reinforce lecture content and additional diagnostic and manipulative treatment procedures will be taught and practiced in the laboratory setting. The development of clinical reasoning skills is emphasized and training is enhanced by guest lecturers, history and physical experiences, and specific instruction regarding provision of inclusive care for LGBTI patients. At the conclusion of this final osteopathic clinical course of the first year, the medical student is expected to demonstrate proficiency in diagnostic palpation and simple, basic manipulative procedures. Students are evaluated by graded history & physicals, written examinations, laboratory participation, an Osteopathic Core Competency Assessment (OCCA) and a full history & physical on a standardized patient.  
4 credits

#### *OMEDG 1614 Osteopathic Medicine IV*

Weekly one-hour lectures followed by three-hour laboratory sessions. Laboratory sessions reinforce material presented in lectures. It also identifies and develops the practical skills needed to diagnose and treat patients. Additional diagnostic procedures and manipulative treatment procedures will be taught in the laboratory. The second year is an expansion and continuation of the previous year's work and the material is presented in the context of clinical problem solving. The sequence of material is coordinated with material presented in other second year courses. Students are evaluated by midterm and final written examinations and an OCCA.  
1.5 credits

#### *OMEDG 1625 Osteopathic Medicine V*

Weekly one-hour lectures followed by three-hour laboratory sessions. Laboratory sessions reinforce material presented in lectures and identifies and develops the practical skills needed to diagnose and treat patients. Additional diagnostic procedures and manipulative treatment procedures will be taught in the laboratory. The second year is an expansion and continuation of the previous year's work and material is presented in the context of clinical problem solving. The



sequence of material is coordinated with material presented in other second year courses. Students are evaluated by midterm and final written examinations and an OCCA.  
2 credits

*OMEDG 1636 Osteopathic Medicine VI*

Weekly one-hour lectures followed by three-hour laboratory sessions. Laboratory sessions reinforce material presented in lectures, identify, and develop the practical skills needed to diagnose and treat patients. Additional diagnostic procedures and manipulative treatment procedures will be taught in the laboratory. The second year is an expansion and continuation of the previous year's work and material is presented in the context of clinical problem solving. Students are evaluated by midterm and final written examinations and a national standardized exam and comprehensive OCCA.  
1.5 credits

*PATHG 1611 Pathology I*

Introduction to basic concepts of pathology stressing altered cellular, genetic, and molecular mechanisms, and attempts to convey the dynamic nature of processes involved. By focusing on the organism as a whole system, the discipline of pathology can provide a bridge for transition by showing the interrelationship between basic scientific principles and the practice of clinical medicine. This approach provides a complete, medical overview of the disease process in relation to its histological, functional, and structural changes. Students have an opportunity to develop necessary skills to interpret and use laboratory data in describing and recognizing various types of injury to cells, tissues, and organs.  
5 credits

*PATHG 1622 Pathology II*

This is a continuation of PATHG1611. This course identifies causes and mechanisms of disease as they relate to specific organ systems as well as stressing the need for the medical student to understand the pathophysiology of disease and its implications to both the patient and the physician. Emphasis is also placed on the dynamic process of the pathologic progression of changes, adaptive responses, and therapeutic modifications as well as discovering how all these changes produce the ultimate clinical manifestations of disease processes.  
5 credits

*PATHG 1633 Pathology III*

This is a continuation of PATHG 1611 and 1622. This course identifies causes and mechanisms of disease as they relate to specific organ systems as well as stressing the need for the medical student to understand the pathophysiology of disease and its implications to both the patient and the physician. Emphasis is also placed on the dynamic process of

the pathologic progression of changes, adaptive responses, and therapeutic modifications as well as discovering how all these changes produce the ultimate clinical manifestations of disease processes.  
5 credits

*PEDIG 1701 Pediatric Rotation*

Third year, 4-week rotation designed to introduce students to management of common pediatric conditions. Emphasis is placed on obtaining a pediatric history, performing physical examination, communicating with adult care givers, formulating differential diagnoses, and selecting appropriate diagnostic studies where appropriate. Students should be able to differentiate between normal and abnormal findings, provide patient and family education, well child examinations and anticipatory guidance, and begin to develop a cost-effective management plan that incorporates necessary referrals. Rotation settings include both hospital residency-based and ambulatory-based sites. There is a national standardized post-rotation examination at the conclusion of this rotation.  
6 credits

*PHARG 1610 Pharmacology I*

This is the first of three courses in Pharmacology. The introductory section of the course will present general principles of pharmacology, including pharmacokinetics and pharmacodynamics, and toxicology. The next section of the course covers drugs acting on the autonomic nervous system, asthma, and allergy. The final section deals with drugs used in treatment of cardiovascular conditions. There are 36 lecture hours. Emphasis will be on clinical pharmacology, problem solving, making therapeutic decisions, and evaluating the patient's response to pharmacotherapy.  
3.5 credits

*PHARG 1620 Pharmacology II*

This course is the continuation of PHARG 1610. Topics in winter quarter include drugs affecting the gastrointestinal tract, drugs acting in the central nervous system, and drugs used for hormonal therapy. There will be 35 lecture hours. Emphasis will be on clinical pharmacology, problem solving, making therapeutic decisions, and evaluating the patient's response to pharmacotherapy.  
3.5 credits

*PHARG 1630 Pharmacology III*

This course is a continuation of PHARG 1610 and 1620. The spring quarter covers all aspects of chemotherapy of infectious disease and cancer. The last portion of the course is devoted to comprehensive review. There will be 30 lecture hours. The course emphasizes clinical pharmacology, problem solving, making therapeutic decisions, and

evaluating the patient's response to pharmacotherapy.  
3 credits

#### *PHYSG 1521 Physiology I*

Course presents the biophysics, functional properties, regulation of membrane transport, excitable cells, skeletal muscle, cardiovascular and respiratory systems. A discussion of circulatory fluid dynamics, peripheral vascular tone, blood pressure, and electrical and mechanical activity of the heart is included in the cardiovascular section of course. Small group case discussions, workshops and simulations facilitate development of critical thinking and problem-solving skills using basic physiologic concepts to understand the pathogenesis of signs and symptoms in specific case studies.  
5 credits

#### *PHYSG 1532 Physiology II*

Sequel to PHYSG 1521 that builds on physiologic foundations developed during preceding semester. Course covers function, mechanism of action, regulation, and integration of renal and gastrointestinal systems that maintain body homeostasis through fluid, electrolyte and nutrient balance. The gastrointestinal section of the course presents the function and the regulation of motility, absorption and secretion within the various regions comprising the gastrointestinal tract. The endocrine section of course presents function, mechanism of action, and regulation of specific hormones. Small group discussions and workshops will refine critical thinking and problem-solving skills as students identify physiologic and pathophysiologic mechanisms underlying the signs and symptoms described in pertinent clinical case studies.  
4.5 credits

#### *RURLG 1701 Rural Medicine*

This third year required rotation focuses on the unique challenges faced when caring for patients in a rural area. Students complete a four-week rotation in an area and specialty assigned by the Clinical Education Department. Please refer to the Clinical Education Clerkship Manual for more information on rural site availability. There is no post-rotation examination for this rotation.  
6 credits

#### *SURGG 1701 General Surgery Rotation*

The third year core curriculum enables the student to learn fundamental knowledge of and psychomotor skills of surgery. There are residency-based and preceptor-based rotations. First, students must participate in the Pre-Rotation Surgical Preparation (PRSP) skills lab. During this lab, the student will learn essential skills of laparoscopic surgery ultrasound, suturing, gowning and gloving, Foley and NGT insertion. There will be a short lecture to help prepare students for clinical rotations in the hospital and operating room.

Students will learn how to diagnose basic surgical diseases, present cases to an attending, write progress notes, do simple surgical procedures, assist in the operating room, and more. The course is on Canvas, and it has modules for the student to complete each week along with a quiz. During the course, the student must post a case presentation and give feedback to a peer on their case. The course is meant to be interactive online with the Course Director, peers and coordinator. The final grade is determined by the Surgery Shelf Exam, quizzes, case presentation with feedback to a peer, and the rotation evaluation.

6 credits

#### *SURGG 1802 Subspecialty Surgery Rotation*

Fourth year students will complete a 4-week subspecialty surgery rotation. Depending on the interest of the student during their third year core rotation, they will choose from many subspecialties such as: Cardiothoracic, ENT, Orthopedics, Trauma, Urology, Vascular, and Plastic Surgery. There is no post-rotation exam for this rotation. Final grade is dependent on the rotation evaluation.  
6 credits

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the College. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section of the catalog for additional policies that apply to all students at Midwestern University.

### **Academic Counseling**

To meet the mission of the University and AZCOM, academic counseling by MWU/AZCOM faculty is provided to students over the continuum of the medical school curriculum to help ensure successful completion of the program and graduation.

During the OMS 3 and OMS 4 academic years, academic advising is provided to students as part of an ongoing assessment through members of the Dean's leadership team, department chairs, department faculty, and the Clinical Promotion and Graduation Committee.

Longitudinal assessment of student performance, and specifically students of academic risk, are monitored and counseled by the Associate Dean for Student Affairs.

### **Career Counseling AZCOM Office of the Dean**

The Dean's leadership team (Dean, Assistant Dean, Associate Dean of Clinical Education, Associate Dean of Academic Affairs, Associate Dean for Curricular Integration and Faculty Development) maintains an open-door policy. They are integrally involved in coaching and mentoring students throughout medical school regarding their career choices and the residency match process. Additionally, during third year, the Office of the Dean will schedule individual meetings for each student to meet with a member of the Dean's leadership team to discuss their current academic performance, board score concerns, and preparation for the residency match. Prior to the meeting, students are asked to draft a notable characteristics paragraph to be reviewed/edited for inclusion in their Medical Student Performance Evaluation (MSPE). Suggested content includes research experiences, community service, residency-related experiences, scholarships and awards, membership/activities in MWU/AZCOM approved organizations, and leadership experiences. Overall MSPE content is discussed so that students know what to expect, and they will have an opportunity to review it before it is submitted to ERAS.

#### **AZCOM Clinical Department Chairs and Faculty**

The AZCOM Clinical Department Chairs and faculty maintain an open-door policy and are integrally involved in coaching and mentoring students regarding career choices and the residency match process. Guidance for rotations, interview planning, and match list process is provided individually for all students interested.

#### **Postgraduate Education/Midwestern University Graduate Medical Education (MWU-GME)**

Midwestern University offers a continuity of osteopathic medical education from the first year of medical school to the final year of postgraduate training. Midwestern University's Graduate Medical Education Department sponsors many residency programs encompassing several medical specialties. The curriculum encompasses a multifaceted approach to graduate medical education that focuses on educational excellence. Programs follow the guidelines of and receive accreditation from the American College of Graduate Medical Educations (ACGME). The Midwestern University GME is actively developing new residency programs and sites.

Students may contact MWU-GME for information on current programs and new programs under development by going to their web site

<http://www.midwestern.edu/mwuopti.html>, or contacting Lilia Wilson, MBA, MPM Director, Graduate Medical Education, 623/572-3318, [lwilso@midwestern.edu](mailto:lwilso@midwestern.edu)

#### **Academic Review & Progression**

There are two Student Promotion and Graduation Committees, the Preclinical Promotions Committee (PPC) and the Student Promotion and Graduation Committee

(SPGC). These committees are comprised of medical school faculty who review the academic performance of students and assess students for promotion to the next academic year, or for graduation. The PPC assesses students in the preclinical years, and the SPGC assesses students in the clinical years.

#### **Academic Surveillance, Warning and Probation**

*Good academic standing* is achieved by maintaining a C or better average in all courses/rotations at all times. A student on academic warning or academic probation is not considered to be in good academic standing. To return to good academic standing, a student must remediate the failed courses/rotations, and incur no further failures.

*Advanced standing* is not granted for currently enrolled students. Full credit is granted for course work completed by students transferring from another COCA-accredited institution for the purpose of completing their course of study at AZCOM.

*Academic warning* is issued by the AZCOM Office of the Dean and does not require the student to meet with the Preclinical Promotions Committee, or the Student Promotion and Graduation Committee, when a student is currently failing or has failed a course/rotation. Academic warning represents notice that continued substandard academic performance may compromise the student's ability to pass one or more courses/rotations. Academic warning is not noted on the transcript. A student who is failing a course/rotation is required to meet with the course director or course faculty to formulate a plan of action. A student who is failing more than one course/rotation is required to meet with a representative of the Office of the Dean to formulate a plan to achieve academic success. Students on academic warning are discouraged from holding organizational offices.

*Academic probation* is defined as failure of two or more courses/rotations, or a failure of any level of COMLEX-USA. Academic probation is recommended by the Preclinical Promotions Committee, or the Student Promotion and Graduation Committee, and is issued by the Dean of AZCOM when a student meets this criterion, which represents notice that continued substandard academic performance may result in dismissal. When a student is placed on academic probation it is noted in the student's permanent academic file, and will be reported in the student's Medical Student Performance Evaluation (MSPE). A student on academic probation is required to meet with a representative of the Office of the Dean to formulate a plan for academic success. When a student remediates the failed courses and returns to good academic standing, this is also noted in the student's file. Academic probation is not noted on the transcript. Students on academic probation are ineligible to hold student organization offices, or to participate in international rotations.

### Preclinical Promotions Committee

The Preclinical Promotions Committee (PPC) is charged with maintaining academic and professional standards of excellence in the preclinical courses. At a minimum, the committee meets after the conclusion of each academic quarter to assess the academic status of students with an academic failure, an incomplete, or an in-progress (IP) grade. The committee assesses the progress of each student at the end of the academic year. Students who attain satisfactory academic and professional progress are promoted to the next academic year, provided all tuition and fees have been paid. Students who accumulate two or more failures in the preclinical block, and students in the Extended Study Program (ESP) who accumulate one or more failures in the preclinical block are required to meet with the Preclinical Promotions Committee. Failure of the student to appear

when required may result in disciplinary action, and does not constitute a reason for appeal. Students not in an extended study program who have one failure have the option to meet with the committee, but are not required to meet. Notification of the date, time and place of the committee meeting is sent to the student by priority e-mail to their official MWU e-mail account, or by telephone, at least 48 hours in advance. Decisions of the committee are confidentially e-mailed to the student's official MWU e-mail account. The right to appeal a decision for dismissal or program extension exists and is described elsewhere in this catalog. Appeals must be filed in writing, using the student's official MWU e-mail account, with the Dean of AZCOM within three business days following official notification of the committee decision.

### Preclinical Promotions Committee or Student Promotion and Graduation Committee -- Guidelines for Course and Rotation Failures\*

Didactic Course or Clinical Rotation	Usual Action*	Academic Status	Repeat Course Timing**	Action Following Remediation
All Passed	Promote or Graduate	Good Standing	N/A	N/A
One course or one rotation failure	Retake course/rotation, or extended study program (ESP)	Warning	Summer, ESP, or on committee recommended schedule	Pass: Promote Fail: Dismiss
Any combination of course or rotation failures resulting in two failures	Retake courses/rotations, or extended study program (ESP)	Probation	Summer, ESP, or on committee recommended schedule	Pass both: Promote Fail either: Dismiss
Any combination of course or rotation failures resulting in three failures	Recommend Dismissal			

All course and/or rotation failures are cumulative throughout the duration of enrollment at AZCOM.

\* Action may be modified by the Preclinical Promotion Committee or the Student Promotion and Graduation Committee.

\*\* Course repeat schedule is at the discretion of the Preclinical Promotion Committee, or the Student Promotion and Graduation Committee.

Failures in elective courses and non-core rotations carry the same weight as failures in core curriculum courses.

### Student Promotion and Graduation Committee

The Student Promotion and Graduation Committee (SPGC) meets, as needed, to review academic and professional progress of students in the third and fourth years. Students who attain satisfactory academic and professional progress are promoted to the next academic year, provided all tuition and fees have been paid. Students who accumulate one or more didactic course, or rotation failures, after the preclinical block, students who have failed any section of COMLEX-USA Levels 1, 2CE or 2PE, and students with identified

academic or professional deficiencies are required to meet with the committee. Failure to appear when required may result in disciplinary action. Notification of the date, time, and place of the committee meeting is sent to the student at least two business days in advance by priority e-mail to their official MWU e-mail account, or by telephone. Decisions of the committee are confidentially e-mailed to the affected student using his/her official MWU e-mail account. The right of appeal exists and is described elsewhere in this catalog. Appeals must be filed in writing with the Dean of

AZCOM within three business days following official notification of the committee decision. Failure of the student to meet with the Student Promotion and Graduation Committee, when duly notified, does not constitute a reason for appeal.

The Student Promotion and Graduation Committee also recommends to the Faculty Senate for graduation those students who have successfully completed all curriculum requirements, who have passed COMLEX-USA Level 1 and COMLEX-USA Level 2 CE and Level 2 PE of the National Board of Osteopathic Medical Examiners examinations, and who have paid all tuition and fees.

### **Appeal Process**

Following notification of a decision by the Preclinical Promotions Committee, or the Student Promotion and Graduation Committee, a student may appeal the decision in writing within three business days to the Dean of AZCOM. The Dean may grant an appeal only if a student can demonstrate one of the following:

- Bias of one or more committee members
- Material information not available to the committee at the time of its initial decision (not to include student's decision not to appear at required attendance meeting of the committee)
- Procedural error

During the appeal process, students must continue to attend classes. Failure of the student to meet with the Preclinical Promotions Committee, or the Student Promotion and Graduation Committee, does not constitute a reason for appeal.

### **Attending Off-Campus Meetings, Conferences, Events**

Students interested in attending osteopathic conferences, lobby days, specialty-focused meetings, or any medically or educationally related presentation offered while classes are in session must submit a written request for an excused absence a minimum of 30 days prior to the event date.

Students must be in good academic standing. First and second year students must receive written approval from the course directors of the courses they will miss and from a representative of the Office of the Dean to attend the event. Third and fourth year students should follow the procedure for obtaining an excused absence from rotations as described in the Clinical Clerkship Manual.

Students are advised to wait until approval has been granted prior to making travel arrangements. Any costs incurred due to a student being denied approval to attend an off-campus event are the sole responsibility of the student.

Please refer to the Clinical Clerkship Manual for further information regarding third and fourth year students making similar requests.

### **Clinical Rotation Attendance Policy**

Third and fourth year students must attend all clinical rotations. The Department of Clinical Education establishes its own attendance requirements as stated in the Clinical Clerkship Manual. Attendance and on-call requirements for clinical rotations, as well as AZCOM scheduled events, take precedence over non-rotation events. Students must assure that the requirements of each clinical rotation are understood and will be met prior to scheduling non-rotation events. Refer to the Clinical Clerkship Manual for details.

### **COMLEX-USA Exam Policy**

*Students must pass COMLEX-USA Level 1, COMLEX-USA Level 2 CE and COMLEX-USA Level 2 PE examinations to be eligible to graduate.*

#### *COMLEX-USA Pass Rate and Average Score*

*Historical first-time pass rates and average scores by AZCOM students and graduates for COMLEX-USA Levels 1, 2 CE, 2 PE, and 3 can be found on the AZCOM Fast Facts webpage at [www.midwestern.edu/programs-and-admission/az-osteopathic-medicine.html](http://www.midwestern.edu/programs-and-admission/az-osteopathic-medicine.html)*

#### *COMLEX-USA Eligibility*

The Dean of AZCOM must certify a student is in good academic and professional standing for a student to register for and take COMLEX-USA Level 1, 2CE and 2PE. Students must successfully complete all second year course requirements, and meet other requirements as established by the Office of the Dean, prior to authorization to take COMLEX-USA Level 1. For those students authorized to take COMLEX-USA Level 1, the initial attempt to pass the examination must occur within the timeframe established by the Office of the Dean. Students begin clinical rotations while awaiting results of their first examination attempt.

Students must pass the COMLEX-USA Level 1 examination and meet requirements as established by the Office of the Dean prior to taking COMLEX-USA Level 2 CE and Level 2 PE. For both the Level 2 CE and the Level 2 PE, the initial attempt at each examination must be taken within the timeframe established by the Office of the Dean.

Per National Board of Osteopathic Medical Examiners (NBOME) requirements, the AZCOM Dean may not certify graduates to register for and take the COMLEX-USA Level 3, except under limited circumstances.

The United States Medical Licensing Examination (USMLE) is not a substitute for any component of the COMLEX-USA examination, and does not fulfill a graduation requirement.

#### *COMLEX-USA Level 1*

Any student who fails the COMLEX-USA Level 1 examination on the first attempt will be permitted to complete the clinical rotation in which he/she is participating at the time of the failure notification. The student will be required to complete a program of study as directed by the Dean of AZCOM, or Dean's designee, and may be placed on a mandatory academic leave (not to exceed four months). The student will be placed on academic probation until the passing COMLEX-USA Level 1 score is received.

Any student who fails the COMLEX-USA Level 1 examination a second time will be allowed to complete the clinical rotation in which he/she is participating at the time of failure notification. The student must meet with the Student Promotion and Graduation Committee to determine the most appropriate course of action for the third attempt. The student may be placed into a second directed study program and/or academic leave for a maximum of four months. The student may not participate in rotations until a passing score is received. Upon receipt of a passing score, the student may resume rotations on the next scheduled block.

All retakes of COMLEX-USA Level 1 must be completed within one year of the date of the initial failure. At no time will the student be placed on mandatory or elective leave to prepare for COMLEX-USA Level 1 that will delay student progress to the extent that it would take more than six years from matriculation for him/her to complete the D.O. program.

A student who fails COMLEX-USA Level 1 a third time will be dismissed.

*COMLEX-USA Level 2 CE or Level 2 PE*

Any student who fails the COMLEX-USA Level 2 CE or Level 2 PE examination (with no prior failures of any

COMLEX-USA component) will be required to complete a program of study as directed by the Dean of AZCOM, or their designee, and may be placed on mandatory academic leave (not to exceed four months) as outlined in the Student Promotion and Graduation Committee guidelines. If on an academic leave of absence, the student may resume rotations on the next scheduled block after he/she has taken the examination for the second time and is awaiting the results.

Any student who fails COMLEX-USA Level 2 CE or Level 2 PE a second time (with no prior failures of any other COMLEX-USA component) will be referred to the Student Promotion and Graduation Committee to determine a course of action, which may include a mandatory academic leave of absence not to exceed four months in length. The student will be placed on academic probation until the examination is passed. The student may not return to rotations until a passing score is received. All retakes of COMLEX-USA Level 2 CE and PE must be completed within one year of the date of the initial failure.

Any student who accumulates two COMLEX-USA failures (in any combination of levels/examinations) will be referred to the Student Promotion and Graduation Committee to determine a course of action. The committee will review the student's academic record and use this information to decide whether the student may return to clinical rotations while awaiting the results of their retake, or if they may not return to rotations until a passing score is achieved.

A student who accumulates three COMLEX-USA failures of the same level, or any combination of COMLEX-USA Levels 1, 2 CE or 2 PE examinations, will be recommended for dismissal.

### Student Promotion and Graduation Committee Guidelines for COMLEX-USA Failures\*

Exam	Usual Action*	Academic Status	Repeat Course Timing**	Action Following Retake*
All Passed	Continue in program	Good standing	N/A	N/A
One COMLEX-USA failure	Retake failed COMLEX-USA component after study and remediation plan is complete.	***Academic probation until passed.	Retake period will be recommended by the Student Promotion and Graduation Committee and determined by the Office of the Dean; not to exceed four months.	Pass: Continue in program Fail: See next row
Two COMLEX-USA failures	Retake failed COMLEX-USA component after study and remediation plan is complete.	***Academic probation until passed.	Retake period will be recommended by the Student Promotion and Graduation Committee and determined by the Office of the Dean; not to exceed four months.	Pass: Continue in program Fail: See next row
Three COMLEX-USA failures (any combination of levels)	Recommend Dismissal			

\*Action may be modified by the Student Promotion and Graduation Committee.

\*\* Exam repeat schedule is at the discretion of the Student Promotion and Graduation Committee.

\*\*\* An academic leave of absence is noted on the student's transcript and academic record; probation is noted in the academic record. Both may be reported in the Medical Student Performance Evaluation (MSPE).

#### Course Withdrawal from One or More Courses

Please refer to the Midwestern University section of the catalog under Academic Policies, Withdrawal.

#### Criminal Background Check

AZCOM conducts pre-matriculation criminal background checks as required by Arizona state law. Students are expected to obtain and produce a copy of a fingerprint background card obtained at their own expense upon matriculation. Affiliation agreements may require additional fingerprinting or background checks, which will be done at the student's own expense.

#### Disciplinary Warning/Probation

Disciplinary Warning or Probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 of the Midwestern University Student Handbook. Disciplinary Warning or Probation is not noted on the transcript, but it is kept in the student's permanent academic file. Disciplinary Warning and Probation information may be shared with clinical sites that are affiliated with Midwestern University educational programs and is documented in the Medical Student Performance Evaluation (MSPE).

#### Dismissal

Matriculation in medical school is a privilege, not a right. Therefore, a student may be dismissed for any of the following reasons:

1. Failure to exhibit the personal and professional qualifications prerequisite to the practice of medicine, such as acts of dishonesty, including but not limited to cheating on examinations or course work, and falsification of patient records/logs, verbal reports, or plagiarism
2. Violation of MWU and AZCOM rules and regulations that have been stipulated to be grounds for dismissal
3. Failure to achieve minimum academic standards in courses, rotations, or COMLEX-USA policies as described in the Student Promotion and Graduation tables, Preclinical or Clinical
4. Falsification of admission records
5. Failure to meet and maintain technical standards
6. Irregular behavior during COMLEX-USA testing
7. Conviction of a felony or other criminal offense
8. Failure to report a criminal arrest

Students who fail three or more courses/rotations cumulatively may receive a recommendation for dismissal. Students who have failed any combination of levels of COMLEX-USA three times will be dismissed. The Student Promotions and Graduation Committee and the Preclinical Promotions Committee reserve the right to change their usual actions for reasons of additional consideration. Their

decisions may be appealed to the Dean of AZCOM in accordance with policies found elsewhere in this catalog.

### **Readmission after Dismissal for Poor Academic Performance**

Students who have been dismissed are not eligible for readmission. Students who have withdrawn when facing dismissal are not eligible for readmission.

### **Dual Degree Opportunities**

Selected students who have demonstrated the capacity to successfully manage course work for their primary academic degree, may request to enroll in a second degree program. This can be developed in three different settings:

- Students who are enrolled in one of the Midwestern University (MWU) Master Degree programs in Arizona and are accepted at AZCOM may elect to complete the Master Degree already begun.
- Students who wish to pursue a Master Degree which is not offered at MWU (may include but not be limited to MPH, MBA, MEd) should investigate information about their desired program and discuss with an Office of the Dean representative. Students have a number of options for institutions offering such degrees in the metropolitan area.
- Students who wish to apply for a PhD program anywhere in the United States should investigate information about their desired program and discuss with an Office of the Dean Representative. Typically, those entering a leave of absence to participate in a PhD program will do so between years 2 and 3 of the DO program and may not enter the PhD program until after successfully completing the COMLEX-USA Level 1 examination.

### **Extended Study Program (ESP)**

#### *Academic Extended Study Program*

A student may be placed in the Extended Study Program (ESP) for academic reasons at the recommendation of the Preclinical Promotions Committee. A student placed in ESP for academic reasons is automatically placed on academic probation and may not be returned to good academic standing until all failures are remediated and passed. If a student is placed in ESP, such action does not modify or limit the Preclinical Promotions Committee's recommendation for dismissal. Thus, the student may be dismissed for academic reasons while in ESP.

Students will be assessed tuition for any additional years of instruction while enrolled.

#### *Non-Academic Extended Study Program*

The purpose of this program is to provide additional time to address significant personal issues by creating a program of

study that allows students to complete the first two years of the curriculum in three years. Students must petition the Dean of AZCOM to become an ESP student no later than the completion of 50% of a quarter. Requests received after that time are reviewed by the Dean and granted only for reasons of substantiated hardship or medical emergency. Students who voluntarily enter ESP may be permitted to retake courses over the summer, at AZCOM or another approved institution, at the discretion of the Preclinical Promotions Committee. Students will be assessed tuition for any additional years of instruction.

### **Grade Point Average**

Courses are recorded in terms of quarter hour(s) of credit. Multiplication of the credits for a course by the numeric value for the grade awarded gives the number of quality points earned for a course. Dividing the total number of quality points earned in courses by the total number of credits in those courses gives the grade point average. Grades reported as Pass (P), Withdrawal (W), or Withdrawal Failing (WF) are recorded on the student's permanent record but are not used in the calculation of the student's grade point average.

The student's session and cumulative grade point averages are computed and recorded by the Office of the Registrar. The grade point average is calculated at the end of each session and at the end of the academic year, and does not include grades or credits for audited courses, or courses with a grade of Withdrawal (W), Withdrawal Failing (WF), or Failed (F) courses that were later repeated. The grades for transfer courses required by the University or College (e.g. to remediate a failed course) are included in the grade point average (see Grade for Retaken Course, below). Other credits accepted for transfer are not included in the grade point average calculation.

### **Grade for Retaken Course**

If a student receives a failing grade, that grade is recorded on the transcript as a letter grade (an "F" entry). Upon repetition of a failed course, the original grade of "F" remains on the transcript, and the repeated course and new grade are entered on the transcript. The grade for a failed course repeated and passed at Midwestern University, or at an outside institution is recorded on the transcript as a grade of "C." For all failed clinical rotations at Midwestern University that are repeated and passed, a grade of "C" will be recorded on the transcript. For both preclinical coursework and clinical rotations that are repeated, the original failing grade will remain on the transcript but will not be included in the GPA calculations. The grade of "C" will be included in the GPA calculation. If a repeated preclinical course or clinical rotation is failed, a grade of "F" is again recorded on the transcript. Students who fail a course a second time will be recommended for dismissal.



## Grading System

Students receive letter grades corresponding to the level of achievement in each course, based on the results of examinations, required course work, and, as applicable, other established criteria. The letter grades, percent ranges, and quality points per credit are as follows:

Grade	Percent (%)	Quality Points (per credit)	Comments
A	93-100	4.000	--
A-	90-92	3.670	--
B+	87-89	3.330	--
B	83-86	3.000	--
B-	80-82	2.670	--
C+	77-79	2.330	--
C	70-76	2.000	--
F	<70	0.000	--
I	--	0.000	An Incomplete grade may be assigned by a course director when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades must be resolved within 10 calendar days from the end of finals for the quarter. In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade, with notice to the Registrar. If an incomplete grade remains beyond 10 days, it may be converted to a grade of "F," which signifies failure of the course.
IP			In Progress grades may be assigned by a course director under certain circumstances (illness, family death, etc.) when incomplete work cannot be resolved within a 10-day period. An outstanding grade should not extend for more than one quarter with notification to the Registrar.
P	--	0.000	A Pass designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of 'P' is counted toward credit hour accruals for graduation but is not counted in any GPA calculations.
W	--	0.000	Withdrawal is given if the grade achieved up to the time of the withdrawal is >70% or >C. Withdrawal is not counted in the GPA calculation, and is not counted in credit hour accrual for graduation. Refer to Midwestern University academic policies for more information.
W/F	--	0.000	A Withdrawal/Failing is given after 50% of a course is completed and the grade achieved up to the time of withdrawal is <70% or <C. Withdrawal/Failing is not counted in the GPA calculation, and is not counted in credit hour accrual for graduation. Withdrawal/Failing may be considered as a failure by the Preclinical Promotions Committee or Student Promotion and Graduation Committee. Refer to Midwestern University academic policies for more information.
AU	--	0.000	This designation indicates an audited course, that is, a student registered for a course with the understanding that neither academic credit nor a grade is earned. The course status may not be changed from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
PG	--	0.000	The designation of PG indicates a pending grade.

*These grading scales apply to all courses unless otherwise noted in the course syllabus.*

### **Immunization and Screening Policy**

Full-time students enrolled in a program with a clinical component are required to follow the immunization and screening policy as outlined in the general screening policy section of the Midwestern University Student Handbook. Immunization requirements for AZCOM students are subject to current applicable state health department protocol and affiliated site/hospital rotation requirements. Students who do not follow the immunization and screening policy by the stated deadline may jeopardize their acceptance or continued enrollment in the College. If, at any time, testing attestation of disease-free state, or immunizations expire, students may be placed on a mandatory leave of absence until such time that they are in full compliance with this requirement.

### **Health Insurance Coverage Policy**

AZCOM students are required to follow the health insurance policy as outlined in the Midwestern University Student Handbook. Insurance requirements for AZCOM students are subject to state health department protocol and affiliated hospital rotation requirements. AZCOM students insured by Medicaid must purchase a personal commercial policy to cover themselves when outside of their home state. AZCOM students who do not follow the insurance policy by the stated deadline may jeopardize their acceptance or continued enrollment in the College. Proof of insurance will be required annually.

### **Liaison Structure**

#### *Student/Faculty Liaison Committee, First and Second Years*

These two committees consist of a faculty liaison who is involved in the first or second year curriculum and two students elected by the first and second year classes. The faculty liaison is appointed by the Dean of AZCOM, and each class elects student liaisons according to the guidelines stated in the current Midwestern University Student Handbook. The student liaisons and the faculty liaisons generally meet once a quarter to discuss questions the class may have regarding University policy, academic and nonacademic issues that relate to the teaching environment in the first and second years. The faculty liaison reports on meetings that have taken place at the Dean's Advisory Council meetings.

#### *Student/Faculty Liaison Committee, Third and Fourth Years*

This committee consists of the AZCOM Associate Dean for Clinical Education and other faculty members of the Department of Clinical Education. The president of the third and fourth year classes are the student representatives. The committee generally meets on an as-needed basis to discuss questions the class may have regarding University policy, academic and nonacademic issues that relate to the teaching environment in the third and fourth years. One of the faculty

liaisons reports on meetings that have taken place at the Dean's Advisory Council meetings.

#### *Dean's Advisory Council*

The Dean's Advisory Council serves as a forum for communication between faculty, staff and student leaders. The faculty liaisons from the Student/Faculty Liaison Committees are members of Dean's Advisory Council. Meetings are scheduled at the discretion of the Dean of AZCOM.

### **Promotion Policy**

Students must meet all requirements for their class year in order to be promoted to the next class year.

### **Supervision of Medical Students by Licensed Healthcare Providers**

While on clinical rotations, medical students must have direct, on-premises supervision by licensed healthcare providers within their scope of practice and with appropriate qualifications in their disciplinary fields who are licensed to practice medicine in the state in which care is being provided. In the case of physicians, the physician must be AOA or ABMS board certified/eligible to serve as a preceptor or clinical faculty member.

Any licensed healthcare provider, as defined above, who is designated as a teacher for AZCOM students, is recognized to be a member of the extended faculty. Any health professional providing health services to a student, through a therapeutic relationship, must recuse him/herself from the academic assessment or promotion of the student receiving those services.

## **MWU/OPTI: MIDWESTERN UNIVERSITY OSTEOPATHIC POSTDOCTORAL TRAINING INSTITUTION**

*Historical match rates to graduate medical education programs accredited by the American Osteopathic Association, Accreditation Council for Graduate Medical Education can be found on the AZCOM Program Statistics webpage at [www.midwestern.edu/academics/degrees-and-programs/doctor-of-osteopathic-medicine-az/program-statistics.xml](http://www.midwestern.edu/academics/degrees-and-programs/doctor-of-osteopathic-medicine-az/program-statistics.xml)*

Through its membership in the Midwestern University Osteopathic Postdoctoral Training Institution (MWU/OPTI), AZCOM offers a continuity of osteopathic medical education from the first year of medical school to the final year of postdoctoral training. Internship, residency and fellowship programs cover a wide spectrum of medical specialties. Encompassing one of the nation's largest sets of postdoctoral programs dedicated to the osteopathic philosophy of medicine, the AZCOM and MWU/OPTI medical education continuum is broad reaching in scope,

resulting in a multifaceted approach to graduate medical education that focuses on primary care. With unique predoctoral and postdoctoral teaching and training opportunities at some of the finest health care facilities in the Midwest and Southwest, as well as around the country, AZCOM and MWU/OPTI affiliated hospitals consistently lead the nation in terms of cutting-edge technology, treatment and care.

MWU/OPTI postdoctoral programs include residencies in primary disciplines, and fellowship programs in many subspecialties, and traditional internships. Programs follow the guidelines of, and receive accreditation from, the Accreditation Council for Graduate Medical Education (ACGME). The MWU OPTI has received continuing accreditation from ACGME as an institutional sponsor since 2018.

Residency or fellowship training is offered through the MWU/OPTI in the following disciplines:

Cardiology  
Critical Care  
Dermatology  
Emergency Medicine  
Family Medicine and Osteopathic Manipulative Medicine  
Gastroenterology  
General Surgery  
Hematology/Oncology  
Internal Medicine  
Interventional Cardiology  
Neuromuscular Medicine Plus One  
Neurosurgery  
Obstetrics/Gynecology  
Orthopedic Surgery  
Pulmonary Critical Care  
Radiology, Diagnostic  
Rheumatology  
Urologic Surgery

## AOA CODE OF ETHICS

AZCOM faculty has adopted the Code of Ethics established by the American Osteopathic Association:

The American Osteopathic Association (AOA) has formulated this Code to guide its member physicians in their professional lives. The standards presented are designed to address the osteopathic physician's ethical and professional responsibilities to patients, to society, to the AOA, to others involved in health care and to self.

Further, the American Osteopathic Association has adopted the position that physicians should play a major role in the development and instruction of medical ethics.

**Section 1.** The physician shall keep in confidence whatever she/he may learn about a patient in the discharge of

professional duties. The physician shall divulge information only when required by law or when authorized by the patient.

**Section 2.** The physician shall give a candid account of the patient's condition to the patient or to those responsible for the patient's care.

**Section 3.** A physician-patient relationship must be founded on mutual trust, cooperation and respect. The patient, therefore must have complete freedom to choose her/his physician. The physician must have complete freedom to choose patients who she/he will serve. However, the physician should not refuse to accept patients for reasons of discrimination, including, but not limited to, the patient's race, creed, color, sex, national origin, sexual orientation, gender identity or handicap. In emergencies, a physician should make her/his services available.

**Section 4.** A physician is never justified in abandoning a patient. The physician shall give due notice to a patient or to those responsible for the patient's care when she/he withdraws from the case so that another physician may be engaged.

**Section 5.** A physician shall practice in accordance with the body of systematized and scientific knowledge related to the healing arts. A physician shall maintain competence in such systematized and scientific knowledge through study and clinical applications.

**Section 6.** The osteopathic medical profession has an obligation to society to maintain its high standards and, therefore, to continuously regulate itself. A substantial part of such regulation is due to the efforts and influence of the recognized local, state and national associations representing the osteopathic medical profession. A physician should maintain membership in and actively support such associations and abide by their rules and regulations.

**Section 7.** Under the law a physician may advertise, but no physician shall advertise or solicit patients directly or indirectly through the use of matters or activities, which are false or misleading.

**Section 8.** A physician shall not hold forth or indicate possession of any degree recognized as the basis for licensure to practice the healing arts unless he is actually licensed on the basis of that degree in the state in which she/he practices. A physician shall designate her/his osteopathic school of practice in all professional uses of her/his name. Indications of specialty practice, membership in professional societies, and related matters shall be governed by rules promulgated by the American Osteopathic Association.

**Section 9.** A physician should not hesitate to seek consultation whenever she/he believes it advisable for the care of the patient.

**Section 10.** In any dispute between or among physicians involving ethical or organizational matters, the matter in controversy should first be referred to the appropriate arbitrating bodies of the profession.

**Section 11.** In any dispute between or among physicians regarding the diagnosis and treatment of a patient, the attending physician has the responsibility for final decisions, consistent with any applicable osteopathic hospital rules or regulations.

**Section 12.** Any fee charged by a physician shall compensate the physician for services actually rendered. There shall be no division of professional fees for referrals of patients.

**Section 13.** A physician shall respect the law. When necessary a physician shall attempt to help to formulate the law by all proper means in order to improve patient care and public health.

**Section 14.** In addition to adhering to the foregoing ethical standards, a physician shall recognize a responsibility to participate in community activities and services.

**Section 15.** It is considered sexual misconduct for a physician to have sexual contact with any current patient whom the physician has interviewed and/or upon whom a medical or surgical procedure has been performed.

**Section 16.** Sexual harassment by a physician is considered unethical. Sexual harassment is defined as physical or verbal intimation of a sexual nature involving a colleague or subordinate in the workplace or academic setting, when such conduct creates an unreasonable, intimidating, hostile or offensive workplace or academic setting.

**Section 17.** From time to time, industry may provide some AOA members with gifts as an inducement to use their products or services. Members who use these products and services as a result of these gifts, rather than simply for the betterment of their patients and the improvement of the care rendered in their practices, shall be considered to have acted in an unethical manner. (Approved July 2003)

**Section 18.** A physician shall not intentionally misrepresent himself/herself or his/her research work in any way.

**Section 19.** When participating in research, a physician shall follow the current laws, regulations and standards of the United States or, if the research is conducted outside the United States, the laws, regulations and standards applicable to research in the nation where the research is conducted. This standard shall apply for physician involvement in research at any level and degree of responsibility, including, but not limited to, research, design and funding either as examining and/or treating provider, supervision of other staff in their research, analysis of data and publication of results in any form for any purpose.

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Oklahoma State University, College of Osteopathic Medicine  
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Professor

**Lawrence Sands, D.O., M.P.H., Vice Chair**

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Medicine  
Associate Professor

**Danielle Barnett-Trapp, D.O.**

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Assistant Professor

**Julie Browne, PA-C**

Midwestern University, College of Health Sciences  
Assistant Professor

**George Chen, D.O.**

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**William Devine, D.O.**

Kansas City University of Medicine and Biosciences, College  
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Professor

**Richard Dobrusin, D.O.**

New York College of Osteopathic Medicine  
Associate Professor

**Gary Gailius, D.O.**

Midwestern University, Arizona College of Osteopathic  
Medicine  
Associate Professor

**Reina M. Gamez, M.M.S., PA-C**

Methodist College  
Assistant Professor

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**Michelle Mifflin, D.O.**

Oklahoma State University, College of Osteopathic Medicine  
Assistant Professor

**Gary Nakken, D.O.**

Rocky Vista University, College of Osteopathic Medicine  
Assistant Professor

**Carlton Richie, D.O.**

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Medicine  
Associate Professor

**Anthony Will, D.O.**

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**Ekaphol (Hank) Wooden, D.O.**

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Medicine  
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**Katherine Worden, D.O.**

Postdoctoral OPP/OMM Education and Research  
Faculty Liaison OMM Scholarship Program  
Michigan State University, College of Osteopathic Medicine  
Professor

**Andrew Yorgason, D.O.**

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**Dana S. Devine, D.O.**

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**Parveen Ranjan, M.D.**

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## DEPARTMENT OF PHARMACOLOGY

**Pamela E. Potter, Ph.D., Chair**

Dalhousie University  
Professor

**Gerald Call, Ph.D.**

University of Kansas Medical Center  
Professor

**Douglas Jones, Ph.D.**

University of Texas  
Associate Professor

**Laszlo Kerecsen, M.D.**

Medical School of Debrecen  
Professor

**Shaleen Korch, Ph.D.**

University of North Dakota  
Associate Professor

## DEPARTMENT OF PHYSIOLOGY

**Layla Al-Nakkash, Ph.D., Chair**

University of Newcastle-Upon-Tyne  
Professor

**Thomas L. Broderick, Ph.D.**

University of Alberta  
Professor

**Christopher R. Olson, Ph.D.**

Iowa State University  
Assistant Professor

**Michael C. Quinlan, Ph.D.**

Arizona State University  
Associate Professor

**Ann Reville, Ph.D.**

University of Arizona  
Assistant Professor

**Tobias Riede, Ph.D.**

Humboldt - University of Berlin, Germany  
Associate Professor

**Johana Vallejo-Elias, Ph.D.**

University of Missouri  
Professor

**John Vandebrooks, Ph.D.**

Yale  
Associate Professor

## DEPARTMENT OF SURGERY AND ANESTHESIA

**Alexandra Hollingworth, M.D., Chair**

Ross University, School of Medicine  
Assistant Professor

**Marc Brandon, M.D.**

Baylor College of Medicine  
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**Ann Cheri Foxx, M.D.**

Medical University of South Carolina  
Assistant Professor

**Tanja Lea Gunsberger, D.O.**

Kansas City University of Medicine and Biosciences, College  
of Osteopathic Medicine  
Assistant Professor

**Mary Wojnakowski, CRNA, Ph.D.**

University of Pittsburgh  
Professor

# COLLEGE OF PHARMACY-GLENDALE

## MISSION

The mission of Midwestern University College of Pharmacy-Glendale is to prepare pharmacists who will provide exceptional patient care, participate in critical inquiry and scientific research, and advance public health and wellness.

## VISION

To excel in pharmacy education.

## CORE VALUES

### Excellence

We work to achieve and maintain the highest standards in all our endeavors.

### Integrity

We value honesty, ethical decision-making, and caring.

### Professionalism

We encourage respect for others, accountability to our stakeholders, and responsibility for one's actions.

### Service & Collaboration

We are committed to working with other academic, community, patient and professional organizations to foster collaboration for the improvement of the public health and society.

## ACCREDITATION

Midwestern University College of Pharmacy-Glendale's Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 190 S. LaSalle Street, Suite 2850, Chicago, IL 60603; 312/664-3575; Fax 866/228-2631; website [www.acpe-accredit.org](http://www.acpe-accredit.org).

## DEGREE DESCRIPTION

At the College, students pursue the Doctor of Pharmacy (Pharm.D.) degree. The Pharm.D. Program prepares the student for entry into the profession of pharmacy. The entire program requires a total of five years of coursework, the first two years at another college and the final three calendar years at the College of Pharmacy-Glendale (CPG). On a year-round basis students complete required courses emphasizing

the basic and pharmaceutical sciences, social and administrative sciences, pharmacy practice, elective professional courses, and clinical/experiential education. The curriculum is organized on a sequential, professional year basis [i.e. students will progress, in order, through the First Professional Year (PS-1), Second Professional Year (PS-2), and Third Professional Year (PS-3) as outlined below]. Additional information on progression is found in Student Academic Policies.

Students will participate with interprofessional healthcare team members in the management of and health promotion for all patients. Students will learn and implement the Pharmacists' Patient Care Process to establish patient-pharmacist relationships and provide patient-centered care.

## ADMISSIONS

CPG considers for admission those applicants who possess the academic and professional promise necessary for development as outstanding members of the pharmacy profession. The admissions process is highly selective so applicants are strongly encouraged to apply early in the process as the majority of the class is expected to be filled by early January.

Evaluation of completed applications will begin in July and continue until all seats in the class are filled. This initial evaluation will determine which applicants are eligible for on-campus interviews, and a final evaluation will determine which applicants are eligible for acceptance. Multiple criteria are used to select the most qualified candidates in a competitive admissions environment in which the applicant pool exceeds the number of seats available. Grade point averages (GPAs), letters of recommendation, professional preparedness and motivation, personal qualities, communication skills, teamwork skills, and decision-making skills will all be considered when applicant files are reviewed.

### Admissions Requirements

Students seeking admission to CPG must submit the following documented evidence:

1. Completion of 62 semester hours or 90 quarter hours of nonremedial, prerequisite coursework from regionally accredited U.S. colleges or universities, or



recognized postsecondary Canadian institutions that use English as its primary language of instruction and documentation.

- Grades of C or better for prerequisite courses (not C-)
  - Preferred minimum cumulative GPA and science GPAs of 2.50 on a 4.00 scale.
2. Completion of prepharmacy coursework requirements by the end of spring semester or spring quarter prior to matriculation to CPG.
  3. No Pharmacy College Admissions Test (PCAT) score is required for admission. However, if an applicant's cumulative and science GPAs are below 2.75, then the submission of PCAT scores is preferred to enhance the application.
    - Applicants currently applying to another college within Midwestern University may have scores from the MCAT, DAT, or OAT transferred.
    - Current MWU students wishing to apply to the College of Pharmacy may have scores from the MCAT, DAT, or OAT transferred.
    - Competitive test scores no more than 5 years prior to the planned enrollment year.
  4. Demonstration of a people or service orientation through community service or extracurricular activities.
  5. Motivation for and commitment to the pharmacy profession as demonstrated by previous work, volunteer work, or other life experiences.
  6. Oral and written communication skills necessary to interact with patients and colleagues.
  7. Completion of the CPG on-campus interview process (by invitation only).
  8. Passing the Midwestern University criminal background check.
  9. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

### Prerequisite Courses

Course(s)	Semester Hrs	Quarter Hrs
English Composition	6	9
Biology with laboratory (for science majors)	8	12
Anatomy (human or vertebrate)	3	4
General Chemistry with laboratory (for science majors)	8	12
Organic Chemistry with laboratory (for science majors)	8	12
Physics (for science majors - <i>mechanics, heat, force, and motion must be included in the course</i> )	3	4
Calculus	3	4
Statistics	3	4
Speech (public speaking)	3	4
Economics (micro, macro, or general)	3	4
Social Sciences (divided among <i>psychology, sociology, anthropology, or political sciences</i> )	6	9
General Education (courses should be divided among <i>humanities, fine arts, foreign language, business, or computer sciences. Science, math, physical education and healthcare courses are NOT acceptable</i> )	8	12
Total Credit Hours	62	90

## Application Process and Deadlines

Applicants must submit a completed PharmCAS application by the stated PharmCAS deadline.

### Regular Decision PharmCAS Application

Applicants must apply via the online PharmCAS application ([www.pharmcas.org](http://www.pharmcas.org)) which is available usually in July of the academic year preceding the year in which applicants plan to matriculate. Please refer to the PharmCAS application instructions for specific details about completing PharmCAS applications, required documents, and processing time. Applicants who have taken coursework or earned degrees from foreign institutions must also submit to PharmCAS an evaluation of their transcripts from an approved foreign transcript evaluation service (see International Applicants).

The deadline for submitting the PharmCAS application is May 1, 2021. In addition to the online application and application fee, applicants are strongly encouraged to forward official transcripts from all colleges and universities attended to PharmCAS by the May 1st date. PharmCAS will not consider applications complete and will not begin the verification process until all official transcripts have been received.

Students are encouraged to complete their PharmCAS applications early in the cycle. CPG will consider completed applications on a first-come, first-served basis until all seats are filled.

### 1. Pharmacy College Admissions Test (PCAT)

No PCAT score is required for admission, however, it is preferred that applicants whose cumulative and Science GPAs are below 2.75 arrange for direct submission of scores from the Pharmacy College Admissions Test (PCAT) to the Pharmacy College Application Service (PharmCAS) using PCAT code 104 (PharmCAS).

- Applicants currently applying to another college within Midwestern University may have scores from the MCAT, DAT, or OAT transferred.
- Current MWU students wishing to apply to the College of Pharmacy may have scores from the MCAT, DAT, or OAT transferred.

CPG will only accept PCAT scores received directly from PharmCAS (see Admission Requirements for more details). PCAT scores sent directly to the Office of Admissions will not be accepted. This exam is offered by Pearson Assessment, 800/622-3231 or [www.pcatweb.info](http://www.pcatweb.info). The exam is typically offered multiple times per year. Only test scores earned no more than 5 years prior to the planned enrollment year are accepted.

*Please Note:* It is highly recommended that applicants take the July, September, October or November PCAT exam in the year prior to their planned matriculation. Please check with Pearson Assessment for more details regarding the exam dates.

2. The College of Pharmacy – Glendale has an early assurance pathway and an agreement to hold seats for qualified applicants from affiliated programs.

### Pre-Pharmacy Advantage Program (PPAP)

The PPAP is a cost-effective, early assurance program for select students enrolled in affiliated community colleges. The program provides students who are motivated to become pharmacists with a clear path to achieving their goal. Students admitted to the PPAP are required to:

- Complete their prerequisite requirements during the first two years at an affiliated college or university;
- And then transition into Midwestern University's College of Pharmacy - Glendale to begin a three-year Doctor of Pharmacy (Pharm.D.) program.

At the end of five years the successful PPAP student will earn a Pharm.D. degree enabling him or her to embark upon an exciting career in this high-demand healthcare field. Benefits of the PPAP include:

- An Associate's Degree in Science is earned upon completion of pre-pharmacy coursework.
- An excellent foundation for pharmacy education.
- A clear road map for what courses to take and when.
- Direct entry into MWU CPG upon successful completion of program requirements.

### Arizona Christian University (ACU) Articulation Agreement

The ACU Articulation Agreement guarantees interviews and reserves seats in the class for qualified students who fulfill certain requirements. CPG will: Reserve a minimum of 5 seats for students who achieve a minimum of a 3.25 cumulative and science GPA.

3. Letters of Recommendation  
Applicants must submit two letters of recommendation from two professionals directly to PharmCAS. CPG will only accept letters received directly from PharmCAS. It is preferred that one letter be written by a college professor who has actually taught the applicant or a prehealth advisory committee, science professor, or health professional who knows the applicant well. Please refer to the PharmCAS application instructions for specific guidelines and requirements for submitting letters of recommendation. The deadline for submission of the letters of recommendation is March 1st.

4. Completed Applications  
All application materials, including the PharmCAS application, verification of transcripts by PharmCAS, and two letters of recommendation (submitted to PharmCAS), must be received by the Office of Admissions on or before the deadline date of May 1st to be reviewed for potential entrance into the College.

*Please Note:* Applicants are responsible for tracking the receipt of their application materials and verifying the status of their applications on the University website. The Office of Admissions will send qualified applicants instructions for creating an account. Applicants must create and utilize their account to track and check their application status online. Applicants are also responsible for notifying the Office of Admissions of any changes in their mailing address or e-mail address:

Midwestern University  
Office of Admissions  
19555 North 59th Avenue  
Glendale, AZ 85308  
623/572-3215 or 888/247-9277  
admissaz@midwestern.edu

### **Interview and Selection Process**

The Director of Admissions and the Admissions Committee review applicant files when complete to determine applicant eligibility for interviews. Invitations are sent to eligible applicants for on-campus interviews, which are scheduled on a first-call, first-scheduled basis. No interviews will be granted until the application process is complete. Interview invitations typically extend from September through April.

During the interview process, applicants will meet with an interview panel that may consist of pharmacy faculty members, pharmacists, and pharmacy students. Panel members will evaluate professional motivation and preparedness, personal qualities, communication skills, and decision-making ability by rating applicants on a standardized evaluation scale. After reviewing the applicant's completed application and interview evaluation, the

Admissions Committee recommends accepting, denying, or placing applicants on an alternate list. Recommendations are then forwarded to the Dean for final approval.

Applications to CPG are processed and reviewed during regular intervals in the admissions cycle until the class is filled.

The Pharm.D. Program at CPG is rigorous and challenging. The Admissions Committee will therefore assess the quality and rigor of the prepharmacy academic records presented by applicants. When assessing the prepharmacy academic records, the Admissions Committee will:

1. View applicants with cumulative and science grade point averages below 2.75 on a 4.00 scale with particular concern. Although 2.50 on a 4.00 scale is the preferred minimum cumulative and science GPA for admission consideration, higher cumulative GPAs are more competitive and recommended.
2. When submitted, view component and composite PCAT scores below average with particular concern, although there are no minimum PCAT scores, and a PCAT score is not required for admission.
3. View with concern applicants whose prepharmacy math and science coursework was completed longer than 10 years ago. More recent (within five years) prepharmacy math and science coursework is preferred.
4. Consider the reputations for quality and rigor of the institutions where applicants have taken coursework, the extent of completion of science prerequisites, the usual credit load carried per term, the difficulty level of previous coursework, and trends in the applicant's grades.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses. (The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete physical examination of a patient/client)
2. **Communication:** The candidate must be able to communicate in English, proficiently and

- sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to lift 20 lbs vertically and horizontally..
  4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
  5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt, completion of all responsibilities and the development of mature, sensitive, and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for

accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and promotion Committee.

### **Reapplication Process**

After receiving either denial or end-of-cycle letters, applicants may reapply to CPG for the next enrollment cycle. Before reapplying, however, applicants should seek the advice of an admissions counselor. To initiate the reapplication process, applicants must submit new applications to PharmCAS. Applications are then processed by the standard application procedures.

### **Transfer Admission from Another Pharmacy School**

CPG may accept transfer students from other ACPE-accredited pharmacy schools or colleges who are currently enrolled, are in good academic standing, and provide legitimate reasons for seeking transfer.

All requests for transfer information should be referred to the Office of the Dean where potential transfer applicants can receive counseling prior to receiving and submitting their applications.

Students requesting transfers must meet CPG's general requirements for admission. They must also submit the following documents by January 15th:

1. A letter to the Director of Admissions indicating their reasons for requesting transfer and explaining any difficulties encountered at their current institutions;
2. A completed CPG transfer application;
3. Official transcripts from all schools attended- undergraduate, graduate, and professional;
4. Catalogs and detailed pharmacy syllabi for any courses for which advanced standing consideration is requested;
5. A letter from the Dean of the college of pharmacy in which the student is enrolled that describes their current academic status and terms of withdrawal or dismissal;
6. One letter of recommendation from a faculty member at the current college of pharmacy;
7. Additional documents or letters of recommendation as determined by the Director of Admissions or Dean.

The Office of Admissions will collect and forward student portfolios to the Office of the Dean for review. When reviews are positive, candidates will be invited for interviews and their applications will be forwarded to the Admissions Committee which will provide a recommendation. When transferring students are admitted and request advanced standing, the

Office of the Dean will forward these student requests to the appropriate faculty. No advanced standing credit will be awarded for professional pharmacy coursework completed at a foreign college of pharmacy.

### **Readmission After Dismissal for Poor Academic Performance**

Students dismissed for poor academic performance may reapply for admission to CPG if they:

1. Seek academic counseling from the Office of the Dean prior to enrolling in the required advanced prepharmacy curriculum;
2. Complete at least two semesters or three quarters of full-time study (i.e., at least 15 credit hours per semester or quarter) of a curriculum at the advanced prepharmacy level or higher at a regionally accredited U. S. college or university;
3. Earn grades of at least C (not C-) in all courses taken;
4. Maintain a cumulative GPA of 2.50 or better.

Students fulfilling these requirements will be permitted to reapply to the University and CPG. Students should obtain their applications from the Office of the Dean and not through PharmCAS. Completed readmission applications must be submitted by February 15th to the Office of the Dean. The completed application of reapplying PS-1 students will be forwarded to the Admissions Committee for review and recommendation. The completed application of a reapplying PS-2 or PS-3 student will be forwarded by the Office of the Dean to the Student Promotion and Graduation Committee for review and recommendations. The respective committees will review applications for evidence of improved academic potential. Committee recommendations are forwarded to the Dean for final action.

No guarantee of admission is implied, and questions related to advanced standing and similar issues will be addressed as they are for new applicants. Readmission will be granted only once.

## **GRADUATION REQUIREMENTS**

The degree Doctor of Pharmacy (Pharm.D.) is conferred upon candidates of good moral character who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements. All graduating students are also required to attend the ceremony at which the degree is conferred, unless excused by the Dean.

Candidates for graduation must be of good moral character consistent with the requirements of the pharmacy profession and CPG faculty. It is the position of the faculty that anyone who uses, possesses, distributes, sells, or is under the influence of narcotics, dangerous drugs, or controlled substances, or who abuses alcohol or is involved in any conduct involving

moral turpitude, fails to meet the ethical and moral requirements of the profession and may be dismissed from any program or denied the awarding of any degree from CPG.

To qualify for graduation, a student must have satisfied the following requirements:

1. Successfully completed a minimum 90 quarter credit hours or 62 semester credit hours of prerequisite core basic science and general education course work, as stipulated, for full admission to the program;
2. Successfully completed the 203 quarter credit hours of the program of professional and experiential coursework approved by the CPG faculty and Dean;
3. Attained a cumulative grade point average of 2.00 (C) for all requisite professional and experiential coursework at CPG;
4. Achieved a cumulative rotation grade point average for rotations of 2.00 or greater;
5. Repeated, upon approval, and earned a passing grade for any required courses in the professional program for which a grade of "F" has been issued;
6. Successfully completed, at a minimum, the last 4 didactic quarters and all experiential rotations at CPG;
7. Been recommended for the degree by a majority vote of the CPG Student Promotion and Graduation Committee;
8. Settled all financial accounts with the University;
9. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

Graduates are responsible for providing a permanent address to the Registrar so that official documents can be forwarded.

## **LICENSURE REQUIREMENTS**

Laws in all states, including the District of Columbia and Puerto Rico, require applicants for licensure to: 1) be of good moral character; 2) be 21 years of age (Arizona is an exception); 3) have graduated from a Doctor of Pharmacy degree program of an ACPE-accredited college or school of pharmacy; and 4) have passed two examinations given by the board of pharmacy. All states, the District of Columbia, Puerto Rico, and the Virgin Islands use the North American Pharmacy Licensure Examination (NAPLEX) and NABP Multistate Pharmacy Jurisprudence Examination (MPJE).

All jurisdictions require candidates for licensure to have a record of practical experience or internship training acquired under the supervision and instruction of a licensed practitioner. Some states, including Arizona, accept the training completed during a formal academic program, e.g., CPG's Pharm.D. Program.

Midwestern University College of Pharmacy-Glendale's Doctor of Pharmacy program meets the educational requirements for licensure to practice as a pharmacist in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

*Special Note:* Licensure in the states of Arkansas and South Dakota requires an additional 240 hours of pharmacy practice experiences.

Midwestern University College of Pharmacy-Glendale has not made a determination that its Doctor of Pharmacy Program curriculum meets the territorial educational requirements for licensure or certification in the following territories: Puerto Rico and the U.S. Virgin Islands. Students in this program receive a direct notification that Midwestern University has not made a determination if their program meets the requirements in the above listed territories.

Publications concerning the NAPLEX licensure examination and internship experience are available from the National Association of Boards of Pharmacy, 1600 Feehanville Drive, Mount Prospect, IL 60056; 847/391-4406, www.nabp.pharmacy.

For further information regarding licensure, please contact the Office of the Dean.

## CURRICULUM

CPG reserves the right to alter its curriculum however and whenever it deems appropriate.

Total Quarter Credits in the Professional Program: 203

### First Professional Year:

Total Quarter Credit Hours Required: 68.5

#### Summer Quarter

BIOCG	1551	Biochemistry	3
PHYSG	1501	Human Physiology 1	3
PPRAG	1501	Professional Skills Development 1	3.5
PPRAG	1533	Patient Decision Making	3

PPRAG	1534	Public Health and Disease Prevention	2
PPRAG	1591	Introduction to Pharmacy Practice	1
PSCIG	1540	Pharmaceutical Calculations	2
<b>Total</b>			<b>17.5</b>

#### Fall Quarter

COREG	1560C	Interprofessional Healthcare	0.5
MICRG	1553	Immunology	3
PHYSG	1502	Human Physiology 2	3
PPRAG	1502	Professional Skills Development 2	3
PPRAG	1535	Community Partnership in Public Health (1/2 of the class)	1.5
PPRAG	1571	Healthcare Systems	3
PSCIG	1541	Pharmaceutics 1	4
<b>Total</b>			<b>16.5/18</b>

#### Winter Quarter

BIOCG	1552	Molecular Biology and Human Genetics	2
COREG	1570C	Interprofessional Healthcare	0.5
PHIDG	1501	Integrated Sequence 1	4
PHIDG	1502	Integrated Sequence 2	4
PPRAG	1503	Professional Skills Development 3	2
PPRAG	1535	Community Partnership in Public Health (1/2 of the class)	1.5
PSCIG	1542	Pharmaceutics 2	4
<b>Total</b>			<b>16.5/18</b>

#### Spring Quarter

COREG	1580C	Interprofessional Healthcare	0.5
MICRG	1513	Microbiology	3
PHIDG	1503	Integrated Sequence 3	4
PPRAG	1504	Professional Skills Development 4	2.5
PPRAG	1524	Pharmacy Law and Public Policy	2.5
PSCIG	1564	Pharmacokinetics and Biopharmaceutics	4

**Total** **16.5**

**Second Professional Year:**

Total Quarter Credit Hours Required: 65

**Summer Quarter**

PPRAG 1694 Introductory Community Experience 6

PPRAG 1695 Introductory Institutional Experience 6

**Total** **12**

**Fall Quarter**

PHIDG 1604 Integrated Sequence 4 4

PHIDG 1605 Integrated Sequence 5 4.5

PPRAG 1605 Professional Skills Development 5 1.5

PPRAG 1665 Ethical Decision Making 2

PPRAG 1672 Research Methods & Epidemiology for Healthcare Professionals 3

PPRAG 1677 Advanced Interprofessional Development (1/3 of the class) 1

**Total** **18/19**

**Winter Quarter**

PHIDG 1606 Integrated Sequence 6 4.5

PHIDG 1607 Integrated Sequence 7 4.5

PPRAG 1606 Professional Skills Development 6 1.5

PPRAG 1676 Evidence-Based Healthcare 3

PPRAG 1677 Advanced Interprofessional Development (1/3 of the class) 1

**Total** **16.5/17.5**

**Spring Quarter**

PHIDG 1608 Integrated Sequence 8 4.5

PHIDG 1609 Integrated Sequence 9 4

PPRAG 1607 Professional Skills Development 7 1.5

PPRAG 1667 Complementary and Alternative Medicine 2

PPRAG 1675 Pharmacy Practice Management 2.5

PPRAG 1677 Advanced Interprofessional Development (1/3 of the class) 1

**Total** **17.5/18.5**

**Third Professional Year:**

Total Quarter Credit Hours Required: 66.5

**Summer Quarter**

PPRAG 1701 Acute Care Management 4.5

PPRAG 1708 Professional Skills Development 8 1.5

PPRAG 1737 Disease State Management 4.5

PPRAG 1776 Human Resource Management 2

**Total** **12.5**

**Clinical Block Advanced Pharmacy Practice Experience Rotations: 36 weeks for a total of 54 qhrs.**

PPRAG 1791 Advanced Community Pharmacy Practice Experience 9

PPRAG 1792 Advanced Acute Care Pharmacy Practice Experience 9

PPRAG 1793 Advanced Ambulatory Care Pharmacy Practice Experience 9

PPRAG 1794 Advanced Health System Pharmacy Practice Experience 9

PPRAG 1795 Patient Care Elective Advanced Pharmacy Practice Experience 9

PPRAG 1796 Elective Advanced Pharmacy Practice Experience 9

**Total** **54**

Students must complete a **minimum** of 12 hours of elective credit in the program at CPG. Elective course offerings may include the following:

**Professional Electives**

CLMDG 1354P Being a Leader and the Effective Exercise of Leadership 2

IPECG 1401C Improving Patient Safety 1 1.5

IPECG 1402C Improving Patient Safety 2 1.5

IPECG 1403C Improving Patient Safety 3 1.5

IPECG	1404C	Leadership in Healthcare Teams	1.5	PPRAG	1435	Health Coaching for Pharmacy Students	1.5
IPECG	1410C	Safe Opioid Practices	1.5	PPRAG	1437	Informatics	1.5
IPECG	1420C	Antibiotic Stewardship	1.5	PPRAG	1438	Managed Care	1.5
ONEHG	1301C	One Health Grand Rounds	2	PPRAG	1439	Pediatric Pharmacotherapy	1.5
PPRAG	1301	Special Project/Research	1.5	PPRAG	1440	Advanced Research Methods: SPSS in Healthcare Research	1.5
PPRAG	1302	Special Project/Research	3	PPRAG	1441	Medication Therapy Management	1.5
PPRAG	1338	Pharmacy-Based Health Screenings	1.5	PPRAG	1442	Advanced Geriatric Pharmacotherapy	1.5
PPRAG	1339	History of Pharmacy in the United States	1.5	PPRAG	1443	Veterinary Pharmacology	1.5
PPRAG	1346	Diabetes: A Patient's Perspective	1.5	PPRAG	1444	Functional Medicine for the Pharmacist	1.5
PPRAG	1348	Personal Finance for the Healthcare Professional	1.5	PPRAG	1446	Travel Medicine	1.5
PPRAG	1349	Medication Management in Hospice Patients	1.5	PPRAG	1447	CPG Grand Rounds: Clinical Pearls	1.5
PPRAG	1411	Pharmacological Management of Chronic Pain	1.5	PSCIG	1301	Special Project/Research	1.5
PPRAG	1415	Rare and Interesting Diseases	1.5	PSCIG	1302	Special Project/Research	3
PPRAG	1418	Nuclear Pharmacy	1.5	PSCIG	1323	Use and Abuse of Drugs	1.5
PPRAG	1419	Topics in Women's Health	1.5	PSCIG	1342	Introduction to Classical Homeopathy	1.5
PPRAG	1420	Pharmacy Based Immunization Delivery	2	PSCIG	1354	Sterile Products	1.5
PPRAG	1421	Dental Health and the Pharmacist	1.5	PSCIG	1356	Nanopharmaceuticals	1.5
PPRAG	1425	Nutrition and Lifestyle Modification in Pharmacy	1.5	PSCIG	1357	Introduction to Forensic Science for Healthcare Professionals	1.5
PPRAG	1426	Putting Your Best Residency Foot Forward	1.5	PSCIG	1358	Pharmacogenomics	1.5
PPRAG	1427	Postmenopausal Women's Health	1.5	PSCIG	1360	Introduction to Drug, Biologics and Medical Device Regulation	1.5
PPRAG	1428	Acute Care Cardiology	3	PSCIG	1361	Introduction to Toxicology	1.5
PPRAG	1429	Pharmacometrics	1.5	PSCIG	1362	Advanced Cardiovascular Pharmacology	1.5
PPRAG	1430	Parenteral & Enteral Nutrition	1.5	VMED	1325C	Zootoxins-One Health Perspectives	2
PPRAG	1431	Book Club	1.5				
PPRAG	1432	Advanced Communication with the Spanish Speaking Patient	1.5				
PPRAG	1433	Introduction to Specialty Pharmacy	1.5				
PPRAG	1434	Advanced Oncology Therapeutics	1.5				

### Experiential Rotations

Students are required to complete one introductory community experience, one introductory institutional experience, and six advanced pharmacy practice experiences. One advanced pharmacy practice experience may be a non-patient care elective experience.



During their introductory experiences, students spend time in a community pharmacy setting developing the skills necessary to dispense prescriptions, provide patient information, acquire and store drugs, and keep accurate records. In the institutional setting, students will develop the skills necessary to distribute medications, prepare parenteral products, process drug information requests, and perform quality assurance audits. During their advanced patient care experiences, students work closely with clinical faculty to develop competencies in the areas of medication therapy management, pharmacotherapy, drug information and patient education. Students can also select an elective rotation that may or may not involve direct patient contact. All rotations place an emphasis on the development of problem solving, critical thinking, and communications skills in the delivery of patient-centered care.

At the conclusion of the Pharm.D. Program, all graduates will achieve the following outcomes:

- Demonstrate a scientific foundation as it relates to the pharmacy profession
- Manage patient healthcare through effective utilization of medication use systems
- Evaluate and implement patient-centered care
- Demonstrate personal and professional development characteristics as related to the pharmacy profession

## DEPARTMENTS

### Department of Pharmaceutical Sciences

The Department of Pharmaceutical Sciences (PSCI) includes several specialty areas that provide the student with a foundation of knowledge upon which the therapeutics of pharmacy practice will be understood. The specialty areas are taught throughout the curriculum in unique classes as well as in the integrated sequence courses that are threaded through the didactic portion of the curriculum. The specialty areas taught by the PSCI faculty include physiology, pathophysiology, pharmaceuticals/pharmacokinetics, medicinal chemistry, and pharmacology/toxicology. "The mission of the Department of Pharmaceutical Sciences is to empower students with the scientific foundation essential to the professional pharmacy curriculum. The department endeavors to contribute significantly to Midwestern University by excelling in scientific research and service both within and outside of the College."

### Department of Pharmacy Practice

The Department of Pharmacy Practice comprises faculty who provide education in the social, administrative and clinical aspects of pharmacy practice, including patient care experiences. Required courses in the social and administrative science area include an introduction to career development and current pharmacy topics, a survey of the healthcare

system, professional practice management, and pharmacy law and ethics. Required courses in the clinical science area include drug literature evaluation and the pharmacotherapeutics of prescription and non-prescription medications. A professional skills development sequence integrates the knowledge and skills from other courses including communications, prescription processing, and pharmaceutical care. Supervised practice experiences required during the program provide opportunities for students to apply knowledge acquired in didactic courses to life situations. The experiences are designed to promote the development of technical, cognitive, and decision-making skills that are necessary for the contemporary practice of pharmacy in a variety of practice environments. Various states apply these experiences to their state board of pharmacy internship requirements.

## CORE COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *BIOCG 1551 Biochemistry*

This course instills basic principles in biochemistry with particular emphasis on pharmaceutical applications. Lectures address acid/base chemistry, structure and function relationships of proteins, enzymes in biochemistry, and major pathways for protein, carbohydrate, and lipid metabolism, and pertinent nutritional topics.  
3 credits

### *BIOCG 1552 Molecular Biology and Human Genetics*

This course instills basic principles in molecular biology and human genetics. Lectures address nucleic acid structure, the flow of information from DNA to protein, current techniques in DNA technology including gene therapy and pharmacogenetics, the molecular basis of cancer and several topics in clinical genetics. Emphasis is placed on the pharmaceutical applications of all topics addressed.  
2 credits  
Prerequisites: BIOCG 1551 Biochemistry

### *COREG 1560C, 1570C, 1580C Interprofessional Healthcare*

The Interprofessional Healthcare course series involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course series is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs and in-

person interprofessional case studies. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.

Each course 0.5 credits

### *MICRG 1513 Microbiology*

This survey course in basic and medical microbiology focuses on the more common pathogenic microorganisms that cause morbidity and mortality in humans. The pattern of discussion is uniform: etiology, epidemiology, pathogenesis and pathology, clinical manifestations, diagnosis and prevention.

3 credits

### *MICRG 1553 Immunology*

This course presents basic aspects of the body's defense system. Initial lectures address cells and organs of the immune system, complement activation, antigen processing and presentation, and cytokines. Introductory lectures are tied together later in the course with discussions of inflammation and the body's response to infectious disease. The role of the immune system in the rejection of organ transplants, autoimmunity, hypersensitivity, cancer, and AIDS are also discussed in detail. Current advances in immunotherapy and immunoprophylaxis are emphasized.

3 credits

### *PHIDG 1501-1503, 1604-1609 Integrated Sequence 1-9*

The Integrated Sequence is a series of nine sequential modules of varying lengths. Each module incorporates the principles of pathophysiology, medicinal chemistry, pharmacology, and pharmacotherapeutics utilizing an organ systems approach.

Varied credits

- Prerequisites for PHIDG 1501 Integrated Sequence 1, 4 credits: PHYSG 1501 Human Physiology 1; PHYSG 1502 Human Physiology 2; BIOCG 1551 Biochemistry; MICRG 1553 Immunology; completion of or concurrent enrollment in PPRAG 1503 Professional Skills Development 3
- Prerequisites for PHIDG 1502 Integrated Sequence 2, 4 credits: PHIDG 1501 Integrated Sequence 1; completion of or concurrent enrollment in PPRAG 1503 Professional Skills Development 3
- Prerequisites for PHIDG 1503 Integrated Sequence 3, 4 credits: PHIDG 1502 Integrated Sequence 2; completion of or concurrent enrollment in PPRAG 1504 Professional Skills Development 4
- Prerequisites for PHIDG 1604 Integrated Sequence 4, 4 credits: PHIDG 1503 Integrated Sequence 3; completion of or concurrent enrollment in PPRAG 1605 Professional Skills Development 5

- Prerequisites for PHIDG 1605 Integrated Sequence 5, 4.5 credits: PHIDG 1604 Integrated Sequence 4; completion of or concurrent enrollment in PPRAG 1605 Professional Skills Development 5
- Prerequisites for PHIDG 1606 Integrated Sequence 6, 4.5 credits: PHIDG 1605 Integrated Sequence 5; completion of or concurrent enrollment in PPRAG 1606 Professional Skills Development 6
- Prerequisites for PHIDG 1607 Integrated Sequence 7, 4.5 credits: PHIDG 1606 Integrated Sequence 6; completion of or concurrent enrollment in PPRAG 1606 Professional Skills Development 6
- Prerequisites for PHIDG 1608 Integrated Sequence 8, 4.5 credits: PHIDG 1607 Integrated Sequence 7; completion of or concurrent enrollment in PPRAG 1607 Professional Skills Development 7
- Prerequisites for PHIDG 1609 Integrated Sequence 9, 4 credits: PHIDG 1608 Integrated Sequence 8; completion of or concurrent enrollment in PPRAG 1607 Professional Skills Development 7

### *PHYSG 1501 Human Physiology 1*

This course provides the core knowledge of physiology required by students to understand normal body function and the ability to analyze and interpret the immediate and long-term compensatory responses to common disease states of excitable cells (muscle and nervous tissue), the sensory system, and the endocrine and reproductive systems. Basic and applied terms are defined. Essential relationships between structure and function are defined and discussed.

3 credits

### *PHYSG 1502 Human Physiology 2*

This course provides core knowledge of physiology required by students of pharmacy in order to understand normal function and to acquire the ability to analyze and interpret the immediate and long-term compensatory responses to common disease states of the renal, cardiovascular, respiratory, and gastrointestinal systems. Basic and applied terms are defined. Essential relationships between structure and function are defined and discussed.

3 credits

### *PPRAG 1501-1504, 1605-1607, 1708 Professional Skills Development 1-8*

These courses integrate the skills needed to fulfill the professional responsibilities of pharmacy practice as they relate to patient-centered care and the patient care process. Principles taught in this course and the co-requisite courses will be utilized to provide the contextual framework for the skills considered.

Varied credits

- Prerequisites: Prerequisites for PPRAG 1501 Professional Skills Development 1, 3.5 credits: None
- Prerequisites for PPRAG 1502 Professional Skills Development 2, 3 credits: PPRAG 1501 Professional Skills Development 1
- Prerequisites for PPRAG 1503 Professional Skills Development 3, 2 credits: PPRAG 1502 Professional Skills Development 2; completion of or concurrent enrollment in PSCIG 1542 Pharmaceutics 2; completion of or concurrent enrollment in PHIDG 1501 Integrated Sequence 1
- Prerequisites for PPRAG 1504 Professional Skills Development 4, 2.5 credits: PPRAG 1503 Professional Skills Development 3 and PSCIG 1542 Pharmaceutics 2; completion of or concurrent enrollment in PHIDG 1503 Integrated Sequence 3
- Prerequisites for PPRAG 1605 Professional Skills Development 5, 1.5 credits: PPRAG 1504 Professional Skills Development 4; completion of or concurrent enrollment in PHIDG 1604 Integrated Sequence 4, PHIDG 1605 Integrated Sequence 5
- Prerequisites for PPRAG 1606 Professional Skills Development 6, 1.5 credits: PPRAG 1605 Professional Skills Development 5; completion of or concurrent enrollment in PHIDG 1606 Integrated Sequence 6, PHIDG 1607 Integrated Sequence 7
- Prerequisites for PPRAG 1607 Professional Skills Development 7, 1.5 credits: PPRAG 1606 Professional Skills Development 6; completion of or concurrent enrollment in PHIDG 1608 Integrated Sequence 8, PHIDG 1609 Integrated Sequence 9
- Prerequisites for PPRAG 1708 Professional Skills Development 8, 1.5 credits: PPRAG 1607 Professional Skills Development 7; completion of or concurrent enrollment in PPRAG 1701 Acute Care Management, PPRAG 1737 Disease State Management

#### *PPRAG 1524 Pharmacy Law and Public Policy*

This course presents principles of law and public policy as they relate to pharmacy practice under federal, state and local regulations. Topics include general rules and regulations governing pharmacy practice, controlled substances, Health Insurance Portability and Accountability Act (HIPAA), and public policy.  
2.5 credits

#### *PPRAG 1533 Patient Decision Making*

This course introduces health belief models and theories, including the patient's perspective of health, illness, and patient-provider interactions, educational assessment, and consultation related to medication use. The main goal of this course is to help students understand and empathize with patients. The course emphasizes the patient instead of focusing upon the disease. Sociological and psychological

implications of living with disease are discussed. Students learn to consider how the patient feels and how they can impact patient outcomes as healthcare professionals.  
3 credits

#### *PPRAG 1534 Public Health and Disease Prevention*

This course focuses on key concepts pertaining to public health, with an emphasis on the roles that pharmacists can play in disease prevention and health promotion. Particular attention is placed on practical interventions that pharmacists can perform, including patient education and awareness activities, health screenings, disease prevention programs, and methods to promote lifestyle modification. Understanding public health issues also requires knowledge and input from diverse sectors including other health professions, social welfare, and education. In this course students will gain an understanding of the work of public health agencies at the national, state, and local levels. Public and preventive health are more than treating disease; they address the health of communities and populations and how to ensure that communities and populations are healthy.  
2 credits

#### *PPRAG 1535 Community Partnership in Public Health (1/2 of the class)*

This course is a service-learning and population-based experience in which students participate in activities that connect individual and community needs by interacting with different community leaders, identifying individual/community needs and resources. This course places students in contact with social and public health agencies working within the community in order to address the needs of the population. This course consists of weekly community activities and several campus-based activities during the quarter.  
1.5 credits  
Prerequisites: PPRAG 1534 Public Health and Disease Prevention

#### *PPRAG 1571 Healthcare Systems*

An overview of the organization, delivery and financing of medical and pharmaceutical care in the U.S. Particular emphasis is placed on the interdependent roles of pharmacists with other healthcare providers, and the key organizations and institutions that are involved in delivering pharmaceutical care to patients. Historical perspective is provided where it contributes to an understanding of contemporary practice.  
3 credits

#### *PPRAG 1591 Introduction to Pharmacy Practice*

This course will help students develop a foundation for future pharmacy practice. Based on class interest, students will explore various pharmacy career options through

pharmacist interviews, guest speakers, and completion of the APhA Career Pathways Assessment. Students will begin to develop professional communication skills as they interview two pharmacists and one patient for a final paper, and use self-reflection to summarize the interview responses in a personal narrative. Students will also be provided with foundational knowledge in medical terminology, with two exams focusing solely on medical terminology. The final paper will serve as the final assessment of learning and integration.

1 credit

#### *PPRAG 1665 Ethical Decision Making*

In daily pharmacy practice, pharmacists encounter a variety of behavioral and ethical issues related to interactions with patients, providers and healthcare organizations. This course presents the principles underlying the dynamics of these constantly changing interactions to help future pharmacists better understand, predict and ultimately change the nature of their interactions with patients, other providers and healthcare organizations. Future pharmacists who have mastered the concepts in this course will be better equipped to optimize the delivery of pharmaceutical care and ultimately achieve more positive patient outcomes

2 credits

#### *PPRAG 1667 Complementary and Alternative Medicine*

This course is designed as a survey of complementary and alternative medicine. Students will be introduced to the theory and practice of some of the more popular complementary/alternative therapies (such as dietary supplements, acupuncture, traditional Chinese medicine, homeopathy, herbal medicine, etc). The course will include the use of complementary/alternative medicine associated with common disease states. Students will have the opportunity to research and present a complementary/alternative treatment to the class.

2 credits

Prerequisites: PPRAG 1504 Professional Skills Development 4; PPRAG 1676 Evidence-Based Healthcare

#### *PPRAG 1672 Research Methods & Epidemiology for Healthcare Professionals*

This course introduces students to statistics and research design. The course covers basic methodological concepts, study designs, descriptive and inferential statistical techniques, computerized statistical testing resources, and data sources commonly used in published pharmaceutical and medical research. Basic epidemiological metrics and computations are presented as well as the development and evaluation of research protocols, survey research, database analyses, and clinical drug investigations.

3 credits

#### *PPRAG 1675 Pharmacy Practice Management*

This course is an introduction to management concepts, principles and techniques that are applied in contemporary pharmacy practice and healthcare administration. The course is organized into four broad areas of managerial activity and responsibility: financial management, marketing management, operations management with an emphasis on medication safety, and an introduction to pharmacoeconomics.

2.5 credits

#### *PPRAG 1676 Evidence-Based Healthcare*

In this course, students will learn and apply skills that will improve their ability to practice evidence-based healthcare (EBHC). Students were introduced to the steps of practicing EBHC and learned about Step 1 (identify a clinical question) and Step 2 (find relevant literature) of practicing EBHC in previous courses. This course focuses on Step 3 (critically evaluate literature) and Step 4 (apply information to patients).

3 credits

Prerequisites: PPRAG 1672 Research Methods & Epidemiology for Healthcare Professionals; PHIDG 1605 Integrated Sequence 5

#### *PPRAG 1677 Advanced Interprofessional Development (1/3 of the class)*

This experience focuses on developing advanced teamwork, communication and counseling skills among an interprofessional team of students. The course includes both in-class workshops and interprofessional team clinic sessions. Students will practice interprofessional teamwork skills with other healthcare professionals. Skills to be developed include conflict resolution, documentation, collaboration to improve the quality of patient care, shared therapeutic decision making, and direct patient care activities.

1 credit

Prerequisites: COREG 1580C Interprofessional Healthcare; PHIDG 1503 Integrated Sequence 3; PPRAG 1504 Professional Skills Development 4

#### *PPRAG 1694 Introductory Community Experience*

This experience provides an opportunity for students to participate in basic patient care and distribution services in a community or ambulatory care pharmacy practice setting. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in community pharmacy practice including the areas of professional communications, drug information retrieval, patient counseling on prescription, and OTC medications, medication distribution, extemporaneous products, and application of federal and state pharmacy laws.

6 credits  
Prerequisites: Passing grades in all PS-1 year didactic courses and an annual grade point average of 2.00 or above

*PPRAG 1695 Introductory Institutional Experience*

This experience provides an opportunity for students to participate in basic patient care and distribution services in an institutional pharmacy practice setting. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in institutional pharmacy practice including the areas of professional and patient communications, drug information retrieval, medication distribution systems, sterile product preparation, interprofessional activities, and application of federal and state pharmacy laws.

6 credits

Prerequisites: Passing grades in all PS-1 year didactic courses and an annual grade point average of 2.00 or above

*PPRAG 1701 Acute Care Management*

This course integrates both the practice and patient care management of patients in the acute care (hospital and health-system) setting. Students will enhance their acute care knowledge through case-based lecture and clinical application in the corresponding Professional Skills Development course.

4.5 credits

Prerequisites: PHIDG 1609 Integrated Sequence 9; PPRAG 1607 Professional Skills Development 7; PPRAG 1676 Evidence-Based Healthcare; completion of or concurrent enrollment in PPRAG 1708 Professional Skills Development 8; completion of or concurrent enrollment in PPRAG 1737 Disease State Management

*PPRAG 1737 Disease State Management*

This course focuses on the skills necessary for pharmacist-directed management of common ambulatory medical conditions involving the cardiac, pulmonary, and endocrine systems. The course builds upon the fundamental information provided in the Integrated Sequence through the incorporation of disease prevention strategies and medication therapy management principles into complex patient casework.

4.5 credits

Prerequisites: PHIDG 1609 Integrated Sequence 9; PPRAG 1607 Professional Skills Development 7; PPRAG 1676 Evidence-Based Healthcare; completion of or concurrent enrollment in PPRAG 1708 Professional Skills Development 8; completion of or concurrent enrollment in PPRAG 1701 Acute Care Management

*PPRAG 1776 Human Resource Management*

This course prepares students to engage in the classic functions of a human resource manager in the pharmacy practice setting including planning, organizing, decision making, staffing, leading or directing, communicating, motivating and evaluating.

2 credits

*PPRAG 1791 Advanced Community Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in the required APPE community course.

9 credits

Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PPRAG 1792 Advanced Acute Care Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in the required APPE acute care course.

9 credits

Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PPRAG 1793 Advanced Ambulatory Care Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in the required APPE ambulatory care course.

9 credits

Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PPRAG 1794 Advanced Health System Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in the required APPE health system course.

9 credits

Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PPRAG 1795 Patient Care Elective Advanced Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in four required APPE

patient care courses and two additional APPE experiences. Only one experience may be a non-patient care experience.  
9 credits  
Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PPRAG 1796 Elective Advanced Pharmacy Practice Experience*

This course will build upon the foundation of the introductory pharmacy practice experiences provided in the PS-2 year and the didactic curriculum. Under preceptor supervision, the student participates in the four required APPE courses and two additional APPE experiences. Only one experience may be a non-patient care experience.  
9 credits  
Prerequisites: Passing grades in all PS-2 and PS-3 courses and a cumulative grade point average for these courses of 2.00 or above

*PSCIG 1540 Pharmaceutical Calculations*

This course introduces the student to the mathematical skills needed for drug product dispensing and compounding of dosage forms essential to the practice of pharmacy. Topics covered include systems of measurement, units of strength, density, dosage calculations, aliquoting, isotonicity, milliequivalents, and osmolarity. Calculations for the preparation of specific dosage forms such as capsules, suppositories, and parenterals will also be covered.  
2 credits

*PSCIG 1541 Pharmaceutics 1*

Pharmaceutics 1 & 2 are an integration of physical pharmacy, dosage forms, pharmacy calculations, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products. Pharmaceutics 1 is the first of two required courses in pharmaceutics for pharmacy students; specific dosage forms covered in this course include powders, capsules, tablets, suppositories, ointments, and transdermal patches.  
4 credits  
Prerequisites: PSCIG 1540 Pharmaceutical Calculations

*PSCIG 1542 Pharmaceutics 2*

Pharmaceutics 1 & 2 are an integration of physical pharmacy, dosage forms, pharmacy calculations, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products. Pharmaceutics 2 is the second of two required courses in pharmaceutics for pharmacy students; specific dosage forms covered in this course include solutions,

suspensions, emulsions, aerosols, ophthalmics, and parenterals.  
4 credits  
Prerequisites: PSCIG 1541 Pharmaceutics 1

*PSCIG 1564 Pharmacokinetics and Biopharmaceutics*

This course introduces pharmacy students to the principles of biopharmaceutics and pharmacokinetics by exploring the relationships between physiology, mathematics, and pharmacokinetic theory and their clinical application. Students will learn how to calculate and interpret pharmacokinetic parameters, discuss and explain pharmacokinetic principles, assess factors that affect drug disposition, design and adjust drug dosage regimens, and predict and explain mechanisms involved in drug interactions.  
4 credits  
Prerequisites: PSCIG 1542 Pharmaceutics 2

## ELECTIVE COURSE DESCRIPTIONS

*CLMDG 1354P Being a Leader and the Effective Exercise of Leadership*

Given the complex and demanding environment of healthcare, effective leadership is often required to meet these challenges. This course is designed to provide you with three foundational tools for actionable access to being who you need to be, to be a leader, and with what it takes to exercise leadership effectively in all aspects of your life. This course is a leadership laboratory in which you will discover for yourself a new context for leader and leadership. Instead of more knowledge about leadership, you will gain access to actually being a leader and effectively exercising leadership as your natural self expression through in class discussions, group work, out of class assignments, and a leadership project. During the course your current thoughts on leadership will be challenged, new ways of thinking will emerge, and you will leave with new actions to create even greater success in the areas of life and leadership that matter most to you.  
2 credits

*IPECG 1401C Improving Patient Safety 1*

This interprofessional online course will introduce students to how they can improve patient safety and reduce medical errors. The course instruction is through online Institute for Healthcare Improvement (IHI) educational modules reinforcing that knowledge through authentic team case study discussions and self reflection writings. Completion of IPECG 1401C and IPECG 1402 will lead to an IHI certificate in Basic Safety. Enrollment is limited to PS-2 students only.  
1.5 credits

### *IPECG 1402C Improving Patient Safety 2*

This interprofessional online course will introduce students to how they can improve patient safety and reduce medical errors through the PDSA process. The course instruction is through online Institute for Healthcare Improvement (IHI) educational modules, reinforcing that knowledge through authentic team case study discussions and self reflection writings. Completion of IPECG 1401 and IPECG 1402 will lead to an IHI certificate in Basic Safety.

1.5 credits

Prerequisites: IPECG 1401C Improving Patient Safety 1

### *IPECG 1403C Improving Patient Safety 3*

This interprofessional course is the third in a three course sequence where students will demonstrate how they can improve quality and patient safety while reducing medical errors through well planned systems of performance measurement and quality improvement. This course will be conducted as an independent special project with a community provider to improve quality and patient safety in a specifically identified area of the practice.

1.5 credits

Prerequisites: IPECG 1402C Improving Patient Safety 2

### *IPECG 1404C Leadership in Healthcare Teams*

This interprofessional online elective is designed for students, while working on authentic healthcare teams, to develop the skills needed for leadership in their area(s) of practice. The skills learned will range from taking ownership of patient issues to developing solid interpersonal professional relationships. The course instruction is through online educational modules, reinforcing that knowledge through authentic team case study discussions and self reflection writings. Enrollment is limited to PS-2 students only.

1.5 credits

### *IPECG 1410C Safe Opioid Practices*

This interprofessional online elective is designed to educate students about the opioid abuse epidemic currently being seen in the United States, with the main goal to prepare students to work through interprofessional collaboration to recognize and reduce opioid abuse in patients. This IPE elective will provide foundational knowledge instruction through online educational modules and that knowledge will be reinforced through interprofessional team based case studies and online discussion boards. Enrollment is limited to PS-2 students only.

1.5 credits

### *IPECG 1420C Antibiotic Stewardship*

This interprofessional online elective course provides education on the appropriate use of antibiotics as outlined by the Centers for Disease Control (CDC). Topics covered include increasing antibiotic resistance and the importance of

antibiotic stewardship, an overview of the incidence of antibiotic adverse drug reactions, background and errors in antibiotic use, drivers of inappropriate antibiotic use, and considerations for specific infections including otitis media, bronchitis, asthma, COPD and pharyngitis. Special attention is paid to the current guidelines and recommendations for antibiotic use in dentistry for pre-op or pre-treatment prophylaxis. The course will utilize a combination of CDC educational modules, quizzes on the content covered in those modules, and interprofessional authentic team-based case discussions of the module content. Enrollment is limited to PS-2 students only.

1.5 credits

### *ONEHG 1301C One Health Grand Rounds*

This course is open to all students in professional curricula at MWU. In cross-disciplinary teams mentored by MWU faculty or liaisons from public health agencies, each student team will select a topic based on its public health importance and professional relevance, review available research and publications, and provide an oral presentation of their findings. Through the collaborative research process and team presentations, participants will gain a deeper understanding of the contributory role each health professional has within their respective scope of community practice.

2 credits

### *PPRAG 1301/1302 Special Project/Research*

These courses provide an opportunity for students to work with individual faculty mentors on projects of variable scope. Activities may include clinical, library, laboratory, and/or survey-type research; assistance with syllabus development for future elective courses; or other activities agreed on between the student and the mentor. All special projects/research require the approval of the appropriate department chair and Dean.

- Prerequisites: PPRAG 1301 Special Project/Research, 1.5 credits: none
- PPRAG 1302 Special Project/Research, 3 credits: none

### *PPRAG 1338 Pharmacy-Based Health Screenings*

Through active participation in lecture discussions and workshops, the student will be prepared to implement health screening programs in pharmacy practice settings. The course focuses on risk factor assessment and hands-on experience with screening devices for cancer, cardiovascular disease, diabetes, and osteoporosis. The course also addresses regulatory requirements of the Occupational Safety and Health Administration (OSHA) and Clinical Laboratory Improvement Amendments (CLIA) and development of policies and procedures for screening programs.

1.5 credits

Prerequisites: PHIDG 1605 Integrated Sequence 5

*PPRAG 1339 History of Pharmacy in the United States*

This course is designed to introduce the pharmacy student to the history of pharmacy. This will be accomplished by focusing upon the historical development of pharmacy in the United States by examining the growth and professionalization of the field, its statutory regulation and its product development. Students will be able to apply the lessons of history to current and future practice philosophies.

1.5 credits

*PPRAG 1346 Diabetes: A Patient's Perspective*

This elective emphasizes the knowledge and skills required for the delivery of diabetes education by focusing on the patient's perspective in the management of the disease. The course builds on the material presented in required courses in the curriculum by examining the barriers faced by patients during self-management and potential solutions for addressing them.

1.5 credits

Prerequisites: PHIDG 1503 Integrated Sequence 3

*PPRAG 1348 Personal Finance for the Healthcare Professional*

The objective of this course is to introduce the tools needed to financially succeed after graduation. The class will focus on introduction to the areas of taxes, planning for retirement, investing, debt consolidation, home ownership, money management, and insurance.

1.5 credits

*PPRAG 1349 Medication Management in Hospice Patients*

This course is designed to provide an overview of common diseases and symptoms encountered in terminal patients. Emphasis will be placed on the appropriate selection of medications to palliate symptoms such as pain, dyspnea, excess secretions, constipation, diarrhea, hiccups, pruritus, etc. Common diseases include but are not limited to, breast, brain, lung, colon and renal cancers; COPD; dementia; and CHF. Patient cases will be used during each session to illustrate symptom management issues.

1.5 credits

Prerequisites: PHIDG 1607 Integrated Sequence 7

*PPRAG 1411 Pharmacological Management of Chronic Pain*

Upon completion of this course students will understand how to assess pain; understand the differences between addiction, dependence and tolerance; be able to recommend appropriate medication therapies for nociceptive and neuropathic pain; understand the reasons for the multitude of available analgesic choices; understand the role of complementary and alternative medicine; and be conversant

with the legal and ethical issues of pain management.

1.5 credits

Prerequisites: PHIDG 1607 Integrated Sequence 7

*PPRAG 1415 Rare and Interesting Diseases*

This course provides a forum for students to learn how to manage patients with rare and interesting disease states. The pathophysiology, epidemiology, clinical manifestations, diagnostic tests or procedures, treatment and the pharmacist's role in the management for each disease state/genetic abnormality/adverse drug event will be reviewed. Activities will simulate patient work up and written/oral presentations in clinical practice.

1.5 credits

Prerequisites: Completion of or concurrent enrollment in PHIDG 1609 Integrated Sequence 9

*PPRAG 1418 Nuclear Pharmacy*

This course provides the student an overview of the various aspects of nuclear pharmacy. This includes basic nuclear physics, radiation measurement and safety, regulatory considerations, radiopharmaceutical preparation, products, quality control, and imaging modalities.

1.5 credits

Prerequisites: PSCIG 1564 Pharmacokinetics and Biopharmaceutics

*PPRAG 1419 Topics in Women's Health*

The purpose of this course is to provide an overview of advanced topics in women's health particularly related to reproductive health. Expanded information in topics such as contraception, infertility, drug use in pregnancy, and mood disorders related to pregnancy are provided. The course utilizes various teaching methods including lectures, case studies, readings, assignments, and discussions. Students will develop a working knowledge to aid them in caring for women with gender related disease states.

1.5 credits

Prerequisites: PHIDG 1503 Integrated Sequence 3

*PPRAG 1420 Pharmacy Based Immunization Delivery*

This course teaches the skills necessary to become a primary source for vaccine information and administration. It teaches the basics of immunology and focuses on practice implementation and legal/regulatory issues. Students must complete 12 hours of self-study prior to the class and must submit the completed material upon arrival to class.

2 credits

Prerequisites: MICRG 1553 Immunology; and blood borne pathogen training.

*PPRAG 1421 Dental Health and the Pharmacist*

This course provides an overview of dentistry and its relation to healthcare. Discussion includes questions that pharmacists



often are asked regarding oral lesions, injuries to the oral cavity, and efficacy of OTC remedies. Information about various dental specialties will help the pharmacist refer their patients to the appropriate specialist. Misuse and abuse of dental drugs and medications and investigation and enforcement of dental regulations concerning drug abuse will be discussed.

1.5 credits

*PPRAG 1425 Nutrition and Lifestyle Modification in Pharmacy*

This elective course provides students with an overview of the major nutritional problems in the United States with emphasis on lifestyle modification and counseling that can be done for each disease state or topic. Topics include obesity, diabetes, cardiovascular disease, cancer, and sport enhancement. This course utilizes a team based learning method with assessment being based on team and individual quiz and exam scores. This is a student-centered learning course designed to begin the process of lifelong learning for students as healthcare professionals.

1.5 credits

Prerequisites: PPRAG 1504 Professional Skills Development 4 and PHIDG 1503 Integrated Sequence 3

*PPRAG 1426 Putting Your Best Residency Foot Forward*

Post-graduate pharmacy residency programs are highly valuable and are becoming increasingly competitive. This elective course provides guidance on the residency selection decision process, curriculum vita (CV) development, creation of a strong letter of intent and interviewing skills. Students will learn and apply how to incorporate experiences from their didactic, experiential, and co-curricular education into their residency application and interview. To meet the learning objectives, students will complete interactive written and verbal activities to demonstrate knowledge, skills, and abilities. Achievement of learning objectives will be evaluated by assessment rubrics tailored to each activity.

1.5 credits

*PPRAG 1427 Postmenopausal Women's Health*

This course provides an in-depth review of postmenopausal women's health issues. Through active participation in patient case studies and class discussion, students will learn to design pharmacotherapeutic plans to address symptoms of menopause during the menopause transition and to reduce risk factors for chronic medical conditions common during this life stage.

1.5 credits

Prerequisites: PHIDG 1503 Integrated Sequence 3

*PPRAG 1428 Acute Care Cardiology*

This elective course provides students with an in-depth review and expansion of knowledge regarding the

management of medical pharmacotherapy in patients with acute cardiovascular issues, building upon concepts that were introduced in Integrated Sequence 4 and 5. The class is focused on application of knowledge to improve patient care. Learning techniques that will be utilized include lecture, discussion, formulation of a pharmacists' patient care process plan (PPCP) for patient cases, evaluation of primary literature, and student debates.

3 credits

Prerequisites: PHIDG 1604 and PHIDG 1605, Integrated Sequence 4 and 5

*PPRAG 1429 Pharmacometrics*

This course builds upon student's expertise in pharmacoeconomics, pharmacoepidemiology, biostatistics, and financial management in order to evaluate from an evidence-based perspective both pharmacotherapy and pharmaceutical services. Students will obtain requisite expertise in applied econometrics, financial algebra, and policy analysis.

1.5 credits

*PPRAG 1430 Parenteral & Enteral Nutrition*

This course focuses on the clinical aspects of nutrition support therapy for patients who cannot maintain adequate nutrition by the oral route. Clinical topics include indications, patient assessment, ordering, administering, monitoring, and adverse effects of both parenteral and enteral nutrition (PEN) support. Patient safety in hospital and home PEN, drug shortages, and recent advances and research in PEN will be discussed.

1.5 credits

Prerequisites: PHIDG 1604 Integrated Sequence 4

*PPRAG 1431 Book Club*

This professional elective course is designed to use a book club/current topics format to provide the pharmacy student with an introduction to the art of patient care and the issues healthcare providers face regarding their own biases and stereotypes. The purpose of this course is to thoughtfully tackle some of the assumptions we make as health care providers and explore ways to be more thoughtful in our decisions and care of our patients.

1.5 credits

*PPRAG 1432 Advanced Communication with the Spanish Speaking Patient*

This elective will develop the basic verbal and written skills required to effectively communicate with the Spanish speaking patient in the pharmacy setting. There will be a strong focus on patient interviewing skills and counseling on the most common topics seen in the community setting. This course assumes the student is already familiar with basic Spanish and therefore introductory level Spanish.

1.5 credits

Prerequisites: PPRAG 1501-1504 Professional Skills Development 1-4; one year of college level Spanish or equivalent, or permission from instructor

*PPRAG 1433 Introduction to Specialty Pharmacy*

Introduction to Specialty Pharmacy is an elective that will provide an opportunity to expose students to current therapies, management of patients and other operations requirements within specialties including Solid Organ Transplant/BMT, Oncology, Inflammatory (Rheumatology, Dermatology), and Infectious Disease (HIV and Hepatitis C). The course is composed of alternating disease state overview presentations with student case study presentations the following week for practical application. A take home quiz designed in part by the student presenting will be completed by the rest of class utilizing guidelines, class material and any references needed.

1.5 credits

*PPRAG 1434 Advanced Oncology Therapeutics*

This course focuses on the clinical aspects of the pharmaceutical care of patients with hematologic and oncologic diseases. Clinical topics include disease state management, supportive care, hospice/palliative care, management of drug shortages and literature evaluation.

1.5 credits

Prerequisites: PHIDG 1609 Integrated Sequence 9; PPRAG 1676 Evidence-Based Healthcare

*PPRAG 1435 Health Coaching for Pharmacy Students*

This course will introduce pharmacy students to health coaching principles in Pharmacy. It will focus on three main areas of health coaching: Patient Activation, Motivational Interviewing and Positive Psychology. The emphasis will be placed on student participation, assignment completion, and practicing health coaching skills with their assigned class partners. The major topics covered will be: basic health coaching tools, introduction to wellness model, the impact of health coaching on healthcare outcomes and care management. The main goal of the course is to develop an understanding of health coaching in pharmacy and its application in healthcare continuum.

1.5 credits

Prerequisites: PPRAG 1606 Professional Skills Development 6

*PPRAG 1437 Informatics*

This elective course will introduce students to the exciting and growing area of healthcare informatics. Healthcare informatics brings together healthcare generated information with technology for the purpose of improving quality of care in a cost effective and comprehensive manner. The course will focus on key concepts, including definitions,

technological foundations, databases and information management, legal issues, project management, and potential career opportunities. The main goal of the course is to develop an understanding of informatics and the application in the healthcare field.

1.5 credits

Prerequisites: PPRAG 1571 Healthcare Systems

*PPRAG 1438 Managed Care*

The purpose of this course is to provide an overview of managed care pharmacy and how it impacts the US healthcare system. The course will prepare students to understand and learn about professional practice opportunities in managed care pharmacy by exploring: healthcare reform, managed healthcare delivery models, prescription benefit design, pharmacy networks, utilization management tools, P&T Committees, pharmacy data management, pharmacy benefit managers, specialty pharmacy and pharmaceutical manufacturers. In addition, the course will focus on how business principles are integrated into the managed care pharmacy department, and address how clinical pharmacy, quality improvement, medication therapy management/disease management programs are coordinated within the managed care pharmacy environment.

1.5 credits

*PPRAG 1439 Pediatric Pharmacotherapy*

This course focuses on specific issues related to the treatment and care of pediatric patients. Clinical topics include common childhood illness and treatments as well as drug delivery systems used for pediatric patients, current controversies in pediatric pharmacotherapy, commonly used over the counter medications and alternative therapies used by pediatric patients. This course incorporates lectures, projects and reading assignments to enhance student learning about pediatric issues.

1.5 credits

Prerequisites: PHIDG 1609 Integrated Sequence 9; Completion of or concurrent enrollment in PPRAG 1701 Acute Care Management

*PPRAG 1440 Advanced Research Methods: SPSS in Healthcare Research*

Evidence based medicine relies on quantitative information about which drugs and treatments are safe, efficacious, and/or cost effective. Generating the necessary quantitative evidence requires competent use of a statistical package. This course covers SPSS, which is commonly used in healthcare settings. Topics include methods for reading in data, descriptives to explore data, comparisons of groups using appropriate statistical testing procedures, project documentation for quality control and accuracy, and linear regression. Both "drop-down" menus and essential programming syntax are

covered.

1.5 credits

Prerequisites: PPRAG 1672 Research Methods & Epidemiology for Healthcare Professionals

*PPRAG 1441 Medication Therapy Management*

This course will introduce students to current trends in Medication Therapy Management (MTM) with a particular focus on the provision of pharmacist's services as an integral part of managing patient drug therapy. Students will gain insight into the challenges and opportunities that are presented to pharmacists when they address drug therapy misadventures and perform comprehensive medication reviews for patients with complex drug regimens. Particular attention will focus on development of drug therapy intervention skills that will maximize the results achieved when patient interventions are performed. In addition, students learn basic information about how the online intervention process works. The course will include having students role play case study examples of both therapeutic interventions and comprehensive medication reviews.

1.5 credits

Prerequisites: PPRAG 1438 Managed Care

*PPRAG 1442 Advanced Geriatric Pharmacotherapy*

This course is designed to enhance students' knowledge and skills related to geriatric pharmacotherapy. The course will provide an introduction to general principles of aging, roles of pharmacists in working with geriatric patients, and an overview of geriatric syndromes. The format of the course will involve brief lectures, and students will be expected to actively participate in discussions and case based assignments. There will be an emphasis on managing the healthcare needs of patients with multiple comorbidities.

1.5 credits

Prerequisites: PHIDG 1607 Integrated Sequence 7

*PPRAG 1443 Veterinary Pharmacology*

This course is designed to enhance the knowledge of future community pharmacists in the area of small animal veterinary pharmacology, dispensing of common small animal prescriptions, and recommendations of OTC medications for common household pets. Primary focus will be on cats and dogs. This course includes an on-site session with CVM Faculty at the MWU Companion Animal Clinic.

1.5 credits

Prerequisites: PHIDG 1609 Integrated Sequence 9

*PPRAG 1444 Functional Medicine for the Pharmacist*

Functional Medicine is a systems oriented and evidence based approach that aims to treat the root cause of chronic diseases. It aims to optimize wellness and is the medicine of prevention. This course is designed to educate the pharmacy student about the basic principles of functional medicine and

its approach to treating patients. This course will explore the pathology of chronic conditions from a systems biology by diving deep into nutrition and supplementation, removal of toxins, and ways to heal the body for resolution of symptoms. This course will be an interactive learning environment with group workshops and a final debate. At completion of the course students will be able to discuss functional medicine principles and apply functional medicine treatment plans to patient cases.

1.5 credits

Prerequisites: PHIDG 1501 Integrated Sequence 1 and BIOCG 1552 Molecular Biology and Human Genetics

*PPRAG 1446 Travel Medicine*

This course is designed to introduce students to the possible illnesses and diseases encountered while traveling. The epidemiology, etiology, and pathophysiology of travel diseases will be covered. The focus of the course will be on the vaccines used to prevent diseases, as well as the pharmacological methods used for the prevention and treatment of travel diseases and illnesses. Participants will discuss the role of health care professionals in assessing and counseling a patient for the appropriate prevention and treatment of those illnesses. The format of the course will include lectures and active participation in case-based discussions. Students will also practice making recommendations for vaccines and counseling patients on both over the counter and prescription medications commonly used for traveling.

1.5 credits

*PPRAG 1447 CPG Grand Rounds: Clinical Pearls*

This elective course provides students with exposure to "Grand Rounds" where contemporary clinical content is taught utilizing patient cases. The presenters will be pharmacists in practice or in post-graduate training. Students will gain clinical knowledge and practice pearls on a potpourri of clinical topics and benefit from exposure to the "Grand Round" format, which is a common form of continuing education in practice. Students will also gain experience in providing constructive written feedback to near-peer presenters and insight regarding the difficulty in providing feedback that is clear and specific. This course will develop the student's written communication skills which are a central element in the pharmacist's patient care process, as well as a vital component of personal and professional development. Additionally, this course will allow the students the opportunity to develop assessment, feedback, and self-awareness skills.

1.5 credits

*PSCIG 1301/1302 Special Project/Research*

These courses provide an opportunity for students to work with individual faculty mentors on projects of variable scope.

Activities may include clinical, library, laboratory, and/or survey-type research; assistance with syllabus development for future elective courses; or other activities agreed on between the student and the mentor. All special projects/research require the approval of the appropriate department chair and Dean.

Prerequisites: PSCIG 1301 Special Project/Research, 1.5 credits: none

PSCIG 1302 Special Project/Research, 3 credits: none

#### *PSCIG 1323 Use and Abuse of Drugs*

This elective course provides an in-depth review of neuropharmacology of substances of abuse including stimulants, depressants and inhalants, ethanol, opioids, hallucinogens, marijuana, anabolic steroids and other performance enhancing drugs. In addition, an overview of drug use, drug use as a social problem, drug products and their regulations, the nervous system, the mechanism of action of drugs, preventing substance abuse and substance abuse and dependence will also be covered.

1.5 credits

Prerequisites: PHIDG 1503 Integrated Sequence 3

#### *PSCIG 1342 Introduction to Classical Homeopathy*

Complementary and alternative medicine (CAM) modalities are used increasingly by many people in the U.S.

Homeopathy is one example of CAM. This course provides an introduction to classical homeopathy. Topics covered will include homeopathic paradigm and history, homeopathic pharmacy and the FDA, nanoparticles and action of homeopathic medicines, acute case taking, and keynotes and acute usage of common over the counter homeopathic medicines. Evidence-based articles will be presented and discussed.

1.5 credits

#### *PSCIG 1354 Sterile Products*

This course covers the fundamental concepts related to the formulation, manufacture, quality assurance, and clinical preparation and administration of sterile products. Topics will include formulation and compatibility considerations, sterility assurance and aseptic technique including a review of USP Chapter <797>, packaging, compounding methods and calculations, therapeutic issues, and advances in parenteral technologies. Laboratory sessions will focus on aseptic technique and familiarization with equipment used to prepare and administer parenteral medications.

1.5 credits

Prerequisites: PSCIG 1542 Pharmaceutics 2

#### *PSCIG 1356 Nanopharmaceuticals*

Nanotechnology will revolutionize society in the twenty-first century. The medical application of nanotechnology to all aspects of prevention, diagnosis and therapy of human disease

has given rise to nanomedicine. This course will focus on nanoscale drug formulations currently under development. Participants will become familiar with the state-of-the-art of pharmaceutical nanotechnology and acquire a foundation that will enable them to understand upcoming changes that nanoscience will bring to their future profession.

1.5 credits

Prerequisites: PSCIG 1542 Pharmaceutics 2

#### *PSCIG 1357 Introduction to Forensic Science for Healthcare Professionals*

The use of forensic toxicology in the battle against the increased abuse of licit and illicit drugs is an important field of study. This course will introduce the main areas of forensic sciences and especially the involvement of physicians, pharmacists, and nurses in discovering and preventing the abuse of drugs.

1.5 credits

Prerequisites: PPRAG 1524 Pharmacy Law and Public Policy

#### *PSCIG 1358 Pharmacogenomics*

Pharmacogenomics has the potential to revolutionize medicine in the twenty-first century. The medical application of human genetics to pharmacotherapy has given rise to the new field of pharmacogenomics. This course will introduce the foundations of pharmacogenomics, discuss the origin of genetic variation on drug action, uptake and metabolism, and specific applications to patient care. Participants of this course will become familiar with the state-of-the-art of pharmacogenomics.

1.5 credits

#### *PSCIG 1360 Introduction to Drug, Biologics and Medical Device Regulation*

The course will provide an overview to the FDA regulatory processes regarding the evaluation and development of drug, biologics, and device products. Through interactive lecture format, course work and discussions, participants of this course will gain the basic understanding, and will become familiar with the current principles of regulatory affairs.

Topics include the historical development of U.S. drug laws, overview of drug, biologics, and device development process and the FDA, pharmaceutical industry-FDA functions and interactions through approval and monitoring processes, policy-guided science, and some examples of the development of U.S. drug/device laws, shaping history, leading into the present state of regulation.

1.5 credits

#### *PSCIG 1361 Introduction to Toxicology*

This course is an introduction into clinical toxicology and the effects of natural products and chemicals on the human body. This course will emphasize the chemistry, pharmacology, and

toxicity of specific chemicals and classes of compounds. Students will be presented with the mechanisms and then invited to present case studies and discuss the clinical features of management and prognosis.

1.5 credits

#### *PSCIG 1362 Advanced Cardiovascular Pharmacology*

This course is designed to expand students' knowledge of research in basic cardiovascular sciences. The novel experimental pre-clinical/translational concepts related to cardiac and vascular pathophysiology and potential drug target(s), along with proposed mechanism of action, if applicable, will be covered. The course will focus on analysis of complex pathologic mechanism(s), including dysregulated signaling, inflammation, oxidative stress and myocardial remodeling, underlying arrhythmia, myocardial ischemia and heart failure, as well as evaluation of new/promising pharmacological intervention(s). The format of the course will include lectures and active participation in research article-based discussions, to produce student-developed evaluation and conclusions, in combined format of oral presentation and written summary of each discussed/presented topic information.

1.5 credits

Prerequisites: PHIDG 1501, 1502, 1604 and 1605, (Integrated Sequence 1, 2, 4, 5)

#### *VMED 1325C Zootoxins-One Health Perspectives*

This is a lecture and project based course introducing an overview of animal venom and toxin (collectively "venoms") pathophysiology in human and veterinary patients, global burden of envenomation, environmental and geographic influences on incidence of envenomation, and therapeutic applications of venom derived toxins. Students will select a venom or toxin of choice, produce a literature summary, and design a translational or clinical study protocol using a standardized template.

2 credits

Prerequisites: Completion of or concurrent enrollment in PHIDG 1604 Integrated Sequence 4

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

## Student Promotion and Graduation Committee

The Student Promotion and Graduation Committee (SPGC) is composed of members of the College faculty and a representative from the Office of the Dean. This Committee is responsible for enforcing the published academic and professional standards established by the faculty and for assuring that they are met by all students. As such, this Committee establishes the criteria, policies, and procedures for student advancement, deceleration, academic probation, dismissal, and graduation. This Committee meets at a minimum at the end of each academic quarter to review the academic progress and performance of students enrolled in the program in relation to institutional academic policies. At the end of the academic year, the Committee assesses the academic and professional progress and performance of each student. Additionally, the Committee will recommend revisions of academic and professional standards, and criteria for student advancement, deceleration, academic probation, dismissal, and graduation to the faculty for adoption. Finally, the Committee also identifies and recommends candidates for graduation to the MWU Faculty Senate.

If the student's progress is satisfactory, the student is promoted to the next academic year, provided all tuition and fees have been paid. If a student fails to make satisfactory progress in completing the prescribed course of study, the Committee shall recommend to the Dean or his designee appropriate action to correct the deficiency(ies). In instances involving more than one failure of a student to maintain satisfactory academic/professional progress, the Committee may recommend dismissal.

Among the options available to the Committee in regard to unsatisfactory student performance are:

1. That a written caution be provided to the student.
2. That the student:
  - be placed on academic probation for a specified period of time;
  - take an alternative approved course offered at another college or university;
  - repeat the course(s) in which there is a failure when the course is offered again in the curriculum;
  - be placed in an extended program; or
  - be dismissed from the College

When a student fails to make satisfactory progress in completing the prescribed course of study, the Office of the Dean will notify the student, in writing (i.e., e-mail), at least two working days in advance of the Committee meeting. The student will be offered an opportunity to appear before the Committee (in person or via telephone) in order to present his/her case. In such instances, the student shall inform the Office of the Dean, in writing, of his/her desire to

appear before the Committee or his/her intent to waive this right. If the student chooses to appear before the Committee, this prerogative extends to the involved student only and not to any other individuals. The SPGC will make a recommendation on a course of action to the Dean or his designee. Within two working days following the Committee meeting, the Office of the Dean is responsible for providing notification in writing (i.e., e-mail) to the involved student, informing him/her of the recommendation of the Committee and the Dean's or his designee's decision.

### **Academic Standards for the Pharm.D. Program**

An annual didactic grade point average will be used as the primary measure of academic performance. It is calculated from all didactic courses for a particular professional year. Grades earned for courses prior to matriculation in the professional program and grades earned for courses taken at another institution while enrolled in the professional program are not included in the calculation of this annual grade point average.

### **Academic Policies**

Students must maintain an annual grade point average of 2.00 in their professional program to remain in good academic standing. If a student earns a grade of "F" in one course or pharmacy practice experience, the student is notified, in writing, that he/she is being placed on academic probation. Academic probation represents notice that continued inadequate academic performance may result in dismissal from the College. Additionally, he/she will be remanded to the SPGC. The SPGC will make a recommendation on a course of action. The recommendation may include, but not be limited to, an extended program of study or dismissal.

If the student enters an extended program of study, he/she must repeat all courses or pharmacy practice experiences in that year in which a grade of "F" was received. In general, a student is allowed to go through an extended program only once. The pharmacy practice experiences are subject to availability of sites as determined by the Office of Experiential Education. Placement of a student on the extended program does not modify or limit the committee's actions for dismissal. Thus, the student may be dismissed for academic reasons while on an extended program. If the student does not meet the criteria for successful academic performance at the end of the extended program, the student may be dismissed.

To be returned to good academic standing after completion of an extended track year, a student must have successfully repeated all courses or pharmacy practice experiences in which a grade of "F" was received.

A student who completes the extended program is defined as a reentering student as the student reenters the next professional year curriculum and resumes a normal course

load. A reentering student who earns a grade of "F" in one course or pharmacy practice experience may be dismissed from the College. The following policies also guide decisions made by the committee:

1. Students must successfully resolve all "I" (incomplete) and "IP" (in-progress) grades before beginning pharmacy practice experiences.
2. To proceed to pharmacy practice experiences, a student must have earned a passing grade in all coursework with an annual grade point average of 2.00 or above. Eligibility to start introductory pharmacy practice experiences is determined by the annual grade point average calculated from all courses in the First Professional (PS-1) Year. Eligibility to start advanced pharmacy practice experiences is determined by the cumulative grade point average calculated from all coursework over both the Second Professional (PS-2) Year and the Third Professional (PS-3) Year summer quarter.

### **Extended Program**

Problems may arise that may necessitate a restructuring of a student's academic course load. Accordingly, an individual's academic course load may be reduced so that the student enters what is termed an extended track repeat year program. Such a program rearranges the course schedule so that the normal time period for the program is extended, usually by one additional year. Only enrolled students may enter an extended program. To enter an extended program, either one or both of the following conditions must be met:

1. *Personal hardship.* If a student is experiencing unusual stresses in life and a decreased academic load could alleviate added stress, the student may petition the SPGC through the Dean or the Dean's designee for an extended program. This petition is not automatically granted and is approved only in exceptional circumstances. The committee is responsible for evaluating the petition and submitting a recommendation concerning a student's request for an extended program to the Dean or the Dean's designee. The Dean or the Dean's designee is responsible for reviewing and assessing the committee's recommendation, then notifying the student of a decision.
2. *Academic.* As described above, a student ending an academic year with an annual GPA of less than 2.00 will be required to repeat courses or pharmacy practice experiences from that year in which F grades were received. A student may be placed on an extended program for academic reasons upon the recommendation of the SPGC. A student placed on an extended program for academic reasons is automatically placed on academic probation.

If a student is placed on an extended program, such action does not modify or limit the committee's actions for dismissal. Thus, the student may be dismissed for academic reasons while on an extended program.

A student placed on an extended program for academic reasons will be returned to good academic standing when he/she reenters the prescribed academic program and completes all courses that were unsatisfactory and are required for graduation.

### **Class Standing**

To achieve the status of a second year student in the professional program (PS-2), students must have successfully completed all requisite PS-1 courses and earned an annual didactic GPA of 2.00. To achieve the status of a third-year student in the professional program (PS-3), students must have successfully completed all requisite PS-2 courses, the two introductory rotations, and earned an annual didactic GPA of 2.00.

### **Dean's List**

Following each quarter, the College of Pharmacy-Glendale recognizes students for the Dean's List who have distinguished themselves by achieving a GPA of 3.50 or better for the quarter. This applies for full-time didactic coursework only.

### **Dismissal**

A student may be dismissed from the College for academic reasons upon the recommendation of the SPGC. The dismissal is based on the determination by the Committee that the student has not satisfactorily demonstrated that he or she possesses the aptitude to successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program.

### **Appeal Process (for dismissals or extended program actions)**

Following notification of a decision for dismissal or extended program, a student may appeal, in writing, the decision to

the Dean. Such appeals must be received by the Dean within 3 working days after the student is officially notified of the dismissal or extended program decision. A narrative explaining the basis for the appeal should accompany the request. An appeal must be based on one of the following premises:

1. Bias of one or more members of the Student Promotion and Graduation Committee.
2. Material, documentable information not available to the Committee at the time of its initial decision.
3. Procedural error.

The Dean will review the appeal request and decide if there is sufficient information to convene a meeting of the Student Promotion and Graduation Committee, which would be asked to provide a recommendation to the Dean on the appeal request. Once a decision is made to convene a Committee meeting, the student requesting an appeal shall be notified in writing (i.e., e-mail), by the Office of the Dean at least two working days in advance of the scheduled Committee meeting in which the student's appeal will be heard. The student will be offered an opportunity to appear before the Committee (in person or via telephone) in order to present his/her case. In such instances, the student shall inform the Office of the Dean, in writing, of his/her desire to appear before the Committee or his/her intent to waive this right.

If the student chooses to appear before the Committee, this prerogative extends to the involved student only and not to any other individuals. The Committee submits its recommendation to the Dean. Upon receipt of the Committee's recommendation, the Dean makes the final decision on all appeals.

The student must attend all didactic classes in which they are registered until the appeal process is complete. Students registered in a rotation course may be placed on a mandatory leave of absence until the appeal process is finalized.

## Grades

The following includes all grading options and corresponding definitions that may be issued within CPG.

Grade	Quality Points (per credit)	Comments
A	4.000	-
A-	3.670	-
B+	3.330	-
B	3.000	-
B-	2.670	-
C+	2.330	-
C	2.000	-
F	0.000	-
I	0.000	An Incomplete (I) grade may be assigned by an instructor when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades must be resolved within 10 calendar days from the end of final exams for the quarter. In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade, with notice to the Registrar.
IP	0.000	An In-Progress (IP) grade may be assigned when extenuating circumstances make it necessary to extend the grade completion period past 10 calendar days (e.g. illness, family death). Authorization by the Dean is required, and the completion period should not typically exceed one quarter.
P	0.000	Pass (for a pass/fail course); designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of "P" is counted toward credit hour accruals for graduation but does not affect GPA calculations.
F	0.000	Fail (for a pass/fail course); designation indicates that the student has not made satisfactory progress or completed required coursework satisfactorily. Grade of "F" is counted toward credit hour accruals as attempted but not completed. Grade of "F" is calculated into the GPA (quality points are lowered due to unsuccessful course completion).
W	0.000	Withdrawal is given if the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation.
W/F	0.000	Withdrawal/Failing is given if the work completed up to the time of withdrawal is below the passing grade level for the Program/School. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation. W/F may be considered as a failure by a Student Academic Review Committee. Multiple F's and W/F's can be grounds for dismissal.
AU	0.000	This designation indicates an audited course in which a student is registered with the understanding that neither academic credit nor a grade is earned. The status of the course cannot be changed from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
AP		This designation indicates the decision of a college to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement (AP) is applied toward credit hour accruals, but is not counted in the GPA calculation.



### Graduation Honors

Graduation honors are awarded to candidates for the Doctor of Pharmacy degree who have distinguished themselves by virtue of high academic achievement while enrolled in a professional program of the College. Only grades from didactic courses taken at the College will be included in determining graduation honors. Degrees with honor are awarded based on the level of academic achievement as follows:

#### Didactic Course

<b>Grade Point Average</b>	<b>Graduation Honor</b>
> 3.90	Summa cum laude
3.75 - 3.89	Magna cum laude
3.50 - 3.74	Cum laude

### Grades & Grade Point Average

Courses are recorded in terms of quarter hour(s) of credit. Multiplication of the credits for a course by the numeric value for the grade awarded gives the number of quality points earned for a course. Dividing the total number of quality points earned in courses by the total number of credits in those courses gives the grade point average.

Grades reported as “W”, “WF”, and “P” are recorded on a student's permanent record but are not used in the calculation of a student's grade point average. Similarly, a grade of “I” or “IP” may be assigned and is used only when special/extenuating circumstances exist (i.e., prolonged illness, family crisis, etc.), which prevent a student from completing the necessary course requirements on time, in order to receive a grade.

Any request for an extension to complete required course or pharmacy practice experience requirements must be approved first by the course director responsible for the course or pharmacy practice experience. Unless otherwise specified, a grade of “I” must be resolved within 10 days from the end of the quarter or pharmacy practice experience or the incomplete grade is automatically converted into a grade of “F”, which signifies failure of the course or pharmacy practice experience. It is the responsibility of the student when receiving an incomplete grade to complete all of the course requirements within this time, unless otherwise specified.

If a student receives a failing grade (“F”) in a course or pharmacy practice experience, that grade will be recorded on his/her transcript. This deficiency may be corrected as recommended by the Student Promotion and Graduation Committee. The permanent record of the student will be updated to indicate that the failing grade has been successfully corrected following either successful re-

examination or repetition of the course or pharmacy practice experience.

If course re-examination was completed, a minimally passing grade is registered in place of the “F”, and the student's cumulative grade point average will reflect the change. If a student is unsuccessful at re-examination, the grade of “F” will remain. If a student repeats a course, the course is entered twice in the permanent record of the student. The grade earned each time in the course is recorded, but only the most recent grade is used in the computation of the student's cumulative grade point average. When a course is repeated, the student may earn any grade that is within the grading scale for the course.

A student's academic standing is determined on the basis of his/her grade point average. Inclusion on the Dean's List, honors at graduation, placement on probation, and dismissal depend directly on the grade point average.

## STUDENT ADMINISTRATIVE POLICIES

### Absence Reporting Procedure

In the event of serious illness, personal emergency, personal incapacitation, or other exceptional problem of a serious nature that causes a student to be absent from a session requiring mandatory attendance or class, a student must notify one of the following: CPG's Office of the Dean, CPG department head, or course director. To be excused from a rotation, the student must notify his/her preceptor and the Office of Experiential Education. Failure to notify the Office of Experiential Education will result in an unexcused absence and policies detailed in the Experiential Education Manual will apply. Assuming that there is a legitimate reason for a student's absence, the CPG's Office of the Dean will contact by e-mail or telephone the coordinators of courses in which the student will miss an examination, quiz, or graded assignment, or will send a letter to all appropriate course directors that confirms in writing that the student will be absent, the reason for the absence, the courses from which the student will be absent, and the date(s) of the student's absence. This will be done as soon as possible (within 24 hours) after the student has called in. It is the student's responsibility to contact the course director immediately upon his/her return for instructions regarding how the missed session can be made up. If a student fails to follow this procedure, the student is held responsible for the policies stated in course syllabi regarding unexcused absences. Unexcused absences may result in course failure.

### Requesting an Excused Absence for Personal/Professional Reasons

The College recognizes that a student may need to be excused from class or rotations for non-illness, non-emergency-related reasons. An Absence Request Form must be completed at least 2 weeks prior to the day the student wishes to be

excused. Forms are available in the Office of the Dean. Completion of the form by the student does not imply the student is excused from classes until the course directors of the affected courses approve the request.

### **Advanced Standing**

All requests for advanced standing by newly admitted, transfer, or enrolled students are processed on a course-by-course basis by the Office of the Dean. To request such consideration, a student must submit a letter of request and the request form to the Office of the Dean in which the student lists a course(s) previously taken at an accredited college or university, which might be similar in content to a professional course(s) that he/she is scheduled to take. The student must also provide an official course description(s) and a syllabus (syllabi) of the course(s) previously taken. All requests must be submitted at least 3 weeks prior to the start of the course being considered. For APPEs, all requests must be submitted at least 6 months prior to the first day of the specific APPE that the student is seeking to be excused from. Advanced standing will be considered for coursework taken in which a letter grade of C or better has been earned. A C- letter grade is not acceptable for advanced standing consideration. No advanced standing will be awarded for professional pharmacy coursework completed at a foreign college of pharmacy.

### **Dress Code for Pharmacy Practice Experiences**

Dress requirements for experiential rotations are delineated in the experiential program manual. Students are advised that professional attire is required. Students will be notified if professional attire is required for college functions and/or courses. Course syllabi will state if professional attire or a dress code is in effect for the course.

### **Faculty Advisor Program**

CPG assigns a faculty advisor to students in each entering class. In addition to these faculty advisors, the CPG Dean, Assistant/Associate Dean and the Dean of Students, as well as other faculty members and professional staff, are also available to assist students with academic advising, counseling, and enrichment. Students are assigned a faculty advisor selected from the faculty of CPG.

Students are placed into groups upon entry into the College. Each group of students is assigned a faculty advisor who will mentor them throughout the program. Faculty advisors act as liaisons between the faculty and students. Their responsibilities include:

1. Serve as the student's advisor and academic/professional counselor;
2. Oversee and monitor the academic progress and professional growth of the student;
3. Assist the student in seeking academic and personal counseling services provided by the institution;
4. Serve as an advocate for the student; and

5. Counsel the student during his/her selection of a career within the pharmacy profession.

## **AWARDS**

Availability of awards is subject to continued support by the sponsoring organization.

### *APhA Academy of Students of Pharmacy Mortar and Pestle Professionalism Award*

A wooden mortar and pestle is presented annually to a graduating student who exhibits the ideals of professionalism and excellence in patient care in all aspects of their academic pharmacy career. The winner is eligible to compete in an essay competition to receive a monetary award to be used for professional development activities.

### *APhA-ASP Senior Recognition Certificate*

The Academy of Students of Pharmacy Chapter presents this certificate each year to a 3rd year student who has made outstanding contributions to the chapter.

### *ASHP Student Leadership Award*

Each year the American Society of Health-Systems Pharmacists provides a leadership award to a student who has demonstrated qualities of leadership through involvement with ASHP activities. The student receives a monetary award and a copy of the ASHP Drug Information reference.

### *College Awards for Excellence*

Each year plaques are presented to outstanding students in the areas of medicinal chemistry, pharmaceuticals, pharmacology, therapeutics, and pharmacy administration.

### *Facts and Comparisons Award of Excellence in Clinical Communication*

A set of reference texts is presented to the graduating student who has demonstrated superior verbal and written clinical communication skills.

### *Midwestern University College of Pharmacy-Glendale Excellence in Professional Skills Development Award*

A certificate is presented to the graduating student exhibiting excellent patient care skills.

### *Henry J. Goeckel Kappa Psi - Grand Council Scholarship Key and Certificate*

Kappa Psi Pharmaceutical Fraternity provides a Grand Council Scholarship Key and Certificate to a graduating Kappa Psi brother that graduates with first honors. The student receives a 14K-gold scholarship key and certificate from the Kappa Psi Council in recognition of his/her academic achievement.

*Midwestern University College of Pharmacy-Glendale  
Excellence in Service Award*

The award is given for superior scholastic and professional achievement. Leadership qualities as well as professional attitude are considered along with academic performance in selecting the graduating student for this honor.

*Midwestern University College of Pharmacy-Glendale  
Excellence in Pharmacy Award*

A certificate is presented to the graduating student who has demonstrated outstanding achievement in the provision of drug information services.

*National Community Pharmacist Association (NCPA)  
Outstanding Student Member Award*

A plaque is presented each year by the NCPA in recognition of a student's entrepreneurial spirit and commitment to advancing independent community pharmacy practice.

*Natural Medicines Comprehensive Database Award*

A plaque and reference text are presented to a graduating student who has demonstrated an interest in the area of natural medicines.

*Natural Standard Research Collaboration Award*

A certificate and reference text are presented to a graduating student who perpetuates multidisciplinary, evidence-based research practices, healthcare communications, or information.

*Midwestern University College of Pharmacy-Glendale  
Communications Award*

A certificate is presented to the graduating student who has demonstrated effective communication skills during his/her experiential rotations.

*The Robert C. Johnson Leadership Award*

This named award recognizes a graduating student who has been active in a leadership role and maintains an acceptable scholastic level. The student shall have actively participated in one or more student professional associations or demonstrated leadership in other capacities. The student is expected to undertake a project that contributes to patient care and/or for the advancement of the profession.

## SCHOLARSHIPS

Availability of scholarships is subject to continued support by the sponsoring organization.

*CVS Charitable Trust, Inc. Scholarship*

The CVS Charitable Trust, Inc. provides scholarships to students interested in entering community pharmacy practice.

*Craig A. Johnston Memorial Scholarship*

A scholarship is presented to a student in their 2nd or 3rd year with a grade point average of 3.0 or higher. Preference is given to a member of Kappa Psi.

*Dennis J. McCallian Scholarship*

A scholarship is presented to a student who demonstrates academic achievement in their 2nd or 3rd year. Must be actively involved in the community.

*John Dik Memorial Scholarship*

A scholarship presented to a student in their 2nd or 3rd year with a grade point average of 3.0 or higher. The student must be active in the community and demonstrate leadership qualities.

*The Midwestern University College of Pharmacy-  
Glendale Heritage of Pharmacy Scholarship*

One scholarship is presented each year to a student who has demonstrated academic achievement and professionalism.

*National Association of Chain Drug Stores Foundation  
Scholarship*

Monetary awards are presented to students who are interested in pursuing a career in community pharmacy.

*Pharmacists Mutual Companies Scholarship*

A scholarship is provided to a student who has demonstrated academic achievement.

*Albertsons Safeway Scholarship*

Albertsons Safeway provides scholarships to educationally disadvantaged students in their 2nd and 3rd year of professional study.

*Shopko Scholarship*

Shopko provides scholarships to students who have excelled in the pharmacy program.

*Target Scholarship*

Target provides scholarships to students that achieve academically, demonstrate financial need, and promote teamwork.

*Walgreen Pharmacy Scholarship*

The Walgreen Company provides scholarships to students who have demonstrated strong leadership and communication skills. These students must also have an interest in community pharmacy practice.

*Wal-Mart Pharmacy Scholarship*

Wal-Mart provides scholarships to students with strong leadership qualities and a desire to enter community pharmacy practice.

## PHARMACY PRACTICE FACULTY

### **Titilola M. Afolabi, Pharm.D., BCPS**

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### **Jeffrey F. Barletta, Pharm.D., FCCM**

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### **Michael A. Dietrich, Pharm.D., BCPS**

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### **Shareen El-Ibiary, Pharm.D., BCPS, FCCP, FCSHP**

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College of Pharmacy  
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### **Mary Gurney, Ph.D.**

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### **Vanthida Huang, Pharm.D., BSPHM, FCCP**

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### **Maura Jones, Pharm.D., BCPS**

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Philadelphia College of Pharmacy  
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### **Nicole Murdock, Pharm.D., BCPS**

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### **Michael T. Rupp, Ph.D.**

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**Shawn Tennant, Pharm.D., MBA**

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Associate Professor

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School of Medicine  
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**Joie C. Rowles, Ph.D.**

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Graduate School of Biomedical Sciences  
Associate Professor

**Charles A. Veltri, Ph.D.**

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Associate Professor

**Volkmar Weissig, Ph.D., Sc.D.**

Martin Luther University-Halle  
Institute of Biochemistry  
Chair and Professor

**Mingyi Yao, M.S., Ph.D.**

Creighton University  
School of Medicine  
Associate Professor

**BASIC SCIENCE FACULTY WITH  
JOINT APPOINTMENTS**

**John A. Hnida, Ph.D.**

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Associate Professor

**Chongwoo Kim, Ph.D.**

John Hopkins University  
Associate Professor

**Kathryn J. Leyva, Ph.D.**

Northern Arizona University  
Chair and Professor

**Mark Swanson, Ph.D.**

Stony Brook University  
Assistant Professor

**Johana Vallejo-Elias, Ph.D.**

University of Missouri  
Professor

# COLLEGE OF HEALTH SCIENCES

## MISSION

The College of Health Sciences (CHS) is dedicated to excellence in the education of professionals who will meet the healthcare and service needs of the community. This mission is expressed in the education, scholarship, and service objectives of the programs of the College of Health Sciences.

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

### Academic Monitoring

All students enrolled in CHS are expected to:

1. Maintain satisfactory academic progress in their course of study;
2. Understand and meet all established program/school/College academic and professional requirements and standards as described in the course syllabi, program-related manuals, University Catalog, and Student Handbook;
3. Self-monitor their academic performance in all required courses;
4. Complete all course-related requirements in a timely and satisfactory manner;
5. Seek assistance if encountering academic difficulty;
6. Contact the appropriate Program/School Director and/or course coordinator when performance has been unsatisfactory; and
7. Regularly check home or campus mailbox at least twice a week and university e-mail account daily for information concerning educational programs. This is particularly important at the end of the quarter and during quarter breaks when information

concerning academic performance may be distributed.

### Academic Review and Progression

The academic progress of each student enrolled in the College is regularly monitored to determine whether he/she is making satisfactory academic progress in his/her program of study based on stated criteria established by the program/school/College. The academic review process occurs at three levels: the program/school-based Student Academic Review Committee, the College-based Student Promotion and Graduation Committee, and the CHS Dean.

### Student Academic Review Committees

The Student Academic Review Committee of each program/school is appointed annually by the University Faculty Senate with the recommendation of the Program/School Director. Membership consists of three or more program/school faculty members and the Program/School Director (or his/her designee) who is the chair of this committee. The Dean of Students and the CHS Dean or his/her designee are ex-officio members without vote.

At the end of each quarter and more often if necessary, this committee reviews and acts upon the academic progress of each student enrolled in the program. If satisfactory, the committee recommends progression of the student to the next quarter. If unsatisfactory, the committee recommends whether a student is placed on academic warning, academic probation, extended program, academic leave of absence, or is dismissed. These recommendations are forwarded to the student, the chair of the CHS Student Promotion and Graduation Committee, and the CHS Dean. Following notification, a student may appeal the recommendation to the CHS Student Promotion and Graduation Committee. The CHS Student Promotion and Graduation Committee will review the student's appeal and make a recommendation to the CHS Dean. The CHS Dean is responsible for reviewing all recommendations for consistency with stated College academic policies and practices. The Dean makes the final decision on the action to be taken.

The Student Academic Review Committee also recommends for graduation students who have satisfactorily completed all

degree requirements specified by their respective program/school. These recommendations are forwarded to the CHS Student Promotion and Graduation Committee for review. Minutes of each meeting must be filed with the appropriate Program/School Director and the CHS Dean.

#### **CHS Student Promotion and Graduation Committee**

This committee is appointed annually by the University Faculty Senate. Members include the CHS Program/School Directors, two faculty members from each program/school within CHS and two faculty members from the basic science departments. The Registrar, Dean of Students, and the CHS Dean or his/her designee are ex-officio members without vote.

At the end of each academic year, the committee reviews the recommendations from the individual Student Academic Review Committees and assesses the academic and professional progress and performance of each student. If satisfactory, the committee recommends promotion of the student. In addition, the committee meets each spring, or as needed, to recommend for graduation all students who have satisfactorily completed all degree requirements specified by their program/school. The committee's recommendations are forwarded to the CHS Dean and the University Faculty Senate for approval. The committee also reviews student appeals of Student Academic Review Committee recommendations. The chairperson of the committee is responsible for submitting minutes of each meeting to the CHS Dean.

#### **Satisfactory Academic Progress**

To achieve satisfactory academic progress, a student enrolled in a degree program in CHS must pass all required courses and maintain a minimum cumulative grade point average. For most programs in CHS, students are required to maintain a cumulative grade point average of 2.750 or higher. The following programs have exceptions to the minimum 2.750 GPA requirement and/or additional criteria for satisfactory academic progress.

*Arizona School of Podiatric Medicine (AZPod):* A student enrolled in the Arizona School of Podiatric Medicine must pass all courses and maintain a cumulative grade point average of 2.000 or higher to have achieved satisfactory academic progress.

*Clinical Psychology (CP) Program:* A student enrolled in the Clinical Psychology Program must pass all courses and maintain a cumulative grade point average of 3.000 or higher

to have achieved satisfactory academic progress. In addition, a student must achieve a minimum grade of "B-" or "P" in all required courses, seminars, and practica. To progress to the next quarter, a student must satisfactorily complete all academic requirements for the preceding quarter.

*Nurse Anesthesia (NA) Program:* A student enrolled in the Master of Science in Nurse Anesthesia Program must pass all courses and maintain a cumulative grade point average of 2.750 or higher to have achieved satisfactory academic progress. In addition, a student must achieve a "B-" or higher in all NAAPG curriculum courses, as well as in all clinical rotation and clinical didactic component courses. A student enrolled in the Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program must pass all courses, maintain a cumulative grade point average of 2.75 or higher, and achieve a "B-" or higher in all DNAPG courses.

*Occupational Therapy (OT) Program - Downers Grove Campus:* A student enrolled in the Doctor of Occupational Therapy (OTD) Program must pass all courses and maintain a cumulative grade point average of 3.000 or higher to have achieved satisfactory academic progress.

*Physician Assistant (PA) Program - Downers Grove Campus:* A student enrolled in the Physician Assistant Program must pass all courses and maintain a cumulative grade point average of 2.750 or higher to have achieved satisfactory academic progress. In addition, to progress to the next quarter, a student must satisfactorily complete all academic requirements for the preceding quarter.

*Physician Assistant (PA) Program - Glendale Campus:* A student enrolled in the Physician Assistant Program must pass all courses and maintain a cumulative grade point average of 3.000 or higher to have achieved satisfactory academic progress. In addition, to progress to the next quarter, a student must satisfactorily complete all academic and professionalism requirements for the preceding quarter. A student is not able to progress to clinical rotations until or unless their cumulative GPA is greater than or equal to 3.000.

*Speech-Language Pathology (SLP) Program:* A student enrolled in the Speech-Language Pathology Program must pass all didactic courses with a grade of C or higher, pass all clinical courses, and maintain a minimum cumulative grade point average of 3.000 to have achieved satisfactory academic progress.

### Academic Progress

Outcome	Usual Action <sup>1</sup>	Transcript Notation
No course failures; cumulative GPA $\geq 3.000$ (CP, OT-IL, PA-AZ, SLP) or $\geq 2.750$ (CVS, NA, OT-AZ, PA-IL, PT) or $\geq 2.000$ (AZPod)	Allowed to progress to the next quarter	---
No course failures; one quarter of cumulative GPA $< 3.000$ (CP, OT-IL, PA-AZ, SLP) or $< 2.750$ (CVS, NA, OT-AZ, PA-IL, PT) or $< 2.000$ (AZPod)	Academic warning for the subsequent quarter	Academic warning is not noted on the transcript.
One course failure <sup>2</sup> ; and/or two quarters of cumulative GPA $< 3.000$ (CP, OT-IL, PA-AZ, SLP) or $< 2.750$ (CVS, NA, OT-AZ, PA-IL, PT) or $< 2.000$ (AZPod)	Academic probation for the subsequent quarter or until all academic requirements are met. In addition, one or more of the following may apply: a) Retake of the failed course if eligible and/or if the course is required b) Academic leave of absence for up to one year until course is retaken or any requirements for re-entry established by the program have been met c) Extended program <i>Note:</i> Students on an extended program may be subject to academic LOA or dismissal after additional course failures or failure to maintain the required cumulative GPA.	"F" grade is listed on transcript and is counted toward GPA calculation and total number of accumulated failures. Following successful retake of the course, the original "F" grade remains on the transcript as an "F" but is no longer factored into the GPA calculation. The new grade will be factored into the GPA.  Academic probation and extended program are not noted on transcript. Academic leave of absence is noted on transcript.
Three or more quarters of cumulative GPA $< 3.000$ (CP, OT-IL, PA-AZ, SLP) or $< 2.750$ (CVS, NA, OT-AZ, PA-IL, PT) or $< 2.000$ (AZPod)	a) Academic probation for the subsequent quarter or until all academic requirements are met, or b) Academic leave of absence <sup>3</sup> and academic probation, or c) Extended program and academic probation, or d) Dismissal	Academic probation and extended program are not noted on transcript. Academic leave of absence and dismissal are noted on transcript.
Two or more course failures <sup>2</sup>	a) Academic leave of absence <sup>3</sup> and academic probation, or b) Extended program and academic probation, or c) Dismissal  <i>Note:</i> Two or more course failures will typically result in dismissal.	Academic probation and extended program are not noted on transcript. Academic leave of absence and dismissal are noted on transcript.

<sup>1</sup> The Student Academic Review Committee or the CHS Student Promotion and Graduation Committee may recommend any of the options listed among the usual actions described for each academic situation under review.

<sup>2</sup> WF may be considered as a course failure by a Student Academic Review Committee.

<sup>3</sup> May or may not be preceded by academic warning/probation.



### **Unsatisfactory Academic Progress**

If a student fails to make satisfactory progress in completing his/her prescribed course of study, he/she is placed on academic warning, academic probation, extended program, academic leave of absence, or is dismissed. The Student Academic Review Committee or the CHS Promotion and Graduation Committee may recommend any of the options listed among the usual actions described for each academic situation under review.

Students will be notified by the CHS Dean when they are placed on academic warning as a result of their failure to achieve the required minimum cumulative GPA established by their program/school. Any student with academic deficiencies to be addressed by the Student Academic Review Committee shall be notified in writing with a delivery confirmation (i.e., next-day express mail, e-mail or hand-delivery) by the chair of the Student Academic Review Committee at least two working days in advance of the scheduled meeting in which the student's case will be heard. The student may request and shall be permitted to appear before the Student Academic Review Committee (in person or via telephone) to present his/her case. In such instances, the student shall inform the chair of the Student Academic Review Committee, in writing, of his/her desire to appear before the committee or his/her intent to waive this right. If the student chooses to appear before the committee, this prerogative extends to only the involved student and not to any other individuals. A student whose academic progress will be subject to review by his/her Student Academic Review Committee and who wishes to appeal a course grade must do so in an expedited manner prior to the scheduled meeting of the Committee. Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Grade Appeals Policy.

Within two working days following the committee meeting, the chair of the Student Academic Review Committee is responsible for providing notification in writing with a delivery confirmation (i.e., next-day express mail, e-mail, or hand-delivery) to the involved student, informing him/her of the recommendation of the committee. In all instances, the chair of the Student Academic Review Committee shall be responsible for informing the CHS Dean and chair of the CHS Student Promotion and Graduation Committee of each recommendation made by the committee. Following notification of a recommendation by the Student Academic Review Committee, a student may appeal the recommendation to the CHS Student Promotion and Graduation Committee (see Appeal Process). The CHS Student Promotion and Graduation Committee will review the student's appeal and make a recommendation to the CHS Dean. The Dean is responsible for reviewing all recommendations for consistency with stated College academic policies and practices. The Dean is responsible for

providing written notification of the final decision to the student and to all appropriate academic support offices (i.e., Registrar, Student Financial Services, etc).

### ***Academic Warning***

Academic warning is a formal notification of substandard academic performance and cautions the student that continued performance at this level might result in academic probation. An academic warning is issued by the Dean's Office when a student earns a cumulative GPA below the minimum GPA required by his/her respective program/school for one quarter. An academic warning can be issued by the Program Student Academic Review Committee when the student fails to meet any other established program academic requirements. An academic warning is in effect for one quarter. Academic warning is not noted on the student's transcript but is noted in the student's academic file that is kept in the program office. If the student achieves the minimum standard of academic performance required by the program/school during the quarter of academic warning, the student is returned to good academic standing. This is also noted in the student's file.

### ***Academic Probation***

Academic probation represents notice of unsatisfactory academic progress. Academic probation typically occurs when the student fails a class during his/her academic program and/or earns a cumulative GPA below the minimum required by his/her respective program/school for two quarters (which do not have to be consecutive) and/or when the student fails to meet any other established program academic requirements. Academic probation is not noted on the student's transcript but is noted in the student's academic file in the program/school office. The student remains on academic probation until the failure is successfully repeated and/or the cumulative GPA is at or above the program's required minimum and all deficiencies have been corrected. Subsequently, when the student is returned to good academic standing, this is also noted in the student's file.

### ***Extended Program***

When a student is not allowed to progress in the standard program curriculum due to course failure, failure to maintain the required cumulative GPA for two or more quarters, and/or failure to meet any other established program academic requirement, the Student Academic Review Committee may place the student on an extended program. While on an extended program, students will be permitted to take elective courses or to retake courses in which they have received a grade of "C" or less. Students will be able to resume the standard program curriculum upon successful completion of all programmatic requirements.

Extended program is not noted on the student's transcript. Leave of absence will be noted on the transcript for periods of non-enrollment during the extended program period.

### ***Academic Leave of Absence***

Academic leave of absence may occur when a student has failed one or more courses, has accumulated two or more quarters when the cumulative GPA is less than required by his/her program/school, or has not met programmatic criteria required to proceed in the curriculum. Academic leave of absence may or may not be preceded by academic probation. This action results in the suspension of the student from all academic courses for a period of up to one year, or until all program/school requirements for re-entry have been fully met. A mandatory academic leave of absence is noted on the student's transcript.

The student who has been placed on a mandatory academic leave of absence does not have to re-apply for admission and is guaranteed reentry into his/her academic program upon successful completion of all failed courses and/or when all programmatic requirements are met. Upon reentry to the academic program, the student is routinely placed on academic probation for the following quarter.

### ***Academic Dismissal***

A student may be dismissed from the College for academic reasons upon the recommendation of the program/school's Student Academic Review Committee. The dismissal is based on the determination that the student has not satisfactorily demonstrated that he/she can successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program/school. Students who accumulate two or more failures or three quarters below the minimum required grade point average may receive a recommendation for dismissal. The course failures and/or the three-quarters with less than the required minimum cumulative GPA do not have to be consecutive.

### ***Retake of a Failed Course***

If a student passes a repeated course, the original failure remains on the transcript as an "F" grade and is included in the total number of accumulated failures in the student's academic record. The grade from the original failed course is no longer used in the computation of the GPA following repeat of the course. The grade from the repeated course will be factored into the overall GPA.

Under exceptional circumstances, such as academic probation or extended program, students may retake a Midwestern University course in which they have earned a "C." The Program/School Director and the CHS Dean must approve this retake option. Typically, a maximum of three courses with "C" grades can be retaken, and a course may only be retaken once. The original "C" grade will remain on the transcript but will not be used in the computation of the GPA following the completion of the repeated course. The new grade will be factored into the overall GPA.

All repeated courses are subject to additional tuition. Students should consult with their financial aid advisor regarding the financial implications of repeated coursework.

### ***Readmission After Dismissal for Poor Academic Performance***

It is at the discretion of each CHS academic program to readmit a student who has been dismissed for poor academic performance. To initiate the reapplication process, candidates must complete and submit a new application and proceed through the standard application process established by the program. Before reapplying, however, individuals should seek the advice of an admissions counselor. It is expected that the individual would have addressed documented deficiencies before reapplication and be able to demonstrate that he/she meets all admission requirements and technical standards of the program.

The program/school's Admissions Committee will review completed applications of candidates and submit recommendations to the Program/School Director for action. The CHS Dean, via the Office of Admissions, then notifies applicants in writing of admission decisions.

No guarantee of readmission is implied, and questions related to advanced standing and similar issues will be addressed as they are for new applicants. Reapplications are allowed only within the first two years following dismissal and readmission will be granted only once.

### ***Advanced Placement/Exemption from Coursework***

Some programs in CHS may allow for the transfer of credits from graduate-level coursework completed at other institutions prior to matriculation at Midwestern University. All requests for advanced placement by newly admitted or transfer students are processed on a course-by-course basis by the program/school's Admissions or Education Committee. To request such consideration, a student must submit a letter of request to the Program/School Director in which the student lists a course(s) previously taken which might be similar in content to a professional course(s) that he/she is scheduled to take. The student must also provide an official course description(s) and a syllabus (syllabi) of the course(s) previously taken. The program/school's Committee will share the submitted course materials with the appropriate course director to determine if the course(s) is an appropriate substitute. All requests must be submitted prior to matriculation. Each program/school determines the minimum letter grade of coursework for advanced placement. Typically, advanced placement will only be considered for coursework in which a minimum letter grade of "B-" or "C" or has been earned. A "C-" letter grade is not acceptable for advanced placement consideration. Some programs/schools may have additional requirements. If the Admissions or Education Committee denies the request for advanced

placement, the student may appeal this decision to the CHS Dean.

If a course is accepted for credit, the equivalent Midwestern University course and the Advanced Placement (AP) notation will be recorded on the transcript along with the name of the institution at which the credit was earned. Any earned letter grade will not be included on the transcript or used in the GPA calculation.

### **Appeal Process**

Following notification of a recommendation from the Student Academic Review Committee, a student may appeal the recommendation. He/she has three working days to submit a formal written appeal of the recommendation to the CHS Student Promotion and Graduation Committee. The appeal must be submitted in writing and delivered to the chair of the CHS Student Promotion and Graduation Committee and the Office of the Dean within this three-day period. A narrative explaining the basis for the appeal should accompany the request. An appeal must be based on one of the following documented premises:

1. Bias of one or more members of the Student Academic Review Committee.  
*Note: The student must present specific evidence that the committee member(s) demonstrated bias against him/her in conducting the academic review process.*
2. Material, documentable information not available to the committee at the time of its initial decision.  
*Note: The student must provide a detailed explanation of why the new information is relevant and why it was not made available to the committee members during the academic review process. The student should be prepared to produce pertinent documentation at the appeal meeting.*
3. Procedural error.  
*Note: The student must provide evidence that the committee did not correctly follow the procedures related to the conduct of the academic review process; for example, the student was not given notice of the meeting or committee recommendation in accordance with stated policies.*

The CHS Student Promotion and Graduation Committee will review student appeals. A majority of faculty members on each committee must be from outside the program/school from which the student is appealing. One member of the appeal committee must be from the student's program/school and is a non-voting member. The committee will review and assess the student's appeal. Any student requesting an appeal shall be notified in writing with a delivery confirmation (i.e., next-day express mail, e-mail or hand-delivery) by the chair of the committee at least two working days in advance of the scheduled meeting in which the student's case will be heard.

The student may request and shall be permitted to appear before the committee (in person or via telephone) to present his/her case. In such instances, the student shall inform the chair of the committee, in writing (i.e., e-mail or hand-delivery), of his/her desire to appear before the committee or his/her intent to waive this right. If the student chooses to appear before the committee, this prerogative extends to the involved student only and not to any other individuals. The committee may request that a course director and/or faculty advisor attend the meeting to provide additional information about the student's case. After review of the appeal, the committee chair submits the committee's recommendation to the Dean and notifies the chair of the Student Academic Review Committee. Upon receipt of the Student Promotion and Graduation Committee's recommendation, the Dean will make a decision, typically within ten working days, and then notify the student, the chairs of the Student Academic Review Committee and the CHS Student Promotion and Graduation Committee, and all appropriate support offices. The decision of the Dean is final.

Students must attend all didactic courses in which they are registered until the appeal process is complete. Students who fail a core or prerequisite course should consult with the Program/School Director regarding attendance in courses in the subsequent quarter. Students registered in a clinical course (rotation, practicum, etc.) may be placed on a mandatory academic leave of absence until the appeal process is finalized.

### **Auditing a Course for Remedial Purposes**

The Student Academic Review Committee may determine that a student should be enrolled in a previously taken course on a temporary, audit basis. Under these circumstances, a student can attend classes and labs, receive handouts, and participate in exams to assess learning on an informal, non-graded basis. No course credits or grade may be earned for an audited course. Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Course Auditing Policy.

### **Class Standing**

To progress to the next year in a professional program/school of the College, students must have satisfactorily completed all academic requirements for the preceding year of the professional program/school curriculum.

### **Faculty Mentor Program**

Most CHS academic programs assign a faculty mentor to students in each entering class. The faculty mentor assists with academic concerns. In addition to these faculty mentors, the CHS Dean, Assistant Dean, and the Dean of Students are also available to assist students. The student determines the amount of interaction with his/her faculty mentor. It is the student's responsibility to initiate contact with the faculty mentor for assistance.

CHS faculty mentors act as liaisons between the faculty and students. Their responsibilities include:

1. Serving as the student's advisor and academic/professional counselor;
2. Overseeing and monitoring the academic progress and professional growth of the student;
3. Assisting the student in seeking academic and personal counseling services provided by the institution;
4. Serving as an advocate for the student;
5. Counseling the student during his/her selection of a career within the profession.

## Grades

Students receive letter grades corresponding to the level of achievement in each course, based on the results of examinations, required course work, and, as applicable, other established criteria. The letter grades, percent ranges, and quality points per credit are as follows:

Grade	Percent (%)	Quality Points (per credit)	Comments
A	93-100	4.000	-
A-	90-92	3.670	-
B+	87-89	3.330	-
B	83-86	3.000	-
B-	80-82	2.670	-
C+	77-79	2.330	Does not apply to the Clinical Psychology or Nurse Anesthesia Programs (NAAPG or DNAPG courses)
C	70-76	2.000	Does not apply to the Clinical Psychology or Nurse Anesthesia Programs (NAAPG or DNAPG courses)
F	< 70	0.000	-
F	< 80	0.000	For the Clinical Psychology and Nurse Anesthesia Programs (NAAPG or DNAPG courses)
I	-	0.000	An Incomplete grade may be assigned by an instructor when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades will be resolved within 10 calendar days from the end of final examinations for the quarter or they will automatically be converted to a grade of "F." In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade with notice to the Registrar.
IP	-	0.000	An In-Progress grade may be assigned when extenuating circumstances make it necessary to extend the grade completion period past 10 calendar days (e.g. illness, family death). Authorization by the Dean is required, and the completion period should not typically exceed one quarter.
P	-	0.000	Pass (for a pass/fail course); designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of 'P' is counted toward credit hour accruals for graduation but does not affect GPA calculations.
F	-	0.000	Fail (for a pass/fail course); designation indicates that the student has not made satisfactory progress or completed required coursework satisfactorily. Grade of "F" is counted toward credit hour accruals as attempted but not completed. Grade of "F" is calculated into the GPA (quality points are lowered due to unsuccessful course completion).
W	-	0.000	Withdrawal is given if the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation.
WF	-	0.000	Withdrawal Failing is given if the work completed up to the time of withdrawal is below the passing grade level for the program/school. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation. "WF" may be considered as a failure by a Student Academic Review Committee. Multiple "F's" and "WF's" may be grounds for dismissal.
AU	-	0.000	This designation indicates an audited course in which a student is registered with the understanding that neither academic credit nor a grade is earned. The status of the course cannot be changed from audit to full credit after the start of the quarter.
AP	-	-	This designation indicates the decision of a college to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement is applied toward credit hour accruals, but is not counted in the GPA calculation.

### **Grade Point Average**

The grade point average (GPA) is determined by calculating the total number of quality points earned and dividing them by the total number of credits carried. The total quality points earned for each course is determined by multiplying the quality points earned per credit (corresponding to the letter grade) by the number of credits assigned to the course. The student's cumulative grade point average is computed and recorded by the Office of the Registrar. It is calculated initially at the end of the first quarter of enrollment and does not include any grades or credits for courses audited or accepted for advanced placement or for courses with a grade of withdrawal (W), withdrawal failing (WF), or pass (P). Additionally, failing (F) grades for courses that are successfully repeated are not included in the GPA. Under exceptional circumstances and with the approval of the Program/School Director and Dean, students may retake a course in which they received a grade of "C." In such cases, the original grades remain on the transcript but only the new grades are used in the computation of the GPA.

### **Graduation**

The following degrees will be conferred upon candidates who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements: Master of Science in Cardiovascular Science, Master of Arts in Clinical Psychology, Doctor of Psychology in Clinical Psychology, Master of Science in Nurse Anesthesia, Doctor of Nurse Anesthesia Practice, Master of Occupational Therapy, Doctor of Occupational Therapy, Doctor of Physical Therapy, Master of Medical Science in Physician Assistant Studies, Doctor of Podiatric Medicine, or Master of Science in Speech-Language Pathology.

### **Immunization Policy**

Full-time students enrolled in a program with a clinical component are required to have all immunizations and titers as outlined in the general policy section of the Student Handbook.

### **Leave of Absence**

Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Leave of Absence Policy. Before voluntarily requesting a leave for personal reasons or after being placed on a mandatory leave for academic reasons, a student must make an appointment

with the appropriate Program/School Director and representative from the Dean's Office to discuss the implications of the leave of absence and a revised program of study, if applicable. Typically, a single leave of absence will not exceed 12 months, and consecutive or multiple interrupted leaves of absence will not exceed 18 months. Periods of non-enrollment do not count towards the maximum allotted time for completion of academic programs.

### **Professional Conduct**

Students are expected to emulate the legal, moral, and ethical standards expected of professionals and display behavior that is consistent with these qualities. A Code of Responsibilities and Rights of the Students of Midwestern University is included in Appendix 1 of the MWU Student Handbook. This code clearly states the mode of behavior that is expected of students and covers both on-campus and off-campus activities. Students are expected to read and follow this code.

Unsatisfactory professional behavior, as defined in Appendices 2 and 4 of the MWU Student Handbook, is subject to disciplinary sanctions that may preclude a student's academic progress in their program of study. The Dean of Students investigates formal complaints concerning student misconduct and recommends disciplinary action to the CHS Dean. A student who is found to have engaged in improper conduct is subject to disciplinary action which includes, but is not limited to, disciplinary warning/probation, temporary suspension, or dismissal. Disciplinary warning and probation are not noted on the transcript but are kept in the student's disciplinary file. Suspension and dismissal as a result of disciplinary action are noted on the student's transcript. Disciplinary information may be shared with clinical sites that are affiliated with Midwestern University educational programs.

### **Transfer Policy (Intercampus)**

Students are expected to complete their degree requirements at the campus to which they originally matriculated. Transfer between campuses is permitted only under extenuating and specific circumstances for enrolled students that are in good academic standing. Students should consult first with the Program Director and then with the Office of the Dean to discuss the process.

# PHYSICIAN ASSISTANT PROGRAM

## MISSION

The Midwestern University Physician Assistant Program is committed to educate and mentor students in a setting that cultivates excellence and prepares compassionate, competent physician assistants to serve in a changing healthcare environment.

## ACCREDITATION

The Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) has granted Accreditation-Continued status to the Midwestern University-Glendale Physician Assistant Program sponsored by Midwestern University-Glendale. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA *Standards*.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the *Standards*. The approximate date for the next validation review of the program by the ARC-PA will be June 2028. The review date is contingent upon continued compliance with the Accreditation *Standards* and ARC-PA policy.

For further information regarding accreditation please contact: ARC-PA, 12000 Findley Road, Suite 275, Johns Creek, GA, 30097-1409; 770-476-1224; [www.arc-pa.org](http://www.arc-pa.org).

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The professional curriculum leads to a Master of Medical Science in Physician Assistant Studies (M.M.S.). This full-time 27-month professional program offers students the opportunity to earn a graduate degree and satisfy the eligibility requirements for the PA national certifying examination (PANCE). The PA program does not offer an extended course of study beyond the usual length of the program. The maximum allotted time for completion of this program is 40.5 months. The roles and specific clinical duties and responsibilities that graduates can expect to experience

will vary depending on their chosen career path. PA Program graduates are expected to have the ability to competently perform patient histories and physicals, gather pertinent patient data, order and interpret diagnostic studies, recognize common diseases and disorders, choose appropriate therapeutic modalities, perform minor surgical procedures, manage emergency life-threatening conditions, promote health through counseling, education, and disease prevention, and demonstrate interpersonal skills consistent with the physician assistant role. The program is a combination of didactic and clinical education with the first 13.5 months covering a variety of didactic courses.

The didactic coursework includes basic medical science coursework in anatomy, physiology, biochemistry, pharmacology and pharmacotherapeutics, and microbiology. It also includes clinical preparatory coursework in clinical medicine, pediatrics, behavioral medicine, psychiatry, women's health, and emergency medicine and surgical principles. During the remaining 13.5 months, students rotate through seven required core clinical rotations and two elective rotations.

The second-year clinical program is delivered at affiliated clinical sites and facilities. These sites are geographically and demographically diverse, reflecting the broad scope of practice opportunities that exist for PAs in the healthcare delivery system of this country. Sites include ambulatory practice settings, small and large office-based group practices, community health centers, inpatient settings involving large and small hospitals, as well as federal and state facilities. These sites are in urban, suburban, and rural communities. In addition, the program has established formal affiliations with clinical facilities and practitioners in Arizona as well as a number of other states. As part of the clinical education phase of the program, students enrolled in the MWU PA Program will likely be assigned to clinical rotations that reflect this geographic and demographic diversity. Students are required to complete a minimum of one clinical rotation in a rural/medically-underserved community.

## ADMISSIONS

The Midwestern University PA Program considers applicants who possess the academic and professional promise necessary for development as competent, caring members of the healthcare community. The admissions environment is highly selective with approximately 2,000 applications received each year.

Completed applications received on or before the application deadline are reviewed to determine applicant eligibility for interviews. Interviews are typically held between August and February. The PA Program conducts rolling admissions and admissions decisions are generally made within two weeks following an interview. Candidates are notified of their status shortly thereafter. Cumulative and science grade point averages (GPAs), Graduate Record Examination (GRE) general test scores, letters of recommendation, health care experience, knowledge of the profession, and motivation for a PA professional career will all be considered when reviewing applicant files.

### Admission Requirements

Students seeking admission to the PA Program must submit the following documented evidence:

- All applicants must apply through the Centralized Application Service for Physician Assistants (CASPA) and meet the published admission criteria.
- All applicants to the AZ program are required to complete CASPer, the online situational judgement test.
- Minimum cumulative science and overall GPA of 3.00 on a 4.00 scale.
- Scores from the Graduate Record Examination (GRE) general test to the Office of Admissions by November 1st using the Midwestern University institution code 4160.
  - Only test scores earned in the last five years are acceptable
  - Applicants are expected to achieve a score at or above the 50th percentile in each section
  - For additional information about the GRE, contact Educational Testing Services (ETS) at 609/771-7670 or 866/473-4373 or visit [www.ets.org/gre](http://www.ets.org/gre)
- Completion of prerequisite courses as listed below from regionally accredited colleges or universities.
  - All prerequisite courses must be completed with a grade of a C or better
  - Life experience credits do not count toward fulfillment of any prerequisite courses
  - Courses in which "credit" or grades of "pass" are earned will be counted only when applicants can provide verification

that the earned grades were equivalent to grades of C or better (grades of C- are not acceptable)

- Completion of prerequisite courses prior to matriculation.
- Applicants must determine which prerequisites are missing and which courses must be taken to fulfill any outstanding prerequisites.
- Completion of a bachelor's degree from a regionally accredited college or university before matriculation.
- Motivation for and commitment to health care as demonstrated by paid direct patient care hours, volunteer work, shadowing, or other life experiences.
- Demonstration of service and leadership through community service or extracurricular activities.
- Oral and written communication skills necessary to interact with patients and colleagues.
- Satisfactory Midwestern University criminal background check.
- Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
- Successful completion of all required immunizations prior to matriculation.

### Prerequisite Courses

Course	
*Biology with lab (must include at least 4 hours of Anatomy)	8 Sem/12 Qtr hours
*General Chemistry with lab	8 Sem/12 Qtr hours
*Organic Chemistry with lab	4 Sem/6 Qtr hours
Math (college algebra or above)	3 Sem/4 Qtr hours
English Composition	6 Sem/9 Qtr hours
Social and Behavioral Sciences (sociology, psychology, anthropology, etc.)	6 Sem/ 9 Qtr hours
Statistics	3 Sem/4 Qtr hours
*Biochemistry (not required, but strongly recommended)	4-8 Sem/6-12 Qtr hours

\* All science prerequisites must be courses designed for science majors. No survey courses will fulfill science prerequisites. No online labs will be accepted.

### Application Process and Deadlines

- CASPA Application  
Completed applications with all required materials must be submitted to the Centralized Application Service for Physician Assistants (CASPA) at [www.caspaonline.org](http://www.caspaonline.org) by **October 1st**. Please refer to the CASPA application instructions for specific details about completing the application, required



documents, and processing time. CASPA applications are available beginning in April of the academic year preceding the year in which applicants plan to matriculate. Due to the large number of applications and the limited number of seats available, applicants are strongly encouraged to complete their CASPA applications early in the cycle. Applications are reviewed continuously throughout the admissions cycle. The CASPer test is required for all applicants. The final test date accepted will be offered in late September.

2. Letters of Recommendation

Applicants are required to submit a minimum of two letters of recommendation from professionals to CASPA ([www.caspaonline.org](http://www.caspaonline.org)). The Office of Admissions will only accept letters of recommendation received directly from CASPA. It is preferred, but not required, that one letter be written by a science professor who has actually taught the student or a pre-health advisory committee. The second letter can be written by any one of the following: pre-health advisory committee, pre-health advisor, college professor, or health care professional (preferably a PA) who knows the applicant well. Personal references are discouraged. Please refer to the CASPA application instructions for specific guidelines and requirements for submitting letters of recommendation. The Office of Admissions must receive letters of recommendation no later than November 1st.

3. GRE Scores

Applicants are required to submit official GRE general test scores to Midwestern University. The MWU institutional code for submitting scores is 4160. Only test scores earned during the previous five years and sent directly from the Educational Testing Service (ETS) will be accepted. The Office of Admissions must receive official GRE scores no later than November 1st.

4. Completed Applications

The Office of Admissions will send a letter verifying receipt of the CASPA application to all applicants who meet the minimum cumulative science and overall GPA requirement of 3.00. Letters will also include instructions on tracking application status online. Applicants are responsible for tracking the receipt of their application materials to ensure the submission of all required documents. Applicants will only be considered for entrance into the Program when the Office of Admissions has received all required application materials which must be received no later than November 1st. In-progress prerequisite courses must be completed prior to matriculation.

5. Advanced placement credit may be awarded for comparable Midwestern University courses only. Advanced placement credit is considered once applicants have been accepted into the Physician

Assistant Program. Credit is not guaranteed and is awarded on a course-by-course basis consistent with the CHS Advanced Placement Policy.

6. Once the admissions cycle is underway, the Midwestern University Physician Assistant Program strongly encourages applicants to provide the Office of Admissions with updates to their application (i.e. transcripts of courses completed since the initial application).

7. Once a CASPA Application is submitted, the Midwestern University Physician Assistant Program faculty are not permitted to discuss an application with the applicant other than at a formal interview.

If you have an open and pending application please address all inquiries to the Office of Admissions.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or e-mail address. All requests for application withdrawal must be made in writing via e-mail, fax, or letter to the Office of Admissions:

Midwestern University  
Office of Admissions  
19555 North 59th Avenue  
Glendale, AZ 85308  
623/572-3215 or 888/247-9277  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

**Interview and Selection Process**

After the Office of Admissions receives CASPA application reports, applicant files are reviewed to determine whether applicants merit an interview. The following criteria are used to select the most qualified candidates for interview invitations: GPA, GRE general test scores, letters of recommendation, healthcare experience, knowledge of the profession, and motivation for a PA career. Evaluation of completed applications will begin in July and continue until all seats in the class are filled. Eligible candidates are typically invited to interview during the months of August through February. Applicant files may also be placed on an interview wait list pending possible openings toward the end of the interview cycle. Applicants selected to interview will be notified by letter or telephone of available dates and asked to contact the Office of Admissions to confirm one of the dates offered. Letters of confirmation will be sent to applicants that include travel information for visiting the MWU campus (i.e., directions to campus and local lodging information).

A typical interview day on campus involves participation in the following activities, which are coordinated by the Office of Admissions: a presentation by the PA Program Director or Chair of the PA Admissions Committee, interaction with faculty members, meetings and lunch with current Midwestern University students, and a campus tour. During each interview session, prospective students may be asked about their academic, personal, and professional aspirations

and preparedness for admission to the Program. Prospective students will be rated on a standardized evaluation form, which is included with the applicant's file and forwarded to the PA Admissions Committee for review.

The PA Admissions Committee meets within two weeks after interviews have concluded. The Committee reviews complete application files for all applicants who were interviewed and formulates recommendations. The CHS Dean, via the Office of Admissions, notifies applicants in writing of their admissions status. Applicants may be offered seats following their interviews and subsequent Admissions Committee Meetings, until the class is filled, up until the time of matriculation.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses. The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete physical examination of a patient/client.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to lift 20 lbs.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent,

prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head, neck exams, including intra- and extra-oral examinations. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the college. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

After receiving either a denial or end-of-cycle letter, prospective students may reapply for the following year's admissions cycle. Before reapplying, however, applicants are encouraged to seek input on strengthening their application from a counselor in the Office of Admissions after the admissions cycle is officially over. To initiate the reapplication process, prospective students must complete and submit new applications and proceed through the standard application procedures.

### Transfer Policy

MWU PA Program does not accept transfer students from other programs.

## GRADUATION REQUIREMENTS

To qualify for the degree Master of Medical Science in Physician Assistant Studies (M.M.S.), students must:

1. Follow an approved course of study leading to the completion of all master's requirements.
2. Satisfactorily complete all professional courses with a minimum cumulative grade point average of 3.00; and no unremediated course failures.
3. Pass all of the Summative evaluations.
4. Satisfactorily complete the required 141 credit hours in the overall course of study.
5. Receive a favorable recommendation for master's degree conferral from the PA Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee.
6. Be recommended for conferral of the master's degree by the University Faculty Senate.
7. Settle all financial accounts with the University, and
8. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## CERTIFICATION/LICENSURE REQUIREMENTS

To practice in most states, including Arizona, students must successfully complete a PA Program accredited by the ARC-PA. Students must also pass the certifying examination administered by the National Commission on Certification of Physician Assistants (NCCPA).

For further information regarding the certifying examination, contact: National Commission on Certification of Physician Assistants, Inc., 12000 Findley Road, Suite 100, Johns Creek, GA. 30097-1409; [678/417-8100]; [www.nccpa.net](http://www.nccpa.net)

Midwestern University's Glendale Physician Assistant program meets the educational requirements for certification and licensure to practice as a physician assistant in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## CURRICULUM

The PA Program reserves the right to alter its curriculum, however and whenever, it deems appropriate. Information in this catalog does not establish a contractual relationship between MWU and the student.

### Total Credits in the Professional Program: 141

#### First Professional Year:

Total Quarter Credit Hours Required: 72.5

#### Summer Quarter

ANATG	1553	Human Anatomy and Embryology (with Gross Anatomy Lab)	7
BIOCG	551	Human Biochemistry	4
PASSG	553	Health Professionalism	1
PASSG	556	Medical Interviewing and Documentation	2
PASSG	560	Epidemiology and Evidence-Based Medicine	2

**Total 16**

#### Fall Quarter

COREG	1560B	Interprofessional Healthcare	0.5
PASSG	565	Clinical Medicine I	4
PASSG	567	Pediatrics I	1.5
PASSG	587	Medical Ethics	1
PASSG	1569	Physical Diagnosis	3
PHARG	566	Pharmacology and Pharmacotherapeutics I	3
PHYSG	1575	Human Physiology I	4

**Total 17**

#### Winter Quarter

COREG	1570B	Interprofessional Healthcare	0.5
MICRG	570	Microbiology	3
PASSG	570	Clinical Medicine II	5
PASSG	574	Clinical Laboratory Medicine	2
PASSG	578	Pediatrics II	1.5
PHARG	570	Pharmacology and Pharmacotherapeutics II	3

PHYSG	1586	Human Physiology II	4
<b>Total</b>			<b>19</b>
<b>Spring Quarter</b>			
COREG	1580B	Interprofessional Healthcare	0.5
PASSG	571	Therapeutic and Diagnostic Skills	2.5
PASSG	573	Basic Electrocardiography	1.5
PASSG	575	Women's Health	2
PASSG	580	Clinical Medicine III	5
PASSG	582	Emergency Medicine and Surgical Principles	3
PASSG	588	Psychiatry and Behavioral Medicine	3
PHARG	580	Pharmacology and Pharmacotherapeutics III	3
<b>Total</b>			<b>20.5</b>
<b>Second Professional Year:</b>			
Total Quarter Credit Hours Required:			54.5
<b>Summer Quarter</b>			
PASSG	680	Preparation for Clinical Phase (PCP)	1.5
PASSG	681	Clinical Medicine IV	2
PASSG	682	Clinical Simulation	2
PASSG	685	Advanced Cardiac Life Support (ACLS)	1
		Required Clinical Rotation	6
<b>Total</b>			<b>12.5</b>
<b>Fall Quarter</b>			
PASSG	665-A	Master's Portfolio	1
PASSG	675	Clinical Assessment Day I	1
		Required and Elective Clinical Rotations	12
<b>Total</b>			<b>14</b>
<b>Winter Quarter</b>			
PASSG	665-B	Master's Portfolio	1
PASSG	678	Mid-Year Evaluation	1
		Required and Elective Clinical Rotations	12
<b>Total</b>			<b>14</b>

<b>Spring Quarter</b>			
PASSG	665-C	Master's Portfolio	1
PASSG	676	Clinical Assessment Day II	1
		Required and Elective Clinical Rotations	12
<b>Total</b>			<b>14</b>
<b>Third Professional Year:</b>			
Total Quarter Credit Hours Required:			14
<b>Summer Quarter</b>			
		Required and Elective Clinical Rotations	12
PASSG	686	End-of-Year Evaluation	1
PASSG	688	Cumulative Review and Examination Week	1
<b>Total</b>			<b>14</b>
<b>Required Clinical Rotations</b>			
PASSG	691	Emergency Medicine	6
PASSG	692	Family Medicine/Primary Care	6
PASSG	693	Internal Medicine	6
PASSG	694	Pediatrics	6
PASSG	695	Psychiatry/Behavioral Medicine	6
PASSG	696	Surgery	6
PASSG	697	Women's Health	6
PASSG	698	Elective Rotation I	6
PASSG	699	Elective Rotation II	6

## COURSE DESCRIPTIONS

### *Years 1 and 2: Required Preclinical Courses*

#### *ANATG 1553 Human Anatomy and Embryology (with Gross Anatomy Lab)*

This course presents the anatomy of the human body and relevant embryological development in a lecture and laboratory format. The emphasis is on the relationship of form and function and the use of anatomy in physical diagnosis. Laboratory sessions include dissection of human cadavers. Student progress is evaluated through written and practical examination.  
7 credits

*COREG 1560B, 1570B, 1580B Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.

Each course 0.5 credits

*BIOCG 551 Human Biochemistry*

Biochemistry is concerned with the functioning of cellular constituents at the molecular level in health and how their functions are altered in disease. Biochemistry is fundamental to understanding all branches of the life sciences. Topics include cellular energy metabolism, signal transduction, cell biology, medical genetics, complete blood count, anemia, diabetes, and hemostasis tests.

4 credits

*MICRG 570 Microbiology*

The course is organized by organ system and the major infectious diseases affecting each of these are discussed. Focus is on the etiology, pathogenesis, clinical manifestations and diagnosis of these selected diseases.

3 credits

*PASSG 553 Health Professionalism*

The purpose of this course is to provide the student with a holistic understanding and perspective of the PA profession. Topics that illustrate the challenges faced by PAs in clinical practice and the challenges PAs may encounter as they make the transition from a student to a professional will be discussed. Such topics include communication techniques with patients, confidentiality issues, ethical issues, and cultural sensitivity. The goal of this course is to better prepare students for the PA profession.

1 credit

*PASSG 556 Medical Interviewing and Documentation*

The purpose of this course is to create an awareness and understanding of the art of interviewing and communicating with patients and other health care professionals. It presents a biopsychosocial and family systems approach for understanding individual and family developmental stages throughout the life cycle, and the importance in obtaining medical history as well as interacting with patients. The course focuses on creating a medical record that accurately reflects the medical interview and establishes the competency

of the PA. Topics involving communication techniques with patients, confidentiality issues, ethical issues, and cultural sensitivity will also be addressed.

2 credits

*PASSG 560 Epidemiology and Evidence-Based Medicine*

The purpose of this course is to provide the PA student with an overview of basic epidemiologic principles and an introduction to evidence-based medicine (EBM). The students will be taught the core concepts that can be used to critique medical literature and then apply these epidemiological and EBM skills to clinical scenarios, using case studies as examples.

2 credits

*PASSG 565, 570, 580 Clinical Medicine I, II, III*

The purpose of the Clinical Medicine series is to introduce students to diseases and conditions commonly encountered in ambulatory-based primary care medicine. Lectures emphasize the epidemiology, pathophysiology, presentation and course of the disease, plus diagnostic and treatment modalities of each disease presented. Students participate in weekly problem-based learning sessions where they have the opportunity to develop competence in writing SOAP (Subjective, Objective, Assessment and Plan) notes. Students gain experience in formulating a differential diagnosis and creating an effective management plan, including prescription writing.

PASSG 565: 4 credits; PASSG 570: 5 credits; PASSG 580: 5 credits

*PASSG 567, 578 Pediatrics I, II*

These courses will provide overall instruction in the evaluation and management of the pediatric patient from the neonatal period through adolescence. The course will cover common conditions and abnormalities encountered in the pediatric population. The course will include common acute and chronic illnesses, genetic and chromosomal abnormalities, developmental abnormalities and an introduction to wellness and prevention in the neonate, child, and adolescent.

PASSG 567: 1.5 credits; PASSG 578: 1.5 credits

*PASSG 571 Therapeutic and Diagnostic Skills*

This course emphasizes skill development in performing routine therapeutic procedures and competence in managing therapeutic interventions. Areas of skill development include (at a minimum) injections, suturing and wound care, casting, splinting, venipuncture, and intravenous therapy.

2.5 credits

*PASSG 573 Basic Electrocardiography*

The purpose of this course is to introduce students to reading and interpreting the findings on rhythm strips and twelve-

lead electrocardiograms. Students will learn how to determine heart rate, intervals, axis, chamber enlargement or hypertrophy, signs of ischemia and infarcts, and the effects electrolyte abnormalities and medications can have on the myocardium. Additionally, students will learn to recognize various arrhythmias, including atrial dysrhythmias, junctional dysrhythmias, ventricular dysrhythmias, and heart block.  
1.5 credits

#### *PASSG 574 Clinical Laboratory Medicine*

The purpose of Clinical Laboratory Medicine is to guide the PA student through diagnostic tests and procedures associated with medical illnesses encountered in the clinical setting. This course is aligned closely with the Clinical Medicine curriculum, integrating pathophysiology and diagnosis of illness with the appropriate diagnostic studies and their interpretation. The PA student will develop critical thinking skills through the use of clinical case studies, small group application and examinations.  
2 credits

#### *PASSG 575 Women's Health*

The purpose of this course is to introduce the first-year physician assistant (PA) student to the principles of women's health, including topics such as sexually transmitted infections, menstrual abnormalities, health maintenance, gynecologic oncology, prenatal care and normal and abnormal labor and delivery. This course will provide the PA student with fundamental knowledge and skills critical for success in the second year and relevant to a PA in a variety of practice settings, including obstetrics/gynecology, primary care, emergency medicine and surgery.  
2 credits

#### *PASSG 582 Emergency Medicine and Surgical Principles*

The Emergency Medicine and Surgical Principles course is designed to develop an approach to problems frequently encountered in the Emergency Department and to expose students to the role of the PA in surgical practice. Course goals related to emergency care also include review of the triage process and recognition of principles of intervention for life threatening emergencies as well as management and disposition of non-emergent patients. Elements of surgical care will include the pre-, intra- and post-operative care of the patient.  
3 credits

#### *PASSG 587 Medical Ethics*

This course is an introductory exploration of a variety of issues central to the ethical dimensions of medicine. Course objectives include the development of critical skills for evaluating and articulating ethical and philosophical claims, arguments, and goals; to encourage reflection on personal and professional moral commitments in the practice of

medicine and promote discussion between professionals; to improve ability to communicate effectively with patients; and to reflect on the relationships among moral, professional, and legal obligations of clinicians.  
1 credit

#### *PASSG 588 Psychiatry and Behavioral Medicine*

This course presents a two-fold approach to issues in behavioral medicine and psychiatry. 1) A biopsychosocial and family systems model of the individual and family developmental stages present throughout the life cycle, and 2) an introduction to the major psychopathologies encountered in clinical practice. Emphasis is placed on medical assessment, diagnostic criteria, clinical management, and first-line treatments. Topics covered include behavioral problems of childhood, domestic violence, clinician well-being and stress management, normal and abnormal sexuality, features and treatment of anxiety, mood disorders, and substance-related disorders, trauma, chronic illness, aging, and end of life care. Case histories and audio-visual presentations will enhance the student's understanding.  
3 credits

#### *PASSG 680 Preparation for Clinical Phase (PCP)*

Preparation for the Clinical Phase (PCP) is designed to prepare students for the clinical training phase of the Physician Assistant Program. PCP focuses on reviewing pertinent professional issues, confidentiality of patient information, proper conduct on rotations and medical documentation. Topics that illustrate the challenges faced by PAs in clinical practice and the challenges PAs may encounter as they make the transition from a student to a professional will also be covered.  
1.5 credits

#### *PASSG 681 Clinical Medicine IV*

The purpose of Clinical Medicine IV is to consolidate learning of basic clinical material before students begin their clinical rotations. Lectures will emphasize differential diagnosis of common presenting symptoms that students are expected to encounter on their rotations. The course will encourage a review of interview techniques, physical diagnosis skills, and the application of common laboratory tests to clinical situations. There will be an emphasis on the most appropriate pharmacological and non-pharmacological approaches to treatment.  
2 credits

#### *PASSG 682 Clinical Simulation*

The purpose of this course is to introduce the first-year physician assistant (PA) student to the principles of patient safety, interpersonal communication, and teamwork, in addition to refining clinical history taking, physical examination, diagnosis and treatment planning through

interprofessional and team-based simulated patient encounters. This course will also introduce the student to advanced clinical skills. The course is designed to reinforce the first year material prior to starting clinical rotations.  
2 credits

*PASSG 685 Advanced Cardiac Life Support (ACLS)*

This course teaches students how to manage patients in cardiac distress. At the completion of this course, students receive a certificate in ACLS.  
1 credit

*PASSG 1569 Physical Diagnosis*

This course is designed to teach the student the art and technique of physical assessment. Course content includes lectures and reading assignments covering normal and abnormal physical findings. In addition, there are weekly physical exam laboratory sessions designed to provide the student with hands-on practice in exam techniques. At the conclusion of the course the student will be expected to pass a written final exam and satisfactorily perform a complete physical examination.  
3 credits

*PHARG 566, 570, 580 Pharmacology and Pharmacotherapeutics I, II, III*

The overall instructional goal of pharmacology and pharmacotherapeutics courses is to provide the physician assistant with a firm understanding of the effects of therapeutically important drugs, from a molecular to a behavioral level of organization. These courses discuss therapeutic strategies, and new types of drugs, as well as the clinical implications and contraindications. Lectures are designed on an organ system basis with emphasis on distinctive uses of drugs. Although large numbers of drugs are available on the market, only a few prototype agents have been selected for intensive study for this course.  
Each course 3 credits

*PHYSG 1575, 1586 Human Physiology I, II*

In this two-quarter series, students are introduced through didactic instruction, workshops, and clinical case discussions to the basic physiologic principles that underlie the normal function of the various organs and organ systems. These core principles provide the foundation through which the student develops an understanding of the physiologic adaptations and transitions that occur in commonly occurring disease states. Emphasis is given to developing an understanding of health in physiologic terms and appreciation of the diverse regulatory processes that maintain the homeostasis of the human body.  
Each course 4 credits

*Years 2 and 3: Required Clinical Courses*

*PASSG 665 A-C Master's Portfolio*

This second-year master's course series serves largely as an independent study, allowing the second-year physician assistant student to develop an electronic portfolio of professional and scholarly activities. The portfolio focus and/or content may change over the course of the clinical year, based on the individual student's personal experiences, preferences and opportunities. A summary of state regulatory requirements will be addressed and included by the student.  
Each course 1 credit

*PASSG 675 Clinical Assessment Day I*

The Clinical Assessment Day (CAD) offers an opportunity for the program and the student to assess student progress and to ensure students are meeting program learning objectives and academic milestones. The CAD consists of an individual primary care-based practical examination, medical documentation, an individual skills assessment and lecture.  
1 credit

*PASSG 676 Clinical Assessment Day II*

The Clinical Assessment Day (CAD) offers an opportunity for the program and the student to assess student progress and to ensure students are meeting program learning objectives and academic milestones. The CAD consists of an individual primary care-based practical examination, medical documentation, an individual skills assessment and lecture.  
1 credit

*PASSG 678 Mid-Year Evaluation*

This course is designed to evaluate students at the midpoint of the clinical phase of the Physician Assistant program. The mid-year evaluation (MYE) offers an opportunity for the program and the student to assess student progress and to ensure students are meeting program learning objectives and academic milestones. The mid-year evaluation consists of an individual primary care-based practical examination, medical documentation and a comprehensive primary care-based multiple-choice exam.  
1 credit

*PASSG 686 End-of-Year Evaluation*

The End-of-Year Evaluation (EYE) course is the summative evaluation of the student conducted at the end of the clinical phase. The course consists of lectures and assessments. It is designed to gauge the student's readiness for the Physician Assistant National Certifying Examination (PANCE), as well as clinical practice. Graded components of EYE include individual performance during a primary care-based standardized patient examination, documentation of the encounter, and a comprehensive summative exam.  
1 credit

*PASSG 688 Cumulative Review and Examination Week*

This course offered in the final academic quarter provides intensive review lectures focused on the fundamental knowledge and skills relevant to the Physician Assistant National Certifying Examination (PANCE). Additionally, a formative self-assessment examination is administered to identify areas of weakness in order for students to strengthen their performance for the PANCE.

1 credit

*PASSG 691 Emergency Medicine*

The Emergency Medicine rotation is a six-week training experience in an emergency department. The course will cover common conditions and abnormalities encountered in the pediatric and adult populations. Emergency Medicine emphasizes the care of the patient with acute disease management, stabilization and proper follow-up. The purpose of this rotation is to provide the student with a knowledge base about decision-making and initiation of emergent care.

6 credits

*PASSG 692 Family Medicine/Primary Care*

The Family Medicine/Primary Care rotation is a six-week training experience in a family medicine or primary care setting. This course will provide overall instruction in the evaluation and management of common conditions and abnormalities encountered in the pediatric and adult populations. Family Medicine/Primary Care emphasizes the comprehensive care of the patient and family, including chronic and acute disease management, preventative care and health maintenance, and patient/family education. Other principles include continuity of care, delivery of cost-effective quality care and identifying supplemental sources of care within the community.

6 credits

*PASSG 693 Internal Medicine*

The Internal Medicine rotation is a six-week training experience in an internal medicine setting. This course will provide overall instruction in the field of Internal Medicine. The course will cover common conditions and abnormalities encountered in the adolescent and adult populations. Internal Medicine emphasizes the comprehensive care of the adult patient including chronic and acute disease management, preventive care and health maintenance, and patient education.

6 credits

*PASSG 694 Pediatrics*

The Pediatrics rotation is a six-week training experience in a pediatric medicine setting. This course will provide overall instruction in the evaluation and management of pediatrics. The course will cover common conditions and abnormalities

encountered in the pediatric population. Pediatrics emphasizes the comprehensive care, including chronic and acute disease management, preventive care and health maintenance, and patient/family education.

6 credits

*PASSG 695 Psychiatry/Behavioral Medicine*

The Psychiatric/Behavioral Medicine rotation is a six-week training experience in a psychiatric setting. This course will provide overall instruction in the evaluation and management of psychiatric disorders. The course will cover common conditions and abnormalities encountered within the realm of psychiatry and/or behavioral medicine. The practice of psychiatry emphasizes the care of mental and emotional disorders. Clinical rotations may include the pharmacologic, behavioral and/or psychoanalytic management of psychological disorders.

6 credits

*PASSG 696 Surgery*

The Surgery rotation is a six-week training experience on a surgical service. The surgery course provides students with clinical experience in pre-operative, intra-operative and post-operative care. Principals of pre-operative (i.e. initial history and physical, pre-operative risk assessment, recognize surgical emergencies, etc.), operative (i.e. sterile technique/field, retraction, hemostasis, etc.), and post-operative (i.e. wound care, patient education, etc.) care are emphasized. Focus is on general surgical principles in preparation for the end of rotation examination and the PANCE.

6 credits

*PASSG 697 Women's Health*

The Women's Health rotation is a six-week training experience in a women's health setting. The course will cover common conditions and abnormalities encountered in the pediatric and adult populations. Emphasis is on the comprehensive care of the female patient including preventive care and health maintenance, care of the mother and child, and patient education.

6 credits

*PASSG 698, 699 Elective Rotation I, II*

Students are provided two six-week elective training experiences. The goal is for the student to develop fundamental skills in evaluating and managing patients with pathologies that require clinician intervention. Students will utilize both diagnostic and treatment modalities for various conditions that are present in the elective setting.

Each course 6 credits



### **Postgraduate Fellowship in Academic Medicine for Physician Assistants**

The Midwestern University PA Program offers up to a 12-month Postgraduate Fellowship in Academic Medicine for Physician Assistants. The Fellowship curriculum, which blends didactic instruction, self-directed learning, application and evaluation, is designed to provide Fellows with the education and skills necessary to effectively transition from clinical practice to academia. Upon successful completion of the Fellowship, graduates are awarded a certificate of completion from the Midwestern University College of Health Sciences, Physician Assistant Program. The certificate provides recognition of postgraduate education and academic preparation for a position as a PA Program faculty member.

The didactic and self-directed learning components of the Fellowship include instruction and assignments related to educational theory, instructional design, student management, leadership and administration, and delivery of clinical education. Fellows apply acquired knowledge and skills throughout the course of the curriculum by participating in faculty responsibilities within the didactic and clinical phases of the PA Program. These responsibilities include developing and delivering didactic lectures, conducting small groups, implementing course design, creating performance metrics to assess learning, participating on committees, engaging in clinical site development, and completing a scholarly project. Fellows demonstrate completion of the curriculum by creating an academic portfolio, completing a capstone project, and submitting a scholarly work for consideration for publication or presentation.

Applicants seeking a Fellowship position must possess the following qualifications: (1) graduation from an ARC-PA accredited PA Program, (2) NCCPA certification and Arizona licensure (or eligibility for licensure), (3) master's degree in a related field, and (4) minimum of one year of clinical experience as a Physician Assistant. Applicants are also required to submit a cover letter, two letters of recommendation, a personal statement, resume, and transcripts from the PA Program he or she attended. For further information about the Midwestern University Postgraduate Fellowship in Academic Medicine for Physician Assistants, please contact the Program Director at 623/572-3311.

## **STUDENT ACADEMIC POLICIES**

### **Academic Progress**

The following academic policies apply to all students who matriculate during the academic year of the catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States

Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

The academic standing of a student is determined by the student's cumulative grade point average.

To achieve satisfactory academic progress, a student must pass all required courses and maintain a cumulative grade point average of 3.000 or higher. In addition, to progress to the next quarter, a student must satisfactorily complete all academic and professionalism requirements for the preceding quarter. A student is not able to progress to clinical rotations until or unless their cumulative GPA is greater than or equal to 3.000.

Please refer to individual course syllabi for more detailed information.

## FACULTY

**Deborah Black, M.S., PA-C**

AT Still University  
Assistant Professor

**Sarah Bolander, D.M.Sc., PA-C**

University of Lynchburg  
Assistant Professor

**Kirsten Bonnin, D.M.Sc., PA-C**

University of Lynchburg  
Program Director and Assistant Professor

**Kimberly Carter, M.P.A.S., PA-C**

AT Still University  
Clinical Coordinator and Assistant Professor

**Amber Herrick, M.S.P.A.S., PA-C**

AT Still University  
Director of Didactic Education and Assistant Professor

**Eve Hoover, D.M.Sc., PA-C**

University of Lynchburg  
Assistant Professor

**Gretchen Post, M.S.P.A.S., PA-C**

AT Still University  
Clinical Coordinator and Assistant Professor

**Robyn Sears, D.M.Sc., PA-C**

University of Lynchburg  
Assistant Professor

**Carla Shamblen, M.S.P.A.S., PA-C**

AT Still University  
Director of Clinical Education and Assistant Professor

**James Stoehr, Ph.D.**

Dartmouth Medical School  
Professor

**Jennifer Wild, D.O.**

Midwestern University  
Medical Director and Assistant Professor

# OCCUPATIONAL THERAPY PROGRAM

## MISSION

The Occupational Therapy Program is dedicated to excellence in the education of occupational therapists who will meet the occupational needs of individuals and communities through responsive, compassionate and evidence-based practice.

## ACCREDITATION

The Midwestern University Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 6116 Executive Boulevard, Suite 200

North Bethesda, MD 20852-4929; 301/652-6611, ext. 2042. Graduates of the program will be able to sit for the national certification examination for the occupational therapist administered by the National Board for Certification in Occupational Therapy (NBCOT).

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Occupational Therapy Program offers a curriculum leading to the Master of Occupational Therapy (M.O.T.) degree for qualified students. The full-time, continuous, entry-level master's curriculum is designed to deliver the academic and clinical education required to prepare students for their professional role as key members of the healthcare team and as integral practitioners in the healthcare delivery system. The curriculum for the Master of Occupational Therapy degree is a continuous, full-time program, extending 27 months from matriculation to graduation. The maximum allotted time for completion of this program is 40.5 months. It is also required that all Level II fieldwork must be completed within 18 months of completion of the didactic portion of the program. The general education, professional training, experience, and personal character development of occupational therapists uniquely prepare them to respond to the needs of individuals who face challenges participating in their daily lives.

The Master of Occupational Therapy Program offers a balanced combination of foundational, clinical, and research coursework designed to foster therapists who are self-directed, thoughtful, and caring professionals. The program provides students with a balanced complement of coursework. Approximately half of the course credits are obtained from foundational courses in the sciences, occupational therapy theory, and research. The remaining credits focus on courses related to client evaluation and interventions appropriate for various client populations (e.g., children, the elderly, etc.), specialized coursework in upper extremity intervention, and many opportunities for experiential (hands-on) learning. The practice courses facilitate students' application of content related to client evaluation and intervention using community-based and case-based learning opportunities. In addition to such preclinical learning opportunities, the fieldwork program offers extensive and in-depth experiences to students. Such a strong curricular framework succeeds in preparing graduates who are ready - and able - to enter the profession of occupational therapy and to make a difference in the world.

The curriculum is designed to prepare entry-level practitioners to provide occupational therapy services in the home, community, and clinical practice settings that require independent judgment, leadership, and self-directed practice. The educational experience provides the foundation for graduates to identify and contribute to effecting solutions to the major emergent health issues of society and contribute to the academic and clinical education of future practitioners. It also is designed to prepare graduates for leadership and management roles in the profession. The graduate will be prepared to make meaningful, ongoing contributions to society, healthcare, and the profession through leadership activities and collaborative efforts with others in occupational therapy and interprofessional education, practice, and research.

### Program Objectives

Upon completion of the Master of Occupational Therapy Program, graduates are expected to:

1. Provide evidence-based occupational therapy services in traditional and emerging areas of practice.

2. Meet the occupational needs of individuals and populations through professional advocacy and leadership.
3. Apply therapeutic use of occupations to support engagement in activities that promote health, well-being and quality of life.
4. Sustain continued professional development through lifelong learning activities.
5. Uphold the ethical standards, values and attitudes of the occupational therapy profession in order to sensitively meet the occupational needs of a culturally and socially diverse clientele.

These outcomes are accomplished through:

1. A curriculum model based on intentionally sequenced courses that act as vital links between application, analysis, synthesis, and evaluation of knowledge, skills and attitudes.
2. Critical application of current research and other forms of best evidence to improve occupational therapy practice and contribute to the body of related knowledge.
3. Sequential implementation of simulated and authentic clinical experiences across the curriculum.
4. Occupation-focused coursework and fieldwork experiences designed to facilitate critical and ethical reasoning.
5. Opportunities for both individual and group work to develop leadership, team-building, and professional skills, behaviors and attitudes.

## ADMISSIONS

The College of Health Sciences Occupational Therapy Program considers for admission those applicants who possess the academic and professional promise necessary for development as competent, caring members of the healthcare community. To select these candidates, a competitive admissions framework has been established for applicants who have received a bachelor's degree in any field, but who have not completed an accredited occupational therapy program.

Within this competitive admissions framework, multiple criteria are used to select the most qualified candidates from an applicant pool that exceeds the number of seats available. Interested individuals are advised to complete their application as early as possible to ensure timely consideration.

The Midwestern University Occupational Therapy Program uses the Centralized Application Service for Occupational Therapy Schools (OTCAS) for students applying to the program. All applicants to the Occupational Therapy Program are required to submit their applications to OTCAS (<http://www.otcas.org>) with all required materials by

February 1st. Please refer to the OTCAS website for instructions on submission of OTCAS application materials.

The Occupational Therapy Program operates on a rolling admissions basis in which completed applications are reviewed throughout the admissions cycle to determine application eligibility for interviews. Interviews are typically conducted during the winter and spring. Admission decisions are generally made within one month of the interview.

### Admission Requirements

Individuals applying for admission to the College of Health Sciences Occupational Therapy Program must submit documentation for the following minimum requirements before the academic year commences for the incoming class.

1. Completion of a baccalaureate degree from a regionally accredited college or university.
2. A minimum cumulative undergraduate grade point average (GPA) of 2.75 on a 4.00 scale. Grades of C or better for prerequisite coursework (grades of C- are not acceptable).
3. Completion of the minimum number of prerequisite courses in the prescribed subject areas at regionally accredited colleges or universities.
4. Satisfaction of the standards set forth by the Admissions Committee (including documentation of academic and professional promise in the prospective student).
5. Two letters of recommendation.
6. Completion of the Occupational Therapy Program's interview process. On-campus interviews are by invitation only. Applicants are invited to an interview based on evidence supportive of excellence in:
  - Academic achievement
  - Oral and written communication skills
  - Articulation of the domain and scope of OT practice
  - Community service
  - Leadership in extracurricular or other activities
7. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
8. Passage of the Midwestern University criminal background check.

### Prerequisite Courses

Students must complete these courses with a grade of C or better; grades of C- are not acceptable:

Human Anatomy <sup>1,2</sup>	3 Sem/4 Qtr hrs
Statistics	3 Sem/4 Qtr hrs
Physiology <sup>1</sup>	3 Sem/4 Qtr hrs
Human Development	3 Sem/4 Qtr hrs
Abnormal Psychology	3 Sem/4 Qtr hrs
Other Social and Behavioral Science	3 Sem/4 Qtr hrs

<sup>1</sup>The Anatomy and Physiology requirements may also be fulfilled by taking Anatomy and Physiology I *and* Anatomy and Physiology II, as some universities offer combined courses.

<sup>2</sup>Human Anatomy must be completed successfully within 5 years of admission to the Program. The lab component with cadaver experience is strongly recommended.

Additional courses in psychology, sociology, ethics, anthropology, logic, art, music, or drama are also recommended as part of the undergraduate preparation for the Occupational Therapy Program.

### Application Process and Deadlines

To be considered for admission to the Occupational Therapy Program, applicants must complete the following:

1. OTCAS Application  
Applicants are required to submit their applications to OTCAS (<http://www.otcas.org>) by February 1st. Please refer to the OTCAS application instructions for specific details about completing the application, required documents, and processing time. The OTCAS application should be available for applicants beginning in July. Due to the large number of applications and the limited number of seats available, applicants are strongly encouraged to complete their OTCAS application early in the cycle.
2. Letters of Recommendation  
Applicants are required to submit a minimum of two letters of recommendation from professionals to OTCAS (<http://www.otcas.org>). The Office of Admissions will only accept letters of recommendation received directly from OTCAS. It is preferred that one of the submitted letters is written by an occupational therapist who has supervised or mentored the applicant or a professional who can speak to the applicant's motivation, experiences in occupational therapy, or readiness for entering the Occupational Therapy Program. The second letter can be written by either a college professor who actually taught the student or a prehealth advisor who knows the applicant

well. The applicant should refer to the OTCAS application instructions for specific guidelines and requirements for submitting letters of recommendation

### 3. Completed Application

The Office of Admissions will send letters verifying receipt of OTCAS applications with all required materials to all applicants who meet the minimum cumulative GPA requirement of 2.75. The letters will also include instructions on checking the status of the required application materials online. Applicants are responsible for tracking the receipt of their application materials and ensuring the submission of all required documents. Only applicants who submit completed applications with all required application materials by April 1st will be considered for potential entrance into the program.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or email address. All application withdrawal requests must be made in writing via email, fax, or letter to:

Midwestern University  
Office of Admissions  
19555 N. 59th Ave.  
Glendale, AZ 85308  
Phone: 888/247-9277 or 623/572-3215  
Fax: 623/572-3229  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

### Interview and Selection Process

Students selected for an interview will be notified of available interview dates and invited by the Office of Admissions to schedule their on-campus interview. A typical interview day involves participation in the following activities, which are coordinated by the Office of Admissions: an interview with two interviewers, lunch with current Midwestern University students, a campus tour, and an opportunity to meet with counselors from the admissions and financial aid offices.

During each interview session, the interviewer(s) question the applicant about their academic, personal, and professional aspirations and preparedness for admission to the Occupational Therapy Program, and rate(s) the prospective students on a standard evaluation form. These evaluations are included in applicant files provided to the Occupational Therapy Admissions Committee. The Occupational Therapy Admissions Committee meets approximately one to two weeks after the interviews. The Committee reviews the full application file for applicants who were interviewed and then formulates and submits a recommendation to the Dean for action. The Dean, via Office of Admissions, notifies applicants in writing of the admission action/decision. Applicants are extended acceptance to the program based on the aggregate qualitative and quantitative data gathered from

the application, interview process, and completion of all published admissions requirements.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to move at least 50 lbs. vertically and horizontally.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidate must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals

regardless of gender in all academic settings, including osteopathic manipulative techniques. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

Students who receive denial or end-of-cycle letters may reapply for the following year's admissions cycle. Before reapplying, however, individuals contemplating reapplication should seek the advice of an admissions counselor. To initiate the reapplication process, prospective students must complete and submit a new application and proceed through the standard application process.

### **Transfer Policy**

The Program does not accept transfer credits from another Occupational Therapy Program.

## **EVALUATION OF STUDENT PERFORMANCE**

Students in the Master of Occupational Therapy Program are formally evaluated at appropriate intervals during the curriculum to assess and document satisfactory progress and achievement of learning objectives and prescribed competencies. These evaluations occur on a regular basis at scheduled times during each course. Depending on the learning and competency outcome objectives, these evaluations are designed to assess the level of knowledge, problem-solving skills, psychomotor and clinical competencies, and behavioral performances of students during each course and/or fieldwork experience. Evaluation methods vary, depending on the course or experiential

learning opportunity, and may include formal examinations, written essays, portfolio assignments, design and fabrication projects, psychomotor skill checks, or other methods of determining the extent to which each student has mastered the course content and skill competencies. Student performance in formal examinations is graded on a numerical/alphabetical system using a standard grading scale, which is published in this catalog. Students are customarily provided with feedback and grade reports after each examination summarizing their performance on each test item. Students will be required to participate in competency-based evaluations at various intervals throughout their academic curriculum.

Evaluations of student performance during the Fieldwork II experiences are formalized using standard evaluation tools established by the American Occupational Therapy Association. In keeping with the program's mission to exceed national standards, the Occupational Therapy Program reserves the right to augment the performance criteria required to successfully complete the Fieldwork Level II courses.

## GRADUATION REQUIREMENTS

To qualify for the degree Master of Occupational Therapy (M.O.T.), students must:

1. Satisfactorily complete all courses with a minimum cumulative GPA of 2.75 or higher;
2. Satisfactorily complete the required minimum number of 132.5 credit hours in the curriculum;
3. Receive a favorable recommendation for Master's degree conferral from the Program faculty to the Program Student Academic Review Committee and from this committee to the CHS Student Promotion and Graduation Committee;
4. Receive a favorable recommendation for Master's degree conferral from the University Faculty Senate;
5. Settle all financial accounts with the University; and
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## LICENSURE REQUIREMENTS

Occupational Therapy is a registered and/or licensed profession in all 50 states. To become licensed to practice as an occupational therapist in most states (including Arizona), a student must graduate from an ACOTE-accredited or approved educational program and pass the national certification examination for the occupational therapist administered by NBCOT. Most states (including Arizona) require status as an occupational therapist registered (OTR) to become a licensed occupational therapist (OTR/L). Most states require licensure in order to practice. A prior felony conviction may affect a graduate's ability to sit for the NBCOT certification examination or attain state licensure.

Midwestern University's Master of Occupational Therapy program is designed to meet the educational requirements to meet the licensure requirements to practice as an occupational therapist in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## CURRICULUM

The professional master's curriculum is composed of 47.5 required course credits (quarter hours) for the first calendar year, 61 required course credits for the second calendar year, and 24 required course credits for the third calendar year, for a total of 132.5 quarter credits. Fieldwork courses are placed in the first, second, and third years of the curriculum and include three 1-credit Level I experiences and two 12-credit Level II experiences. Moreover, faculty-guided and supervised learning opportunities in the community are pivotal learning experiences during the second year which reinforce and expand students' mastery of content and skill performance related to occupational therapy evaluation and intervention.

Students' proficiency in evaluation and intervention, independent decision-making and critical thinking are emphasized during OT Fieldwork II-A and II-B of the curriculum, which occur during the spring quarter of the second professional year and the fall quarter of the third professional year. Fieldwork experiences are offered in clinical, community, hospital, school, and other facilities that have a legal agreement with the University and are located throughout the continental United States. Relocation for fieldwork experiences may be required.

The Occupational Therapy Program reserves the right to alter its curriculum however and whenever it deems appropriate. Information in this catalog does not establish a contractual relationship between MWU and the student.

**Total Quarter Credits in the Professional Program: 132.5**

**First Professional Year:**

Total Quarter Credit Hours Required: 47.5

**Fall Quarter**

ANATG	502	Anatomy	4
COREG	1560D	Interprofessional Healthcare	0.5
OTHEG	501	Professional Seminar	0.5
OTHEG	510	Occupational Therapy Foundations	4.0
OTHEG	517	Therapeutic Reasoning I	3
OTHEG	518	Activity Analysis	2
OTHEG	519	Intentional Relationships	2

**Total 16****Winter Quarter**

ANATG	582	Neuroscience	4
COREG	1570D	Interprofessional Healthcare	0.5
OTHEG	500	Psychosocial Fieldwork I	1
OTHEG	509	Analysis of Movement	2
OTHEG	534	Cognition and Perception	3
OTHEG	538	Occupational Therapy Process I	2
OTHEG	544	Psychosocial Practice I	3
OTHEG	550	Fieldwork Foundations I	1

**Total 16.5****Spring Quarter**

COREG	1580D	Interprofessional Healthcare	0.5
OTHEG	515	Neuro-Rehabilitation	5
OTHEG	523	Evidence-Based Practice I	2
OTHEG	536	Fieldwork I-B	1
OTHEG	537	Biomechanics	3
OTHEG	551	Fieldwork Foundations II	0.5
OTHEG	601	Childhood Occupations	3

**Total 15.0****Second Professional Year:**

Total Quarter Credit Hours Required: 61

**Summer Quarter**

OTHEG	603	Assistive Technology - Low Incidence Populations	3
OTHEG	604	Aging I	3

OTHEG 613 Evidence-Based Practice II 2

OTHEG 647 Orthotics and Physical Agents 3

OTHEG 654 Psychosocial Practice II 3

OTHEG 602 Professional Writing 0.5

**Total 14.5****Fall Quarter**

OTHEG	605	Professional Development I	3
OTHEG	609	Group Dynamics	2
OTHEG	611	Pediatrics I: Young Children/Early Intervention	5

OTHEG 625 Aging II 2

OTHEG 636 Fieldwork I-C 1

OTHEG 650 Fieldwork Foundations III 0.5

OTHEG 653 Evidence-Based Practice III 3

OTHEG 608 Occupational Therapy Process II 1.0

**Total 17.5****Winter Quarter**

OTHEG 621 Pediatrics II: Youth/School-Aged 5

OTHEG 637 Upper Extremity Rehabilitation 3

OTHEG 645 Health and Wellness 3

OTHEG 663 Evidence-Based Practice IV 3

OTHEG 670 Elective 1-6

OTHEG 615 Population Health &amp; Emerging Practice 2

**Total 17****Spring Quarter**

OTHEG 695 Fieldwork II-A 12

**Total 12****Third Professional Year:**

Total Quarter Credit Hours Required: 24

**Summer Quarter**

OTHEG 705 Professional Development II 3

OTHEG 717 Therapeutic Reasoning II 2

OTHEG 730 Principles of Teaching and Learning 3

OTHEG 794 Program Development 4



<b>Total</b>		<b>12</b>
<b>Fall Quarter</b>		
OTHEG 796	Fieldwork II-B	12
<b>Total</b>		<b>12</b>

provides students with direct opportunities to observe and interact with clients engaged in functional living activities that are appropriate for their respective cognitive, psychosocial and physical stage of development. Observational and documentation skills are emphasized. 1 credit

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *ANATG 502 Anatomy*

This course provides a lecture and laboratory-based study of human anatomy. Students develop three-dimensional anatomical knowledge that is required for occupational therapy practice. Case studies are used to foster familiarity with typical clinical presentations, and to learn how to approach diagnoses from an anatomical perspective. Laboratory sessions include the study of human cadaveric dissections, and a regional dissection of a portion of the human body.

4 credits

### *ANATG 582 Neuroscience*

Designed to develop the student's knowledge of neuroscience to a level required for clinical practice, this course presents information about principal structural components intertwined with the corresponding functions of the nervous system and the impact of neurological dysfunction on human occupation. The course also provides opportunities to apply neuroscience principles to motor and sensory learning for occupational performance.

4 credits

### *COREG 1560D, 1570D, 1580D Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.

Each course 0.5 credits

### *OTHEG 500 Psychosocial Fieldwork I*

Fieldwork experience consists of guided learning experiences in various healthcare and/or community settings that

### *OTHEG 501 Professional Seminar*

As developing professionals in healthcare, students will learn the definition, privileges, and obligations of belonging to a profession in preparation for socialization as professionals. This course will also include strategies for effective studying and learning in graduate professional education as compared to strategies common to the undergraduate learning experience.

0.5 credits

### *OTHEG 509 Analysis of Movement*

This introductory course emphasizes the recognition, assessment, measurement, and description of normal and abnormal movement in static and dynamic activities. Emphasis is on the development of the skills necessary to accurately measure and assess muscle strength and joint motion.

2 credits

### *OTHEG 510 Occupational Therapy Foundations*

This is an introductory course focused on the foundations and scope of occupational therapy practice. The philosophy of the profession, with its unique emphasis on supporting performance, participation, health and well-being are presented from both historical and current perspectives. Occupation is discussed from the perspectives of roles and participation for meaningful engagement. Professionalism, in accordance with the AOTA Code of Ethics and Standards of Practice that guide practice across varied roles, responsibilities and involvement is also addressed.

4.0 credits

### *OTHEG 515 Neuro-Rehabilitation*

This course addresses the risk factors, clinical signs and symptoms, pathogenesis, and differential diagnosis of selected neurological diseases/problems most common to the adult population. The application of selected models of practice and strategies for occupational therapy practice with adults who have occupational performance dysfunction related to cognitive, perceptual, psychosocial, and neuro-motor disabilities is emphasized. Therapeutic approaches and clinical skills for working with individuals within the home, community, and clinical settings are explored. Current research in etiology and treatment are discussed.

5 credits

*OTHEG 517 Therapeutic Reasoning I*

This course is the first of a two-course series that introduces the philosophical assumptions, theories, and frames of reference underlying the practice of occupational therapy. The various aspects of professional reasoning are also introduced, culminating in the integration of these assumptions, theories, and frames of reference with professional reasoning to guide intervention with clients.  
3 credits

*OTHEG 518 Activity Analysis*

Using the Occupational Therapy Practice Framework, the process of analyzing various components of activities and occupations is introduced, emphasizing the value of occupation and purposeful activities not only as an outcome, but also as a treatment modality. The ability to grade and adapt activities and occupations is emphasized in preparation for the clinical courses that follow.  
2 credits

*OTHEG 519 Intentional Relationships*

This introductory course provides students with opportunities to learn basic principles of therapeutic relationships. Topics include aspects of “personality”, “emotional intelligence”, and “first impressions” as they relate to therapeutic use of self; the intentional therapeutic relationship model; basic interviewing and motivational interviewing consistent with the practice and ethics of the OT profession. Learning strategies include small group discussion and simulated client encounters, in addition to traditional didactic instruction.  
2 credits

*OTHEG 523 Evidence-Based Practice I*

The first of a four-course series, this course provides content foundational to understanding and applying research to the provision of occupational therapy services. Students gain skills in searching for, understanding, interpreting and critiquing research articles. Students learn how to apply research evidence to clinical problems and engage in shared decision making with clients.  
2 credits

*OTHEG 534 Cognition and Perception*

Early in the curricular sequence, this course lays the foundation for intervention with human conditions as they are encountered in subsequent quarters. The course addresses different components of cognition and perception, including memory, attention, learning, executive function and visual-perceptual skills, with an emphasis on examining the interplay of cognition and perception with performance in areas of occupation. Causes of cognitive and perceptual dysfunction and the impact on function are explored and interpreted. Different theories and models of practice for

cognition and perception are analyzed.  
3 credits

*OTHEG 536 Fieldwork I-B*

Fieldwork experience consists of guided learning experiences in various healthcare and/or community settings that provides students with direct opportunities to observe and interact with clients engaged in functional living activities that are appropriate for their respective cognitive, psychosocial, and physical stage of development. Observational, as well as foundational experiential and documentation skills are emphasized.  
1 credit

*OTHEG 537 Biomechanics*

This course is the third and final course in the core sciences, addressing basic biomechanical principles and their application to occupational therapy intervention relative to static and dynamic movement, force analysis and its implications on functional movement and activity. The structure and function of joints, connective tissues, and muscles are addressed, along with the recognition, assessment, and description of normal and abnormal movement. The development of skills necessary to accurately measure and assess joint range of motion and muscle strength, and the influence of task and pathology on function of the musculoskeletal system is emphasized.  
3 credits  
Prerequisites: ANATG 502 Anatomy

*OTHEG 538 Occupational Therapy Process I*

This course provides introductory experience in the evaluation and treatment process with clients throughout the lifespan and across the domain of occupational therapy practice. Learning opportunities develop introductory skills in evidence-based practice, professional reasoning, and documentation of the therapy process in preparation for further development in subsequent courses.  
2 credits

*OTHEG 544 Psychosocial Practice I*

This foundational course is designed to introduce students to psychiatric diagnoses, the impact of psychiatric conditions on occupational performance, and settings in which occupational therapists provide services to individuals with psychiatric diagnoses. General approaches to assessment and intervention are also introduced.  
3 credits

*OTHEG 550 Fieldwork Foundations I*

This course introduces the student to the clinical education program, including its goals and objectives, policies, the types of clinical education experiences provided, and the expectations for student participation. Students begin to

focus on increasing self-awareness through reflective exercises to foster development of professional behaviors.  
1 credit

#### *OTHEG 551 Fieldwork Foundations II*

This course focuses on clinical education experiences, and coincides with the Fieldwork I-B course. The focus of this course is to provide structure for the observational and experiential activities of the level I fieldwork experience. Students continue to develop professional behaviors and self-awareness through reflective exercises that encourage increasing participation in self-directed learning.  
0.5 credits

#### *OTHEG 601 Childhood Occupations*

This is the first course of three that are focused on pediatric occupational therapy services. This course addresses occupations in typical childhood development and occupational challenges caused by neurodevelopmental conditions in childhood. Facilitation of supports to family and child participation in occupations are emphasized. Identification and prevention of barriers for family and child participation in occupations are analyzed.  
3 credits

#### *OTHEG 603 Assistive Technology - Low Incidence Populations*

This course focuses on the role of the OT practitioner as an inter-professional team member considering, assessing, and treating persons using augmentative and alternative communication devices and services to enhance occupational performance to foster participation and well-being.  
3 credits

#### *OTHEG 604 Aging I*

Building on skills introduced in Occupational Therapy Process, this course addresses the aging process, common conditions in the aging population, chronic disease management, and aging in place. Risk factors, signs and symptoms, pathogenesis, medical intervention, and occupational therapy intervention are explored. Therapeutic approaches in a variety of practice settings are explored including the home, community, hospital, skilled nursing, and outpatient clinic.  
3 credits

#### *OTHEG 605 Professional Development I*

This course develops the student's knowledge of professional communication skills and methods needed to articulate the unique value of occupational therapy, to educate clients and others, to document the therapy process, and advocate for clients and populations who may benefit from services. This course also focuses on contexts of practice, and personnel, reimbursement, supervision and management strategies for

effective service delivery. Finally, students gain in-depth understanding of entities that influence or regulate practice either through policy, reimbursement, and credentialing, while gaining appreciation for the value of professional organizations in advancing the development of the practitioner and the profession.  
3 credits

#### *OTHEG 609 Group Dynamics*

This course provides students with opportunities to learn basic principles in group process, and is presented in a laboratory format. Group dynamics, group components, and evolutionary phases of historical and current occupational therapy group applications are emphasized.  
2 credits

#### *OTHEG 611 Pediatrics I: Young Children/Early Intervention*

This course emphasizes the application of selected models of practice and strategies for occupational therapy practice with young children (birth to 5 years of age) who have deficits in occupational performance related to developmental, neuro-motor, psychosocial, or medical challenges. Therapeutic approaches and clinical skills for working with children and families within the home, community, and clinical settings are emphasized. Practice settings for early intervention and family centered pediatric practice are discussed.  
5 credits

#### *OTHEG 613 Evidence-Based Practice II*

This course focuses on the development of skills necessary to evaluate the trustworthiness of qualitative research. Students learn how to use qualitative research to better understand the experiences of clients and apply this information to the provision of occupational therapy services.  
2 credits

Prerequisites: OTHEG 523 Evidence-Based Practice I

#### *OTHEG 615 Population Health & Emerging Practice*

This course focuses on occupational therapy services directed toward communities and populations through culturally responsive, customized, and cost-effective programs. It further develops the concept of emerging practice areas, and leads to subsequent development of a proposal for an innovative program directed toward maximizing health, well-being, and quality of life for communities and populations.  
2 credits

#### *OTHEG 621 Pediatrics II: Youth/School-Aged*

This course emphasizes the application of selected models of practice and strategies for occupational therapy practice with school-aged children (ages 6-21 years) who have deficits in their occupational performance related to developmental, neuro-motor, psychosocial, or medical differences.

Therapeutic approaches and clinical skills for working with children within their school, community, and clinical settings are emphasized. Practice settings for youth-centered pediatric practice are discussed.

5 credits

#### *OTHEG 625 Aging II*

Building on skills introduced in Occupational Therapy Process, this course addresses the aging process, common conditions in the aging population, chronic disease management, and aging in place. Risk factors, signs and symptoms, pathogenesis, medical intervention, and occupational therapy intervention are explored. Therapeutic approaches in a variety of practice settings are explored including the home, community, hospital, skilled nursing, and outpatient clinic.

2 credits

#### *OTHEG 636 Fieldwork I-C*

Fieldwork experience consists of guided learning experiences in various healthcare and/or community settings that provides students with direct opportunities to observe and interact with clients engaged in functional living activities that are appropriate for their respective cognitive, psychosocial, and physical stage of development. Observational, as well as foundational experiential and documentation skills are emphasized.

1 credit

#### *OTHEG 637 Upper Extremity Rehabilitation*

Building on knowledge from the biomechanics course, this course focuses on evaluation and intervention strategies for the remediation of musculoskeletal physical limitations of the upper extremity. Emphasis is placed on impairments of the upper extremity, including fractures, tendon injuries, pain syndromes, arthritis, burns, amputations, and soft tissue disorders, and their effect on occupational performance.

3 credits

Prerequisites: ANATG 502 Anatomy

#### *OTHEG 645 Health and Wellness*

This course focuses on the application of occupational therapy evaluation and treatment approaches within the workplace, including the application of ergonomic principles and strategies to prevent injury, and functional capacity evaluations and work rehabilitation to promote return to work. Health promotion and wellness strategies throughout the lifespan are also highlighted.

3 credits

#### *OTHEG 647 Orthotics and Physical Agents*

Following the upper extremity rehabilitation course, this course emphasizes the fundamental principles of orthotic design and fabrication, and the theoretical principles and

practical application of thermal and electrotherapeutic modalities within the practice of occupational therapy. Anatomical and biomedical principles that pertain to orthotic design and fabrication, and the physiological, neurophysiological, and electro-physical changes that occur with application of selected physical agent modalities are emphasized.

3 credits

#### *OTHEG 650 Fieldwork Foundations III*

This course focuses on clinical education experiences, and coincides with the Fieldwork I-C course. The focus of this course is to provide structure for the observational and experiential activities of the level I fieldwork experience. Students continue to develop professional behaviors and self-awareness through reflective exercises that encourage increasing participation in self-directed learning.

0.5 credits

#### *OTHEG 653 Evidence-Based Practice III*

Students conduct a systematic review to apply their knowledge of evidence based practice to a specific clinical question. In this two-course sequence, students begin the process by writing a clinical question, finding the relevant evidence, abstracting the evidence, and writing the introduction and methods sections of their review paper.

3 credits

#### *OTHEG 654 Psychosocial Practice II*

Building on Psychosocial Practice I, this course focuses on the application of selected models of practice and strategies in occupational therapy. The course provides exposure to and practice with assessments and interventions used in psychosocial practice.

3 credits

#### *OTHEG 663 Evidence-Based Practice IV*

This course serves as a continuation of Evidence Based Practice III in which students complete a systematic review on a specific clinical question. During this quarter, students write the results and discussion sections of their review paper and present their findings in an oral presentation. Based on their analysis of the findings, students derive specific implications for occupational therapy practice.

3 credits

#### *OTHEG 670 Elective*

CORE elective courses during Winter Quarter of the second year will vary from year to year depending on student interest and faculty availability. Students may select from courses offered by members of the OT Program that have been approved by the OT Program Education Committee, or offerings of other programs or colleges that have been approved by the CHS Curriculum Committee and OT

Program Education Committee.  
1-6 credits

*OTHEG 695 Fieldwork II-A*

This three-month internship is comprised of supervised field experience with clients and/or client groups who exhibit a variety of medical conditions, which include physical and/or psychosocial disabilities. This internship emphasizes the development of disciplined, higher-level critical thinking skills necessary to plan and provide high-quality client care. Students are supervised by registered occupational therapists with a minimum of one year of experience.  
12 credits

*OTHEG 705 Professional Development II*

Building on the first Level II Fieldwork experience, this course challenges students to reflect on their individual abilities and competencies in service delivery and therapeutic use of self. They further reflect on the characteristics of the context in which they trained, the trends observed in service delivery and federal/state policies or regulations, anticipating the potential effect on future practice in that context. Students share experiences with documentation and supervision during their training. Finally, as it is the last academic quarter of the program, this course reviews the professional credentialing process and begins preparation for the NBCOT Certification Examination.  
3 credits

*OTHEG 717 Therapeutic Reasoning II*

This course provides an opportunity for students who have completed Fieldwork II-A to reflect on the theories, frames of reference, professional reasoning, and intentional relationship strategies used with the clients they encountered. It encourages them to focus on and refine aspects of clinical practice to enhance their performance in Fieldwork II-B, as well as prepare for their transition from student to entry level practitioner.  
2 credits

*OTHEG 730 Principles of Teaching and Learning*

This course focuses on principles of teaching and learning, which practitioners can apply as they prepare and give educational in-services, participate in advocacy work, or transition to academia. It also includes teaching and learning theories that can be applied to teaching patients, caregivers, and fieldwork students.  
3 credits

*OTHEG 794 Program Development*

Continuing the professional development of students, this course cultivates the knowledge and skills to develop new service provision models, or adapt existing models, to meet occupational needs within the context and environment of

individuals and populations. Students integrate current socioeconomic, cultural, political, geo-demographic, and technological factors to plan, develop, and market a program; and design evaluation methods to support quality improvement. Students utilize theoretical constructs and evidence to justify the program, and promote policy development in areas of need.  
4 credits

*OTHEG 796 Fieldwork II-B*

This three-month internship is comprised of supervised field experience with clients and/or client groups who exhibit a variety of medical conditions, which include physical and/or psychosocial disabilities. This internship emphasizes the development of disciplined, higher-level critical thinking skills necessary to plan and provide high-quality client care. Students are supervised by registered occupational therapists with a minimum of one year of experience.  
12 credits

## ELECTIVE COURSE DESCRIPTIONS

*OTHEG 800 Independent Study*

This course is designed to facilitate additional didactic or clinical endeavors related to a specific component of occupational therapy theory and/or practice. Course content, assignments and learning outcomes are developed in collaboration with the faculty mentor and the student. The Program Director must approve the plan. Course credit is variable depending on the scope of work to be accomplished.  
1-6 credits

## STUDENT ACADEMIC POLICIES

**Cardiopulmonary Resuscitation (CPR) Certification**

Students are responsible for maintaining CPR certification at BLS or Healthcare Provider level while enrolled in the Program. CPR and First Aid courses are offered during the second quarter of the OT Program.

**DPS IVP Fingerprint Clearance Card**

Students are responsible for maintaining an Arizona Department of Public Safety IVP Fingerprint Clearance Card while enrolled in the Program.

## **FACULTY**

**Sarah Anderson, OTD, OTR**

A.T. Still University  
Instructor

**Catana Brown, Ph.D., OTR, FAOTA**

University of Kansas  
Professor

**Froma Jacobson, M.Ed., OTR**

Arizona State University  
Assistant Professor

**Christine Merchant, Ph.D., OTR**

Touro University International  
Program Director and Associate Professor

**Katherine Schofield, DHS, OTR, CHT**

University of Indianapolis  
Assistant Program Director and Associate Professor

**Patricia Steffen-Sanchez, M.S., OTR**

San Jose State University  
Assistant Professor

**Brenda K. Taubman, Ph.D., OTR**

Trident University  
Coordinator of Clinical Education and Assistant Professor

**Christopher T. Trujillo, OTD, OTR, GCG, ATP**

University of Utah  
Assistant Professor

**Susan Tully, M.S., OTR**

University of North Carolina at Chapel Hill  
Assistant Professor

**Tamara Turner, Ed.D., OTR**

Argosy University  
Assistant Coordinator of Clinical Education and Assistant Professor

# CARDIOVASCULAR SCIENCE PROGRAM

## MISSION

The Midwestern University Cardiovascular Science Program educates students to be compassionate, behaviorally competent, clinically proficient and professional members of the cardiac surgery team in the practice of cardiovascular perfusion.

## ACCREDITATION

The Cardiovascular Science Program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Accreditation Committee-Perfusion Education ([www.ac-pe.org](http://www.ac-pe.org)). The Commission on Accreditation of Allied Health Education Programs is located at 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33763, phone number 727/210-2350.

Midwestern University is accredited by the Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1411; 800/621-7440.

## DEGREE DESCRIPTION

Program graduates are provided with the knowledge and skills necessary to meet the demands that will be placed upon them in an ever-changing field where surgical, technological, and basic sciences are rapidly changing.

The 21-month curriculum leading to a Master of Science in Cardiovascular Science degree is a full-time professional program of seven continuous quarters. The program begins with three quarters of didactic and laboratory education at the Glendale campus. The student is exposed to cardiac surgery during the second and third quarters through clinical observation at affiliated hospitals in the Phoenix area.

The clinical rotation segment commences the student's second year. The clinical rotations are off campus at various affiliated hospitals located across the country. Relocation during clinical rotations will be necessary. This is a rigorous and demanding program; however, graduates are rewarded with the satisfaction that comes with accomplishment and an excellent start to their professional careers.

## ADMISSIONS

The Cardiovascular Science Program currently uses a modified rolling admissions process. Completed applications are reviewed and decisions are made at regular intervals during the admissions cycle until the class is filled. The admissions process is highly selective and applicants are encouraged to apply within the priority or standard application deadlines in the cycle listed below.

### **Priority Application Deadline - November 1**

Applicants who submit their completed materials on or before November 1 will be given first consideration for admissions and will be notified of the admissions decision on or before January 31. Those who are not accepted in the program at this time will be rolled over into the Standard Application Deadline.

### **Standard Application Deadline - April 15**

Applicants who submit their completed application materials on or before April 15 will be considered for admissions and will be notified of the admissions decision on or before May 31. Students are encouraged to apply during the Priority or Standard Application Deadlines. Applications received between April 15 and May 31 will be considered on a rolling basis for seats that may be available or placement on the alternate list.

Admission to the Cardiovascular Science Program at Midwestern University is considered on a competitive basis for prospective students who hold a bachelor's level (or its equivalent) or higher degree from a regionally accredited college or university. Applications received are reviewed by the Office of Admissions for completeness and referred to the Director of the Cardiovascular Science Program to determine eligibility for applicant interviews. Final acceptance into the Cardiovascular Science Program is determined by the Admissions Committee with the approval of both the Director of the Cardiovascular Science Program and the Dean. The Dean, via Office of Admissions, notifies applicants in writing of the admission action/decision. Decisions on acceptance are made until the maximum enrollment for each class is reached.

## Admission Requirements

To be considered for admission to the Cardiovascular Science Program, applicants must submit documentation of the following:

1. Completion of a bachelor's level or higher degree from a regionally accredited college or university.
2. Minimum cumulative grade point average (GPA) of 2.75 and minimum cumulative science GPA of 2.75 on a scale of 4.00.
3. GRE is required within 3 years to matriculation.
4. Completion of the Application for Admission.
5. Completion of the minimum number of prerequisite courses at a regionally accredited college or university.
  - All prerequisites must be completed with a grade of C or better
  - Grades of C- are not acceptable for any prerequisite courses
6. Completion of the Program's interview process (by invitation only).
7. Passage of the Midwestern University criminal background check.
8. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

## Prerequisite Courses

Course	Sem. Hrs.	Qtr. Hrs.
Social and Behavioral Sciences (e.g., sociology, psychology, anthropology)	6	9
Biology (must include laboratory)	8	12
General Chemistry (inorganic; must include laboratory)	4	6
Anatomy	3	4
Physiology	3	4
Biochemistry	3	4
Physics	3	4
Applied Mathematics (college algebra or higher)	3	4
English (emphasizing composition, communication, and language skills)	6	9
General Education electives (recommended courses include fine arts, humanities, ethics, philosophy, foreign language, business principles, computer information systems, economics,	25	38

and cultural anthropology.)		
Total Credit Hours	64	94

## Application Process

To be considered for admission into the Cardiovascular Science Program, applicants must submit to the Office of Admissions an application packet that includes:

1. A completed Application for Admission form
2. A nonrefundable, nonwaivable application fee of \$50
3. Two signed and sealed letters of recommendation
4. Official transcripts from each college or university attended post-high school
5. GRE general test scores earned within the last three years

Office of Admissions  
 Midwestern University  
 19555 North 59th Avenue  
 Glendale, AZ 85308  
 623/572-3215 or 888/247-9277  
 Fax 623/572-3229  
 admissaz@midwestern.edu

*Please note:* Applicants may track the receipt of their application materials and the status of their files on the University's website with the instructions for accessing account information that will be sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address and/or e-mail address. All requests for application withdrawals must be made in writing via e-mail, fax or letter to the Office of Admissions at the above address.

## Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.



3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to lift 20lbs vertically and must be able to move at least 50lbs horizontally.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Transfer Process**

Special considerations may be given to a student with extenuating circumstances. These students may apply to the program and if qualified, must participate in an admissions interview.

### **Academic and Administrative Policies**

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

### **Extended Program**

For various reasons, a restructuring of a student's academic course load may be necessary. If qualified, an individual's academic course load may be reduced so that the student enters an extended track program. Such a program rearranges the course schedule so that the normal time period for the program is extended, usually by an additional year. A student is placed on an extended program by the Academic Review Committee.

## **GRADUATION REQUIREMENTS**

To qualify for graduation with the Master of Science in Cardiovascular Science degree, students must:

1. Follow an approved course of study leading to the successful completion of a master's project;
2. Satisfactorily complete the required 104.5 quarter-credit hours in the overall course of study with a minimum cumulative grade point average of 2.75 and satisfactorily complete a final Program Summative Session;
3. Perform the minimum of seventy five (75) clinical perfusions as required by the American Board of Cardiovascular Perfusion;
4. Receive a favorable recommendation for master's degree conferral from the Program Student Academic Review Committee and the College of Health Sciences Student Promotion and Graduation Committee and the University Faculty Senate;
5. Settle all financial accounts with the University; and
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## LICENSURE REQUIREMENTS

Licensure is not required in all states, including Arizona. In those states requiring licensure, a perfusionist must be a certified clinical perfusionist. Certification is achieved by passing the certifying examination administered by the American Board of Cardiovascular Perfusion (ABCP).

Midwestern University's Cardiovascular Science program meets the educational requirements to become certified by the American Board of Cardiovascular Perfusion (ABCP) to practice as a certified clinical perfusionist (CCP) in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure and/or certification requirements for the state, district or territory in which they intend to pursue employment.

For further information regarding the ABCP certifying examination, contact:

The American Board of Cardiovascular Perfusion  
2903 Arlington Loop  
Hattiesburg, MS 39401  
601/268-2221

[www.abcp.org](http://www.abcp.org)

## CURRICULUM

The Cardiovascular Science Program reserves the right to alter its curriculum, however and whenever it deems appropriate. This catalog does not establish a contractual relationship between MWU and the student.

**Total Quarter Credits in the Professional Program: 104.5**

### First Professional Year:

Credit Hours Required: 53.5

#### Fall Quarter

COREG	1560E	Interprofessional Healthcare	0.5
CVSPG	542	Introduction to the Perfusion Environment	1
CVSPG	551	Anatomy for Cardiovascular Sciences	2

CVSPG	553	Monitoring and the Cardiovascular Patient	4
CVSPG	555	Applied Physiology & Pathophysiology for Cardiovascular Sciences I	4
CVSPG	561	Cardiovascular Perfusion Technology I	4
CVSPG	591	Cardiovascular Perfusion Practical Laboratory I	2
<b>Total</b>			<b>17.5</b>

#### Winter Quarter

COREG	1570E	Interprofessional Healthcare	0.5
CVSPG	531	Cardiovascular Sciences Journal Review I	2
CVSPG	534	Cardiovascular Sciences Masters Project I	1
CVSPG	556	Applied Physiology & Pathophysiology for Cardiovascular Sciences II	4
CVSPG	562	Cardiovascular Perfusion Technology II	4
CVSPG	571	Clinical Observations & Seminars for Cardiovascular Sciences I	2
CVSPG	581	Applied Pharmacology for CV Sciences I	2
CVSPG	592	Cardiovascular Perfusion Practical Laboratory II	2
CVSPG	598	Developmental Skills for Clinical Rotations and Professional Practice	1
<b>Total</b>			<b>18.5</b>

#### Spring Quarter

COREG	1580E	Interprofessional Healthcare	0.5
CVSPG	535	Cardiovascular Sciences Masters Project II	1
CVSPG	544	Quality & Risk Management for Cardiovascular Sciences	2
CVSPG	557	Cardiac Congenital Defects & Cardiac Pediatric Perfusion	4
CVSPG	563	Cardiovascular Perfusion Technology III	4

CVSPG	572	Clinical Observations & Seminars for Cardiovascular Sciences II	2
CVSPG	582	Applied Pharmacology for CV Sciences II	2
CVSPG	593	Cardiovascular Perfusion Practical Laboratory III	2
<b>Total</b>			<b>17.5</b>

**Second Professional Year:**

Credit Hours Required: 51

**Summer Quarter**

CVSPG	601	Clinical Practicum I (6 weeks)	6
CVSPG	602	Clinical Practicum II (6 weeks)	6
<b>Total</b>			<b>12</b>

**Fall Quarter**

CVSPG	603	Clinical Practicum III (6 weeks)	6
CVSPG	604	Clinical Practicum IV (6 weeks)	6
CVSPG	662	Special Techniques in Cardiopulmonary Bypass	1
<b>Total</b>			<b>13</b>

**Winter Quarter**

CVSPG	605	Clinical Practicum V (6 weeks)	6
CVSPG	606	Clinical Practicum VI (6 weeks)	6
CVSPG	663	Clinical Modules in Perfusion	1
<b>Total</b>			<b>13</b>

**Spring Quarter**

CVSPG	607	Clinical Practicum VII (6 weeks)	6
CVSPG	608	Clinical Practicum VIII (6 weeks)	6
CVSPG	664	Current Trends in Perfusion	1
<b>Total</b>			<b>13</b>

**CORE COURSE DESCRIPTIONS**

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

*COREG 1560E, 1570E, 1580E Interprofessional Healthcare*  
The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine.

The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.  
Each course 0.5 credits

*CVSPG 531 Cardiovascular Sciences Journal Review I*  
This course covers topics related to cardiovascular perfusion. Students will evaluate journal review articles and present to the class. The course will provide the student with skills to review, critique, present, and lead discussions of journal articles that are relevant to perfusion and cardiothoracic surgery.  
2 credits

*CVSPG 534 Cardiovascular Sciences Masters Project I*  
This course applies the theory and principles presented in CVSPG 560 series Perfusion Technology courses and applies to a perfusion project. Students will conduct a literature review and design their conclusions on a given perfusion protocol topic.  
1 credit

*CVSPG 535 Cardiovascular Sciences Masters Project II*  
This course takes the theory and principles presented in CVSPG 591 and 592, CVSPG 561, 562, and 563 and has students integrate the material in a clinically relevant patient care plan. Students will use references from the literature to develop a Perfusion Care Plan for a simulated patient.  
1 credit

*CVSPG 542 Introduction to the Perfusion Environment*  
This course provides an introduction to the operating room and its environment including sterile technique, instrumentation associated with cardiopulmonary bypass, blood-borne pathogens, personal protection equipment, emergency preparedness, HIPAA and professionalism. The curriculum also covers significant historical events that have led to the current technology of cardiac surgery and cardiopulmonary bypass. Emphasis is also placed on communication in the cardiac surgery suite and sequencing of events during a cardiac procedure involving cardiopulmonary bypass.  
1 credit

*CVSPG 544 Quality & Risk Management for Cardiovascular Sciences*  
This course covers topics related to quality management and risk management in cardiovascular perfusion. The quality

management course will instruct the student in setting-up a quality management program for a perfusion department. The curriculum will incorporate the continuous quality improvement cycle including process improvement. The risk management segment covers topics related to risk management in cardiovascular perfusion. The course will instruct the student in risk management in perfusion technology.  
2 credits

*CVSPG 551 Anatomy for Cardiovascular Sciences*  
This course examines cardiac, vascular, renal, and respiratory anatomy as they are applied to cardiovascular science and perfusion technology in particular. Emphasis is placed on normal structure and function and the current techniques used to visualize and analyze each of the structures.  
2 credits

*CVSPG 553 Monitoring and the Cardiovascular Patient*  
This course provides an overview of patient monitoring, especially the critically ill patient. The course also provides introduction to all aspects of the cardiac surgery suite. The course takes an in-depth look at these monitors and analyzers. The student will learn how each device and system operates, the strengths and limitations of each, how to troubleshoot each system, and how to interpret the clinical data.  
4 credits

*CVSPG 555 Applied Physiology & Pathophysiology for Cardiovascular Sciences I*  
This course is the first in the series of two courses that take an in-depth look at the physiology and pathophysiology of the major organ systems of the human body. Emphasis is on the interaction of cardiopulmonary bypass with the systems' normal physiology and how the systems' pathophysiology affects the conduct of bypass. This course covers blood, the heart, and the vascular system.  
4 credits

*CVSPG 556 Applied Physiology & Pathophysiology for Cardiovascular Sciences II*  
This course is the second in the series of two courses that take an in-depth look at the physiology and pathophysiology of the major organ systems of the human body. Emphasis is on the interaction of cardiopulmonary bypass with the systems' normal physiology and how the systems' pathophysiology affects the conduct of bypass. This course covers the autonomic nervous system, the immune system and inflammation, the lungs, the kidneys, and fluid and acid-base balance.  
4 credits

*CVSPG 557 Cardiac Congenital Defects & Cardiac Pediatric Perfusion*  
This course prepares students for participation in their pediatric rotations by providing an in-depth study of the cardiac congenital defects, the surgical procedures used to palliate and/or correct each defect, and a general overview of pediatric perfusion techniques. Emphasis is also placed on the physiological differences between adult and pediatric patients, device selection, volume management, cannulation techniques, temperature management, deep hypothermic circulatory arrest, and cerebral protection.  
4 credits

*CVSPG 561 Cardiovascular Perfusion Technology I*  
This is the first in the series of three courses that explore the technology, techniques, and issues associated with cardiovascular perfusion and how the extracorporeal circuit is used in today's healthcare setting. This course provides an overview of the evolution of cardiopulmonary bypass, an introduction to the operating room and its environment including sterile technique, blood-borne pathogens, personal protection equipment, and an in-depth look at the components that comprise the extracorporeal circuit.  
4 credits

*CVSPG 562 Cardiovascular Perfusion Technology II*  
This is the second in the series of three courses that explore the technology, techniques, and issues associated with cardiovascular perfusion and how the extracorporeal circuit is used in today's healthcare setting. This course looks at the technology and techniques associated with the conduct of cardiopulmonary bypass. This includes hemodilution, hypothermia, anticoagulation, myocardial protection, the interaction of blood with a foreign surface, and the pathophysiology associated with cardiopulmonary bypass.  
4 credits

*CVSPG 563 Cardiovascular Perfusion Technology III*  
This is the third in the series of three courses that explore the technology, techniques, and issues associated with cardiovascular perfusion and how the extracorporeal circuit is used in today's healthcare setting. This course looks at specific techniques and current applications of extracorporeal circulation, various adjunct procedures, support of the failing heart and/or the failing lungs, and future applications and techniques.  
4 credits

*CVSPG 571, 572 Clinical Observations & Seminars for Cardiovascular Sciences I, II*  
These courses present procedures and topics in cardiovascular medicine through direct clinical observation, seminar presentations, or by independent study. Students are assigned to observation sessions in the cardiac operating room or

catheterization lab at local affiliate hospitals. All students participate in weekly seminars which present a technology, technique, or device currently in clinical use.  
Each course 2 credits

*CVSPG 581 Applied Pharmacology for CV Sciences I*

This course provides an introduction and basic foundation for Clinical Pharmacology to the Cardiovascular Perfusion student. The student will be able to describe the different physiological receptors and the mechanism of actions of the pharmaceuticals utilized to treat a patient with cardiovascular disease. Students will also be required to develop and demonstrate an understanding of the pharmacological agents routinely utilized or encountered by perfusionists.  
2 credits

*CVSPG 582 Applied Pharmacology for CV Sciences II*

This course expands upon the basic foundations of Clinical Pharmacology previously mastered in CVSPG 581 by the Cardiovascular Perfusion student. Students will be expected to demonstrate the ability to recognize and evaluate the impact of medications on specific patient disease processes and determine how those effects impact the patient's functional status. The core concentration of this course will be on the pharmacology most relevant to the cardiovascular patient, with a strong emphasis on the pathophysiological basis for drug therapy.  
2 credits

*CVSPG 591 Cardiovascular Perfusion Practical Laboratory I*

This is the first in the series of three laboratory courses that provide hands-on experience with the extracorporeal circuit and related perfusion technologies. This course introduces the heart-lung machines currently available in the Cardiovascular Science's laboratory, provides hands-on experience with the design and assembly of an extracorporeal circuit tubing pack, and provides hands-on experience with setting up and priming a simple extracorporeal circuit.  
2 credits

*CVSPG 592 Cardiovascular Perfusion Practical Laboratory II*

This is the second in the series of three laboratory courses that provide hands-on experience with the extracorporeal circuit and related perfusion technologies. This course continues the hands-on experience circuit setup and introduces conduct of cardiopulmonary bypass via weekly hands-on simulations. Emphasis is on preparation of patient information, initiation and termination of bypass, anticoagulation management, patient management during cardiopulmonary bypass, and effective communication.  
2 credits

*CVSPG 593 Cardiovascular Perfusion Practical Laboratory III*

This is the third in the series of three laboratory courses that provide hands-on experience with the extracorporeal circuit and related perfusion technologies. This course continues the hands-on experiences involving circuit setup and simulation. Simulation emphasis is on the operation of cell salvage devices, operation of the intra-aortic balloon pump, recognition and correction of problems potentially encountered during cardiopulmonary bypass, troubleshooting, and crisis resource management.  
2 credits

*CVSPG 598 Developmental Skills for Clinical Rotations and Professional Practice*

This course is designed to provide first year students the tools and information to excel in clinical rotations. The course includes skills to provide students ample information in seeking employment, information for relationship building in the clinical setting, and knowledge to successfully transition into the Cardiac Operating Room. Lastly, the students will be taught about professional principles in the operating room, diversity, how to identify key personnel, and handling difficult situations.  
1 credit

*CVSPG 601, 602, 603, 604, 605, 606, 607, 608 Clinical Practicum I-VIII*

The curriculum for Year Two features four quarters of clinical rotations including a one-week Orientation and a one-week Summative Evaluation. During these rotations, students are expected to achieve specific competencies in cardiovascular perfusion and related technologies of open-heart surgery, including proficiency in managing patient problems, handling issues of quality assurance, utilization review, continuity of care and appropriate treatment plans. At least one clinical rotation will be pediatrics. Text reading assignments, journal review, and other online activities are required for each clinical rotation.  
Each clinical practicum 6 credits

*CVSPG 662 Special Techniques in Cardiopulmonary Bypass*

This on-line course is divided into ten separate conditions requiring special and unusual techniques for cardiopulmonary bypass. The class is highly interactive with discussion on each subject.  
1 credit

*CVSPG 663 Clinical Modules in Perfusion*

This on-line course consists of a series of three (3) learning modules designed to: (1) allow the student to review and correct physiological parameters for the patient on cardiopulmonary bypass; (2) introduce/review characteristics of various mechanical circulatory assist devices; (3) appreciate

input of multiple disciplines allowing the perfusion student to make a number of choices based on the appropriateness, available capital equipment and disposables. A resource library is also provided to support the learning process.  
1 credit

*CVSPG 664 Current Trends in Perfusion*

This on-line course is divided into ten separate discussions. Ten different topics will be discussed on-line, each representing a current trend in perfusion.  
1 credit

## ELECTIVES

*CVSPG 800 Independent Study*

The independent study style course is designed to provide students the opportunity to explore topics of didactic and/or clinical interest as needed to enhance student's learning.  
1-6 credits

*CVSPG 810 Research I*

This elective course provides the student with the foundation for understanding and applying quantitative research within the context of evidence-based practice in cardiac perfusion. Students are encouraged to share their results with the perfusion community via a poster or oral presentation at a national meeting. Basic research skills shall be utilized for the project. The student will investigate existing scientific literature and provide a research design for the implementation of the research study.  
1 credit

*CVSPG 811 Research II*

This course is a continuation of CVSPG 810 Research Elective. Following the initial investigation of the research

topic, the student will implement the research protocol and initiate the process of data collection. Statistical analysis of the data, creation of a scientific paper/poster will be required for students final reporting.  
2 credits

## FACULTY

**Kyle Dana, D.C., CCP**

Parker University  
Program Director and Assistant Professor

**Nathaniel H. Darban, Ph.D., CP**

University of Arizona  
Assistant Professor

**Edward Evans, M.A., CP**

University of Phoenix  
Associate Professor

**Cristina Gaspar, M.S., CP**

University of Arizona  
Assistant Director and Assistant Professor

**Harry R. Hoerr, Jr., M.S., CCT**

National University  
Associate Professor

**Thomas Rath, M.S., CCP**

University of Nebraska  
Assistant Professor

**Julie A. Steele-Pruett, M.S., CP**

Midwestern University  
Assistant Professor

# ARIZONA SCHOOL OF PODIATRIC MEDICINE

## MISSION

The mission of the Midwestern University Arizona School of Podiatric Medicine is to prepare quality students to enter residency through rigorous education and training, and to exceed professional standards.

## VISION

The vision of AZPod is to demonstrate excellence in podiatric medical education. The School strives to cultivate diversity and promote professionalism in an interdisciplinary environment through exemplary:

- Curriculum
- Recruitment of quality students
- Scholarly activity
- Recruitment & retention of quality faculty
- Service to community
- Post-doctoral education

## ACCREDITATION

The Arizona School of Podiatric Medicine is accredited by the Council on Podiatric Medical Education. Accreditation is an indication of public approbation, attesting to the quality of the podiatric medical education program and the continued commitment of the institution to support the educational program. The council is recognized as the professional institutional accrediting agency for podiatric medical education by the U.S. Department of Education and by the council for Higher Education Accreditation. For further information, please contact the Council on Podiatric Medical Education at the following address: Council on Podiatric Medical Education, 9312 Old Georgetown Road, Bethesda, MD 20814, 301/571-9200.

Midwestern University is accredited by The Higher Learning Commission (HLC), 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

AZPod offers a four year course of study leading to the Doctor of Podiatric Medicine degree. Maximum time for completion of the degree is six years. Courses in the clinical

sciences are integrated with basic science courses during the first two years of the curriculum. Clinical courses continue through the summer and part of the fall quarter of the third year. All basic science courses and some clinical courses are shared with osteopathic medical students during the first and second years. Students experience part-time clinical training in the second year. Full time clinical training occurs eight months of the third year and all of the fourth year. The overall goal of the School is to prepare the finest possible podiatric physicians for entry into residency training.

## ADMISSIONS

AZPod considers for admission those students who possess the academic, professional, and personal qualities necessary for development as exemplary podiatric physicians. The School uses multiple criteria to select the most qualified candidates including cumulative grade point average (GPA), science GPA, Medical College Admissions Test (MCAT) scores, personal experiences and character, ability to communicate, familiarity with the profession, volunteer and community involvement, research experience, and other considerations. The School uses a competitive rolling admissions process and candidates are encouraged to apply early in the year prior to admission.

### Admission Requirements

To be considered for admission to AZPod, the successful candidate must submit the following documented evidence:

1. Minimum cumulative GPA and science GPA of 2.75 on a 4.00 scale of undergraduate courses from a regional accredited university.
2. Ability to successfully complete a rigorous curriculum that requires critical thinking skills, effective oral and written communication skills, and voluminous reading, as well as the capacity for responsible, self-directed learning.
3. Competitive scores on the Medical College Admissions Test (MCAT) earned no more than 3 years prior to the planned enrollment year.
4. Completion of the necessary course prerequisites.
  - Candidates must complete a minimum of 90 semester hours/135 quarter hours at regionally accredited colleges or universities

- A bachelor's degree or higher is preferred
  - Ordinarily, prerequisite courses must have been completed within seven years of the date of admission
5. Two Letters of Recommendation are not required but will be accepted.
  6. A good understanding of podiatric medicine and a sincere interest in a career in the field.
    - Candidates are required to visit at least one podiatric practice
  7. Demonstration of extracurricular or community activities that indicate a well-rounded background and a service orientation.
  8. Medically-related experiences that indicate sufficient exposure for candidates to make informed decisions about medical careers.
  9. Personal integrity and sound moral character.
  10. Interpersonal and communication skills necessary to relate effectively with others.
  11. Passage of the Midwestern University criminal background check.
  12. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

2. Submit competitive test scores on the Medical College Admissions Test (MCAT) earned no more than 3 years prior to the planned enrollment year.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or email address. All application withdrawal requests must be made in writing via email, fax, or letter to:

Midwestern University  
 Office of Admissions  
 19555 N. 59th Ave.  
 Glendale, AZ 85308  
 Phone: 888/247-9277 or 623/572-3215  
 Fax: 623/572-3229  
 admissaz@midwestern.edu

### **Interview and Selection Process**

To be considered for interviews, applicants must meet the admissions requirements listed previously. After the Office of Admissions receives these materials, applicant files are reviewed to determine whether applicants merit interviews based on established criteria of the Admissions Committee. The Admissions Director, with the approval of the AZPod Director, may also place a large number of students on an interview "wait list" pending possible interview openings toward the end of the interview cycle.

Applicants who accept interviews will be individually interviewed by a three-person interview panel, which is selected from a volunteer group of basic scientists, clinicians and Office of Admissions officials. Team members question students about their preparedness for podiatric medical school and rate applicants on a standardized evaluation form relative to each of these variables. At the conclusion of the interviews, the team members forward their evaluations for each applicant to the Admissions Committee. The Committee may recommend to accept, to deny, or to place applicants on the alternate list. Recommendations are then forwarded to the CHS Dean for final approval. The Dean, via the Office of Admissions, typically notifies applicants of their status within one or two weeks of their interviews.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and sense of touch and is

### **Prerequisite Courses**

Biology with lab	8 Sem/12 Qtr hours
General/Inorganic Chemistry with lab	8 Sem/12 Qtr hours
Organic Chemistry with lab	8 Sem/12 Qtr hours
Physics	8 Sem/12 Qtr hours
English	6 Sem/9 Qtr hours

Grades less than C are not acceptable for any prerequisite courses.

### **Application Process and Deadlines**

Individuals interested in applying for admission to AZPod must complete an on-line application at the American Association of Colleges of Podiatric Medicine Application Service (AACPMAS) website at <https://portal.aacpmas.org/> or obtain application information by writing or calling:

The American Association of Colleges of Podiatric Medicine Application Service (AACPMAS)  
 P.O. Box 9200  
 Watertown, MA 02471  
 617/612-2900

To initiate the competitive application process applicants must:

1. Complete the online AACPMAS application with all required materials (i.e., official transcripts, fees, etc.) before the published deadline date. The application deadline is June 1<sup>st</sup>.



enhanced by the functional use of all of the other senses.

2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, and interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum,

the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

After receiving either a denial or end-of-cycle letter, prospective students may reapply for the next enrollment cycle. Before reapplying, however, students should seek the advice of an admissions counselor. To initiate the reapplication process, prospective students must complete and submit a new application and proceed through the standard application process.

### **Transfer Admission**

AZPod may elect to accept transfer students from other U.S. podiatric medical schools as long as these students are in good academic standing and have an acceptable reason(s) for seeking transfer. Typically, transfers are only granted to students desiring to transfer into the third or fourth year; however, transfers to the second year may be granted.

To be considered for transfer, the student must meet the School's general requirements for admission. Accepted students must sign a matriculation agreement and indicate that they meet the technical standards. The student must also submit:

1. A letter to the Director of Admissions indicating the reason for requesting to transfer and explaining any difficulties encountered at the previous institution(s).
2. The AZPod Transfer Application (available through the Office of Admissions).
3. Official MCAT score report.
4. Official transcripts from all schools attended, including undergraduate, graduate, and professional.
5. A letter from the dean of the college in which the student is enrolled that describes the current academic status and terms of withdrawal or dismissal of the prospective transfer student.
6. Additional documents or letters of recommendation as determined to be necessary by the Director of Admissions.

Following receipt of these materials, the Admissions Committee determines whether the student merits an on-campus interview. Students who receive interview invitations will meet with an interview team. The interview team offers recommendations to the Program Director, who approves both the admissions status and class standing of transfer students.

Transfer applications must be received at least three months prior to the desired matriculation date. This allows time for processing of applications, interviews, and student relocations prior to the start of the next academic term.

Students with prior medical training, such as international podiatric, allopathic or osteopathic medicine, may apply for advanced standing, in which portions of prior course work will be reviewed for acceptability by relevant course director of AZPod courses. Transfer students desiring a course waiver must submit the related course syllabus and a decision will be made by the course director prior to matriculation.

## GRADUATION REQUIREMENTS (D.P.M.)

To receive the degree of Doctor of Podiatric Medicine (D.P.M.), the student must complete all requirements within six years of matriculation. To be eligible for graduation the student must:

1. Follow an approved course of study of 215.0 credits leading to the completion of all academic requirements.
2. Satisfactorily complete all academic requirements with a cumulative GPA of at least 2.00.
3. Repeat and pass any required course for which an F grade has been issued.
4. Complete the Service Learning requirement (20 hours of volunteer service in a health care environment during the first and second years of study).
5. Pass Part I and take Part II of the American Podiatric Medical Licensing Examination including the Clinical Skills Patient Encounter (CSPE), administered by the National Board of Podiatric Medical Examiners.\*
6. Be of good moral character.
7. Receive a favorable recommendation from the Student Academic Review Committee, and the College of Health Sciences Student Promotion and Graduation Committee.
8. Be recommended for conferral of the Doctor of Podiatric Medicine degree by the University Faculty Senate.
9. Settle all financial accounts with the University.
10. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

\* It is an AZPod requirement that both Part I and Part II of the APMLE exams, including the Clinical Skills Patient Encounter (CSPE) be taken the first time they are offered once the student is eligible to take the exams. Students will not be allowed to start rotations during their third year until they have taken and passed Part I of the American Podiatric Medical Licensing Examination (APMLE). In addition, students who fail Part I of the APMLE three times may be subject to dismissal. Additionally, the National Board of Podiatric Medical Examiners requires that the student must pass Part I prior to taking Part II, and must also pass Part II prior to taking Part III.

## AZPOD COMPETENCIES

Graduating students of AZPod will achieve the following competencies:

### I. Basic Science

Demonstrate knowledge of the basic sciences which provide the foundations of podiatric clinical training, residency training and practice.

- Demonstrate knowledge of normal human anatomy, physiology, biochemistry, and the structure and function of the human body.
- Demonstrate knowledge of the causes of disease and the consequences of altered structure or function of the human body and its organ systems.
- Demonstrate an understanding of pharmacological principles and interventions.
- Demonstrate knowledge of microbes (bacteria, fungi, viruses, and parasites) and the diseases that they cause.
- Demonstrate knowledge of the structure and function of the immune system.

### II. Patient Care

Demonstrate patient care that is compassionate, appropriate, and effective for the promotion of health, prevention, and treatment of lower extremity disease.

- Perform and interpret a history and physical examination as it relates to the pathology of the lower extremity.
- Order and interpret the most frequent clinical, laboratory, imaging, gait, and other diagnostic studies used to detect and diagnose pathologies of the lower extremity.
- Formulate appropriate differential diagnoses and plans of management, which may include patient education, prevention programs and treatment strategies.
- Understand how to perform treatment techniques by medical and surgical means, recognizing the need to refer when necessary.
- Assess treatment plans and revise as necessary.

Capably assess medical conditions and recognize those that require referral to other professionals within the health care community.

- Perform a complete medical history and physical examination.
- Recognize abnormal medical history and physical findings and formulate a differential diagnosis,

especially for conditions with impact and expression in the lower extremities.

- Order and interpret the most frequently used diagnostic studies.
- Develop management plans which may incorporate health promotion and education, diagnostic modalities, and appropriate referrals.

### III. Professionalism

Demonstrate a commitment to professional service, adherence to ethical principles and sensitivity to diverse patient populations and awareness of one's own interests and vulnerabilities.

- Demonstrate knowledge of the ethical boundaries of the doctor-patient relationship.
- Demonstrate knowledge of state laws governing the practice of the profession.
- Demonstrate knowledge of the principles of bioethics including customary and accepted standards of professional practice.
- Demonstrate knowledge of the principles of self-regulation of the profession.
- Practice with honesty in relationships with patients, peers and faculty.
- Recognize the need to deliver care in a caring, compassionate and humane way to meet the needs of patients regardless of their individual circumstances.

### IV. Life-Long Learning & Critical Thinking

Demonstrate the ability to appraise and assimilate scientific evidence and methods to investigate, evaluate and improve patient care practices.

- Retrieve (from electronic databases and other resources), interpret, manage, and utilize biomedical information to solve problems and make decisions that are relevant to the care of individuals and populations.
- Critically evaluate the information published in professional and scientific literature.
- Demonstrate knowledge of the principles of research methodology.
- Demonstrate knowledge of the principles of evidence based medicine.
- Utilize critical thinking and problem solving skills in patient management.

### V. Communication

Demonstrate professional behavior that acknowledges and respects the roles of other healthcare professionals in providing needed services to individual patients, populations,

or communities in a multidisciplinary manner and/or in an interprofessional setting.

- Effectively communicate and work collaboratively with other health professionals and the community to promote the delivery of quality healthcare services to patients.
- Use effective listening, questioning, nonverbal, and writing skills to communicate with patients, families and professional associates.
- Communicate effectively, both orally and in writing, with patients, patients' families, colleagues, and others with whom podiatric physicians must exchange information in carrying out their responsibilities.
- Demonstrate appropriate choice and method of referral to other healthcare providers and agencies.

### VI. Practice Management

Practice and manage patient care in a variety of diverse communities, healthcare settings, and living arrangements in a manner that acknowledges cultural sensitivities.

- Apply principles of risk management, including informed consent and records maintenance.
- Comply with state and federal regulations including OSHA and HIPAA.
- Comply with protocols for cleanliness/universal precautions.
- Demonstrate knowledge of healthcare insurance products, including fee for service, independent practice associations (IPA), preferred provider organizations (PPO), health maintenance organizations (HMO), capitation, etc.
- Demonstrate knowledge of insurance issues, including professional and general liability, disability, and worker's compensation.
- Demonstrate knowledge of the purpose and use of Current Procedural Terminology (CPT) and International Statistical Classification of Diseases and Related Health Problems (ICD) codes.
- Demonstrate knowledge of the regulation of practice, including federal and state regulations, Stark Law, Drug Enforcement Administration (DEA) license requirements, and scope of practice.

## LICENSURE REQUIREMENTS

Podiatric physicians are licensed in all 50 states, Guam, and Puerto Rico as well as Canada, Israel, Australia, and many other foreign countries. To obtain licensure, graduates must have completed a residency (in most states) and must meet the requirements established by each state or national licensing board. Licenses require successful passage of all three parts of the National Boards and may require the

passage of an additional state licensing exam. Postdoctoral requirements may vary among states. For additional information regarding licensure, contact the Federation of Podiatric Medical Boards (FPMB) or the American Podiatric Medical Association (APMA).

FPMB  
12116 Flag Harbor Drive  
Germantown, MD 20874-1979  
202/810-3762  
www.fpmb.org

APMA  
9312 Old Georgetown Road  
Bethesda, Maryland 20814-1621  
301/581-9200  
www.apma.org

Midwestern University's Podiatry program meets the educational requirements for licensure to practice as a podiatric physician in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming. In addition, they are licensed in Canada, Israel, Australia and many other foreign countries.

Midwestern University Arizona School of Podiatric Medicine has not made a determination that its Doctor of Podiatric Medicine curriculum meets the territorial educational requirements for licensure or certification in the following territory: U.S Virgin Islands.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## CURRICULUM

The Arizona School of Podiatric Medicine reserves the right to alter its curriculum however and whenever it deems appropriate. Information in this catalog does not establish a contractual relationship between MWU and the students.

### Total Quarter Credits in the Professional Program: 215.0

Total Quarter Credits in the First Year: 50

#### First Professional Year Fall Quarter

ANATG	1517	Anatomical Sciences I (Fall)	8
BIOCG	1512	Biochemistry I (Fall)	6

COREG	1560G	Interprofessional Healthcare	0.5
PMEDG	1512	Podiatric Medicine I (Fall)	1.5
<b>Total</b>			<b>16.0</b>

#### First Professional Year Winter Quarter

ANATG	1527	Anatomical Sciences II (Winter)	6
BIOCG	1523	Biochemistry II (Winter)	3
COREG	1570G	Interprofessional Healthcare	0.5
PHYSG	1523	Physiology I (Winter)	5
PMEDG	1521	Biomechanics of Lower Extremity Function I (Winter)	3
<b>Total</b>			<b>17.5</b>

#### First Professional Year Spring Quarter

ANATG	1537	Anatomical Sciences III (Spring)	4
COREG	1580G	Interprofessional Healthcare	0.5
FMEDG	1534	Public Health, Medical Ethics and Jurisprudence (Spring)	2
MICRG	1532	Immunology (Spring)	2.5
PHYSG	1534	Physiology II (Spring)	4.5
PMEDG	1531	Introduction to Podiatric Surgery (Spring)	3
<b>Total</b>			<b>16.5</b>

Total Quarter Credits in the Second Year: 69

#### Second Professional Year Summer Quarter

PMEDG	1619	Podiatric Basic Skills Practicum	1
PMEDG	1642	Research and Evidence Based Medicine (Summer)	1.5
PMEDG	1643	Advanced Lower Extremity Anatomy (Summer)	6.5
PMEDG	1644	Medical Imaging (Summer)	2
PMEDG	1651	Biomechanics of Lower Extremity Function II (Summer)	3.5
PMEDG	1675	Pediatric Orthopedics (Summer)	3
<b>Total</b>			<b>17.5</b>

#### Second Professional Year Fall Quarter

MICRG	1616	Microbiology I (Fall)	4
PATHG	1612	Pathology I (Fall)	5

PHARG 1612	Pharmacology (Fall)	3.5	<b>Total</b>	<b>23</b>
PMEDG 1620	Podiatric Basic Skills Practicum	0.5	<b>Rotations (Integrated October through May)</b>	
PMEDG 1670	Physical Diagnosis (Fall)	3	PMEDG 1701	Podiatric Medicine CORE A, B, C, D (4 rotations, 4 weeks each, 4 credits each rotation)
<b>Total</b>		<b>16.0</b>		
<b>Second Professional Year Winter Quarter</b>			PMEDG 1706	Outpatient Medicine
MICRG 1626	Microbiology II (Winter)	4	PMEDG 1725	Clinical Correlates (Winter)
PATHG 1623	Pathology II (Winter)	5	PMEDG 1733	Clerkship A, B (2 rotations, 4 weeks each, 4 credits each rotation)
PHARG 1612	Pharmacology (Winter)	3.5		Required Elective - May choose either one 4-week or two 2-week rotations. from the list below
PMEDG 1621	Podiatric Basic Skills Practicum	0.5		
PMEDG 1662	General Medicine I (Winter)	3		
<b>Total</b>		<b>16.0</b>		
<b>Second Professional Year Spring Quarter</b>			PMEDG 1705	Podiatric Office (4 weeks)
PATHG 1634	Pathology III (Spring)	5	PMEDG 1707	Vascular Medicine (2 weeks)
PHARG 1612	Pharmacology (Spring)	3	PMEDG 1708	Pedorthics, Bracing & Prosthetics (2 weeks)
PMEDG 1663	Podiatric Pathomechanics I (Spring)	3.5	PMEDG 1710	Dermatology (4 weeks)
PMEDG 1641	Podiatric Medicine II (Spring)	3.5	PMEDG 1711	Rheumatology (4 weeks)
PMEDG 1672	General Medicine II (Spring)	3	PMEDG 1712	Physical Therapy (2 weeks)
PMEDG 1678	Behavioral Medicine (Spring)	1.5	PMEDG 1713	Wound Care (4 weeks)
<b>Total</b>		<b>19.5</b>	PMEDG 1714	Endocrinology (4 weeks)
			PMEDG 1715	Neurology (4 weeks)
Total Quarter Credits in the Third Year:		56	PMEDG 1716	Orthotic Fabrication (2 weeks)
<b>Third Professional Year Summer Quarter</b>			PMEDG 1740	International (2 weeks)
PMEDG 1702	Radiology (Fall)	2	<b>Total</b>	<b>33</b>
PMEDG 1722	Advanced Pathomechanics (Summer)	2	Total Quarter Credits in the Fourth Year:	40
PMEDG 1724	Orientation to the Operating Room & Anesthesia (Summer)	1.5	<b>Fourth Professional Year</b>	
PMEDG 1727	Emergency Medicine and Trauma (Summer/Fall)	5	<b>Total</b>	<b>40</b>
PMEDG 1732	General Medicine III (Summer)	3	<b>Rotations (Integrated June through May) During the fourth year, each student may take up to four weeks of vacation time.</b>	
PMEDG 1741	Podiatric Dermatology (Fall)	2.5	PMEDG 1801	Podiatric Medicine CORE A,B (2 rotations, 4 weeks each, 4 credits each rotation)
PMEDG 1751	Applied Clinical Biomechanics (Fall)	2	PMEDG 1803	Surgery
PMEDG 1773	Sports Medicine and Rehabilitation (Summer)	2.5	PMEDG 1804	Inpatient Medicine
PMEDG 1774	General Orthopedics and Disorders of Bone (Summer)	2.5	PMEDG 1805	Clinical Clerkships (5 rotations, 4 weeks each, 4 credits each rotation)

PMEDG 1808	Optional Rotation (4 weeks)	4
<b>Total</b>		<b>36</b>

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is not a prerequisite.

### *ANATG 1517 Anatomical Sciences I (Fall)*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters, with multiple exams per module. The modules cover broad anatomical themes. Fall quarter begins with the segmented body plan, which includes back dissections, and finishes with tubes within tubes, which includes thorax, abdomen, and pelvis dissections. Offered in fall quarter, first year.

8 credits

### *ANATG 1527 Anatomical Sciences II (Winter)*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters, with multiple exams per module. The modules cover broad anatomical themes. Winter quarter begins with limb outgrowth, which includes lower extremity and upper extremity dissections, and finishes with pharyngeal arches and cranial nerves, which includes head and neck dissections. Offered in winter quarter, first year.

6 credits

### *ANATG 1537 Anatomical Sciences III (Spring)*

This is an integrated course combining the four traditional medical school anatomical disciplines: gross anatomy, histology, embryology, and neuroscience. The curriculum is organized into six modules over three quarters, with multiple exams per module. The modules cover broad anatomical themes. Spring quarter begins with the sensorimotor head, which includes head and neck dissections, and finishes with brain and behavior. Curriculum delivery is through lectures, laboratory-based dissection workshops, ultrasound workshops, small group activities, and on-line resources. Student progress is evaluated through written and practical examinations. Offered in spring quarter, first year.

4 credits

### *BIOCG 1512 Biochemistry I (Fall)*

Course modules feature proteins and enzymes emphasizing structure-function relationships; cell biology emphasizing how cells move and divide; molecular biology emphasizing the role of nucleic acids in expression of genetic information;

intermediary metabolism emphasizing metabolism of carbohydrates, lipids, and amino acids; organs emphasizing the customization of biochemical pathways; hemostasis emphasizing the mechanisms leading to platelet plug and fibrin clot formation, including tests available to identify hemostasis disorders; and medical biostatistics emphasizing the concepts of sensitivity, specificity, positive predicative value and negative predicative value. Clinical aspects of biologic processes during the fed and fasted states are emphasized. Workshops introduce the biochemical basis of clinical laboratory tests and illustrate clinical applications of biochemical concepts. Offered in fall quarter, first year.

6 credits

### *BIOCG 1523 Biochemistry II (Winter)*

Course modules feature human nutrition emphasizing importance of nutrition in health and preventive medicine; human genetics emphasizing the inheritance of selected genetic disorders; cell cycle regulation and molecular basis of cancer emphasizing the molecular and genetic basis of cancer and tumor progression; various types of anemia focusing on causes, lab tests and its related topics. Workshops introduce the biochemical basis of exercising muscle, myocardial infarction, obesity, common clinical laboratory tests and/or illustrate clinical applications of biochemical concepts. Selected workshops feature a modified problem-based learning environment. Offered in winter quarter, first year.

3 credits

### *COREG 1560G, 1570G, 1580G Interprofessional Healthcare (Fall, Winter, Spring)*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated. Offered in fall, winter and spring quarters, first year. Each quarter is 0.5 credits.

1.5 credits

### *FMEDG 1534 Public Health, Medical Ethics and Jurisprudence (Spring)*

The course provides an overview of fundamental concepts and principles related to public health, epidemiology, clinical ethics, and medical jurisprudence. Core concepts necessary for the practice of evidence-based medicine will be presented in addition to examining topics related to the legal and

ethical aspects of medicine frequently encountered in clinical practice. In addition to preparing students for board examinations, completion of the course will provide students with the foundation needed to practice evidence-based medicine, provide compassionate and humane patient care, and ensure compliance with the law and standards of professional conduct. Offered in spring quarter, first year.  
2 credits

*MICRG 1532 Immunology (Spring)*

This course uses a didactic approach for a comprehensive coverage of immunology. Students are presented with information pertinent to fundamental principles of immunology, the cells and cell products involved in host defense mechanisms, their origin, function, and their roles in health, infectious processes. The course is designed not only to instill basic principles in immunology but also to discuss important topics for clinical practice and research, including immunizations, immunodiagnosics, and immunologically-mediated diseases, disorders, and deficiencies. Offered in spring quarter, first year.  
2.5 credits

*MICRG 1616 Microbiology I (Fall)*

Fall quarter of this two-quarter course uses a didactic approach for a comprehensive coverage of medical microbiology. This course sequence includes discussion of basic classification, structure, metabolism and genetics of bacteria, viruses, parasites, and fungi, as well as discussion of individual pathogens in the context of infectious disease. The infectious disease portion of each course uses an organ systems approach, focusing on basic morphologic, culture and diagnostic modalities, physiology, virulence determinants, epidemiology, host-pathogen interactions, and management of disease with special emphasis on factors pertinent to clinical medicine and public health. Clinical correlations and case presentations are featured for each organ system. Offered in fall quarter, second year.  
4 credits

*MICRG 1626 Microbiology II (Winter)*

Winter quarter of this two-quarter course uses a didactic approach for a comprehensive coverage of medical microbiology. This course sequence includes discussion of basic classification, structure, metabolism and genetics of bacteria, viruses, parasites, and fungi, as well as discussion of individual pathogens in the context of infectious disease. The infectious disease portion of each course uses an organ systems approach, focusing on basic morphologic, culture and diagnostic modalities, physiology, virulence determinants, epidemiology, host-pathogen interactions, and management of disease with special emphasis on factors pertinent to clinical medicine and public health. Clinical correlations and case presentations are featured for each organ

system. Offered in winter quarter, second year.  
4 credits

*PATHG 1612 Pathology I (Fall)*

Introduction to basic concepts of pathology stressing altered cellular, genetic, and molecular mechanisms, and attempts to convey the dynamic nature of processes involved. By focusing on the organism as a whole system, the discipline of pathology can provide a bridge for transition by showing the interrelationship between basic scientific principles and the practice of clinical medicine. This approach provides a complete, medical overview of the disease process in relation to its histological, functional, and structural changes. Students have an opportunity to develop necessary skills to interpret and use laboratory data in describing and recognizing various types of injury to cells, tissues, and organs. Offered in fall quarter, second year.  
5 credits

*PATHG 1623 Pathology II (Winter)*

Continuation of basic pathology; course identifies causes and mechanisms of disease as they relate to specific organ systems as well as stressing the need for the medical student to understand the pathophysiology of disease and its implications to both the patient and the physician. Emphasis is also placed on the dynamic process of the pathogenic progression of changes, adaptive responses, and therapeutic modifications as well as discovering how all these changes produce the ultimate clinical manifestations of disease processes. Offered in winter quarter second year.  
5 credits

*PATHG 1634 Pathology III (Spring)*

Continuation of basic pathology; course identifies causes and mechanisms of disease as they relate to specific organ systems as well as stressing the need for the medical student to understand the pathophysiology of disease and its implications to both the patient and the physician. Emphasis is also placed on the dynamic process of the pathogenic progression of changes, adaptive responses, and therapeutic modifications as well as discovering how all these changes produce the ultimate clinical manifestations of disease processes. Offered in spring quarter, second year.  
5 credits

*PHARG 1612 Pharmacology (Fall/Winter/Spring)*

This course deals with the general principles of pharmacology, all aspects of absorption, distribution, metabolism, and elimination of drugs, mechanisms of drug actions, drug testing in humans, and prescription writing. In addition, this course describes in great detail the pharmacologic actions and clinical uses of autonomic and cardiovascular drugs, and the principles of toxicology. Topics covered include the chemotherapy of microbial and parasitic

diseases, chemotherapy of neoplastic diseases, drugs acting on blood and blood-forming organs, hormones and hormone antagonists, principles of toxicology, vitamins, gastric antacids, digestants, laxatives, antihistamines, and drugs causing birth defects. In addition, these courses include several lectures in clinical pharmacology. Workshops are conducted to demonstrate the application of pharmacologic principles in simulated human cases. In these presentations, emphasis is placed on problem solving, formulating hypotheses, making therapeutic decisions, and evaluating the patient's response to pharmacotherapy. This course is taught during three quarters with a single grade given at the completion of the course. 3.5 credits first quarter, 3.5 credits second quarter, 3 credits third quarter, for a total of 10 credits. Offered in fall, winter and spring quarters, second year.

Fall 3.5 credits, Winter 3.5 credits, Spring 3 credits

*PHYSG 1523 Physiology I (Winter)*

This course presents the biophysics, functional properties, and regulation of membrane transport, excitable cells, skeletal muscle, cardiovascular and respiratory systems. A discussion of circulatory fluid dynamics, peripheral vascular tone, blood pressure, and electrical and mechanical activity of the heart is included in the cardiovascular section of the course. Small group case discussions, workshops and simulations facilitate development of critical thinking and problem-solving skills as students use basic physiologic concepts to understand the pathogenesis of signs and symptoms in specific case studies. Offered in winter quarter, first year.

5 credits

*PHYSG 1534 Physiology II (Spring)*

Sequel to PHYSG 1523 and builds on physiologic foundations developed during the preceding semester. Course covers the function, mechanism of action, regulation, and integration of the renal and gastrointestinal systems that maintain body homeostasis through fluid, electrolyte and nutrient balance. The endocrine section of the course presents the function, mechanism of action, and regulation of specific hormones. Small group discussions and workshops will refine critical thinking and problem-solving skills as students identify physiologic and pathophysiologic mechanisms underlying the signs and symptoms described in pertinent clinical case studies. Offered in spring quarter, first year.

4.5 credits

*PMEDG 1512 Podiatric Medicine I (Fall)*

This course introduces students to the podiatric medical profession and the role podiatric physicians play in healthcare delivery. Students will be introduced to basic podiatric and anatomical nomenclature and terminology. They will understand the importance of protecting both themselves and

patients from bloodborne pathogens, learn the names and functions of common clinical instruments, and practice their use. Students will become familiar with common podiatric conditions and will be taught to perform a simple medical history and lower extremity physical examination. Offered in fall quarter, first year.

1.5 credits

*PMEDG 1521 Biomechanics of Lower Extremity Function I (Winter)*

This course introduces the principles of podiatric biomechanics including body planes and movement, normal locomotion, the mechanics of normal muscle and joint function, open and closed kinetic chain movement, and the basic biomechanical examination. Computer animation, videotapes, and live demonstrations are used to demonstrate normal gait patterns and the steps of a standard biomechanical examination. Practical labs are held to teach the proper techniques of biomechanical analysis. Offered in winter quarter, first year.

3 credits

*PMEDG 1531 Introduction to Podiatric Surgery (Spring)*

This course teaches the fundamental principles of surgery, including normal wound, tendon and bone healing. The peri-operative and postoperative management of a surgical patient are discussed along with basic concepts of hemostasis, patient positioning, and management of postoperative complications. Specific minor surgical techniques are discussed and practiced, including instrumentation, injection techniques, incision placement, suturing, knot tying and basic skin flaps. The students also practice basic nail surgery and soft tissue mass excision techniques. Offered in spring quarter, first year.

3 credits

*PMEDG 1641 Podiatric Medicine II (Spring)*

This course expands on the knowledge, skills, and attitudes developed in Part I. Focus will be placed on the management of the lower extremity manifestations of diabetes, infectious disease and peripheral vascular disease. The diagnosis, medical and surgical management of the diabetic foot, including lower extremity ulcerations, neuropathy and Charcot are discussed in detail. Infectious disease and wound care considerations will be presented in both lecture and lab formats, providing hands-on experiences with many of the advanced treatment options available. Offered in spring quarter, second year.

3.5 credits



*PMEDG 1642 Research and Evidence Based Medicine (Summer)*

This course explores the relationships between research and evidence based healthcare. The subjects covered include: research methodology, bioethical issues related to human subject research, the role of the Institutional Review Board, research protocol writing, and biostatistics. Current and clinically relevant articles will be used for problem-based analysis. Offered in summer quarter, second year.

1.5 credits

*PMEDG 1643 Advanced Lower Extremity Anatomy (Summer)*

The purpose of this course is to provide students a firm foundation in the structure of the lower extremity. The course will emphasize a functional and clinical approach to the study of the anatomy of the lower extremity. The anatomical terminology learned will be the vocabulary necessary to understand podiatric surgery, radiology, orthopedics and biomechanics. This knowledge is essential to the podiatrist's assessment of a patient's status, and in the interpretation of laboratory and diagnostic tests; and in learning pathology. Offered in summer quarter, second year.

6.5 credits

*PMEDG 1644 Medical Imaging (Summer)*

The purpose of this medical imaging course is to introduce podiatric medical students to diagnostic radiology which will prepare them for their podiatric medical career. Emphasis will be on plain film x-rays and will include the biology, safety, physics, and x-ray interpretation. Students will also learn basic foot and ankle X-ray positioning and be able to perform and obtain appropriate views. The course will also introduce the podiatric medical student to special imaging (MRI, CT scan, bone scan, diagnostic ultrasonography) and how it pertains to the diagnosis of foot and ankle pathology. Offered in summer quarter, second year.

2 credits

*PMEDG 1651 Biomechanics of Lower Extremity Function II (Summer)*

Biomechanics of Lower Extremity Function II is designed to provide a comprehensive study of biomechanics with an emphasis on normal and abnormal structure and function. General treatment concepts will be considered for a range of conditions with special emphasis on orthosis therapy and footwear correlated to the clinical setting. Short presentations will be followed by hands-on exercises for clinical application. Offered in summer quarter, second year.

3.5 credits

*PMEDG 1662 General Medicine I (Winter)*

Students study diseases of the cardiovascular, pulmonary and hematology systems through the integration of the basic and

clinical sciences. Case-based approaches are used in addition to didactic instruction. Offered in winter quarter, second year.

3 credits

*PMEDG 1663 Podiatric Pathomechanics I (Spring)*

Pathomechanics I informs students of the common deformities that occur in the foot that have underlying biomechanical etiologies. Students correlate the abnormal mechanics of the foot with the selection of and techniques utilized for surgical correction. The clinical skills component will demonstrate the components and techniques used in basic internal fixation, the skills and techniques used in the radiographic assessment of a Hallux Abducto Valgus deformity and proper dressing application. Offered in spring quarter, second year.

3.5 credits

*PMEDG 1670 Physical Diagnosis (Fall)*

This course is designed to teach the student the art and technique of physical assessment. Course content includes lectures and reading assignments covering normal and abnormal physical findings. In addition, there are weekly physical exam laboratory sessions designed to provide the student with hands-on practice in exam techniques. At the conclusion of the course the student will be expected to pass a written final exam and satisfactorily perform a complete physical examination. Offered in fall quarter, second year.

3 credits

*PMEDG 1672 General Medicine II (Spring)*

General Medicine II includes geriatrics, gastroenterology and nephrology. Students study diseases of the genitourinary and gastrointestinal systems and study issues related to aging through the integration of the basic and clinical sciences. Case-based approaches include a required written history and physical examination and a case presentation is used in addition to didactic instruction. Offered in spring quarter, second year.

3 credits

*PMEDG 1675 Pediatric Orthopedics (Summer)*

Pediatric Orthopedics is designed to provide the podiatric medical student with a comprehensive understanding of the diagnosis and treatment of normal and abnormal pediatric lower extremity conditions and pediatric gait patterns. This course includes lectures on child development, normal pediatric growth, ontogeny, common pediatric foot and ankle deformities, pediatric arthritides, congenital abnormalities, pediatric radiographs, and common pediatric gait problems. Offered in summer quarter, second year.

3 credits

*PMEDG 1678 Behavioral Medicine (Spring)*

This course is designed to introduce the podiatry student to behavioral medicine and important interrelationships between the mind, emotions, and physical health that they will encounter in daily practice. Emphasis is placed on the student's role as an advocate and in referral management, development of skills in both understanding the patient and facilitating effective treatment in diverse patient presentations. Clinical cases, in-class exercises, and audio-visual presentations will enhance the student's understanding and mastery of the material presented. Offered in spring quarter, second year.

1.5 credits

*PMEDG 1702 Radiology (Fall)*

The Radiology course is a five-week practicum presented by podiatrists, radiologists, orthopedists and sub-specialists in internal medicine. Learning methodologies include extensive laboratory practice in the interpretation of images plus student presentations. The goal of this experience is to familiarize the student with clinical correlations of imaging abnormalities and indications for appropriate consultations. Students will develop a broader understanding of various imaging modalities including plain radiograph, MRI, CT scans, nuclear medicine and diagnostic ultrasound. Offered in fall quarter, third year.

2 credits

*PMEDG 1722 Advanced Pathomechanics (Summer)*

This course expands on the principles discussed in both Pathomechanics and Podiatric Surgery with a focus on rearfoot and reconstructive surgical principles. The emphasis will include the entire treatment course from early detection and diagnosis to conservative and surgical management. The topics of discussion include conditions such as heel pain, flat feet, cavus foot, subtalar and ankle joint arthrosis, arthroscopy of the foot and ankle, total ankle arthroplasty and the use of external fixation. Offered in summer quarter, third year.

2 credits

*PMEDG 1724 Orientation to the Operating Room & Anesthesia (Summer)*

This course is a hands-on introduction to operating room protocol. In the format of a skills lab conducted in the surgical suite, students will learn basic aseptic technique, the proper methods of gowning and gloving, sterile prep and draping of the patient, the safe handling of sharps, and maintenance of a sterile field. The student will also learn the basics for administering and monitoring of general anesthesia and learn the peri-operative management of surgical patients. Offered in summer quarter, third year.

1.5 credits

*PMEDG 1725 Clinical Correlates (Winter)*

This one credit online course will serve as a final step toward residency interview preparation and clinical case presentations, and will nurture an appreciation for comprehensive understanding of podiatric medicine, biomechanics, and surgery. Clinical Correlates uses small group discussion/interaction and student presentations to meet the course objectives. The course will review selected topics previously reviewed in the AZPod curriculum as they pertain to advanced clinical knowledge and skills. Offered in winter quarter, third year.

1 credit

*PMEDG 1727 Emergency Medicine and Trauma (Summer/Fall)*

In this course students are introduced to various facets of emergency medicine and trauma, including office emergencies, pre-hospital care, emergency room care, introduction to the trauma patient as well as classifications, non-surgical and surgical management of all foot and ankle fractures. The interpretation of imaging will be emphasized. Advanced cardiovascular life support (ACLS) and basic life support (BLS) will be taught and certification is required to pass the course. Offered in summer/fall quarters, third year.

5 credits

*PMEDG 1732 General Medicine III (Summer)*

General Medicine III includes endocrinology and neurology. Students study endocrine and nervous system diseases through the integration of the basic and clinical sciences. Case-based approaches are used in addition to didactic instruction. Offered in summer quarter, third year.

3 credits

*PMEDG 1741 Podiatric Dermatology (Fall)*

Students learn to recognize, diagnose, and manage cutaneous disorders that commonly manifest in the lower extremities. Case-based instruction is employed. Offered in fall quarter, third year.

2.5 credits

*PMEDG 1751 Applied Clinical Biomechanics (Fall)*

This course will serve as a final step toward clinical practice and will nurture an appreciation for comprehensive understanding of lower extremity biomechanics. The course will cover currently accepted concepts as well as introduce new theories under investigation in the field of podiatric biomechanics. This course will illustrate the power and dynamic nature of biomechanics within clinical podiatric practice. Offered in fall quarter, third year.

2 credits

*PMEDG 1773 Sports Medicine and Rehabilitation (Summer)*

This course introduces the student to the evaluation, diagnosis and management of athletic injuries. This course will also present various physical therapy evaluative techniques and modalities used in the rehabilitation of athletic injuries. The clinical skills component will include exam techniques for specific athletic injuries, application and use of immobilizing devices, physical therapy modalities, and assessment of running shoes and proper bike fit. Offered in summer quarter, third year.

2.5 credits

*PMEDG 1774 General Orthopedics and Disorders of Bone (Summer)*

This course is designed to introduce the student to many of the conditions that afflict the bone. Topics will include osseous tumors and an extensive review of the rheumatologic conditions that can manifest in the lower extremity. In preparation for orthopedic and trauma rotations, conditions that affect the spine, hip, knee and upper extremity are also reviewed. The clinical skills component is designed to demonstrate to the student the classic radiographic findings seen with the more commonly encountered bone tumors.

Offered in summer quarter, third year.

2.5 credits

## ELECTIVE COURSES

Podiatric medical students may take one elective course each quarter in addition to the regular course load with the permission of the AZPod Director, beginning with the winter quarter of the first year. Students must request permission to take courses offered by other departments such as Advanced Anatomy or One Health.

### Rotation Descriptions

*PMEDG 1619, 1620, 1621 Podiatric Basic Skills Practicum (Summer/Fall/Winter)*

The Podiatric Basic Skills practicum is one course consisting of clinical training experiences that span three quarters during the second year. Its purpose is to help each student develop fundamental clinical skills in preparation for full time clinical rotations during the third year. Training experiences include refresher skills labs and hands on patient care at a variety of different clinical settings. PMEDG 1618 1 credits summer quarter, PMEDG 1620 0.5 credits fall quarter, PMEDG 1621 0.5 credits winter quarter. Offered summer, fall and winter quarters, second year.

2 credits

*PMEDG 1701 Podiatric Medicine CORE A, B, C, D*

The Podiatric Medicine CORE rotation consists of a one month training experience at each of four different locations (A, B, C, D) during the third year. The overall goal of the

rotation is to develop skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques. Students will be exposed to a wide variety of patients of all ages and differing pathologies.

Each rotation 4 credits

*PMEDG 1706 Outpatient Medicine*

The Outpatient Medicine rotation is a four week training experience at an outpatient primary care clinic. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with common, general medical conditions, including history taking, physical examination, ordering and interpreting of labs, and the use of imaging. It is expected that the student will enhance his/her ability to formulate a differential diagnosis and treatment plan appropriate to the medical pathologies encountered.

4 credits

*PMEDG 1733 Clerkship A, B (4 weeks each)*

Each clerkship consists of a 4-week training experience at a hospital-based podiatry clinic associated with a residency. The overall goal of the experience is for the student to improve the skills of evaluation and management of patients with podiatric medical, biomechanical, and surgical disorders. In addition, students will enhance skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques.

Each clerkship 4 credits

*PMEDG 1801 Podiatric Medicine CORE A, B*

The Podiatric Medicine CORE rotations consist of two 1-month training experiences in podiatric medicine, biomechanics and surgery. In collaboration with the Office of Clinical Education, students play a role in selecting the location of this rotation. The training experiences take place at established student training programs in association with residencies nationwide. The goal is to enhance skills of diagnosis and management of podiatric patients. Students will improve skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques.

Each rotation 4 credits

*PMEDG 1803 Surgery*

The Surgery rotation is a four week training experience on a surgical service, i.e., orthopedics, vascular, general or plastics. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with non-podiatric pathologies that warrant surgical intervention. Students will utilize diagnostic and treatment modalities throughout the peri-operative period.

4 credits

#### *PMEDG 1804 Inpatient Medicine*

The Inpatient Medicine rotation is a four week training experience on an inpatient service. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with general medical pathologies that require inpatient management. Participating with other medical students and residents on the house staff, students will assist in the management of various serious medical conditions.

4 credits

#### *PMEDG 1805 A, B, C, D, E Clinical Clerkships*

The rotation consists of five 4-week training experiences at affiliated student/residency training programs involving both an ambulatory and a hospital based component. The overall goal of the experience is for the student to improve the skills of evaluation and management of patients with podiatric medical, biomechanical, and surgical disorders. In addition, students will enhance skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques.

Each rotation 4 credits

### **Elective Rotations**

#### *PMEDG 1705 Podiatric Office (4 weeks)*

This Podiatric Office rotation is a four week training experience at the office of an affiliated preceptor during the third year. The overall goal of the experience is for the student to further develop the ability to perform a thorough podiatric history and physical, order and interpret common lab tests, and formulate a reasonable differential diagnosis and treatment plan for common podiatric pathologies. In addition, students will develop an enhanced understanding of practice management and professionalism through observation in a private practice setting.

4 credits

#### *PMEDG 1707 Vascular Medicine (2 weeks)*

The Vascular Medicine rotation is a two week training experience with an interventional cardiologist. The overall goal of the experience is for the student to develop fundamental skills in evaluating vascular disease and to understand the interventional techniques employed to improve blood flow. Students will gain experience in non-invasive vascular evaluation and observe interventional approaches to the assessment and the augmentation of peripheral blood flow.

2 credits

#### *PMEDG 1708 Pedorthics, Bracing & Prosthetics (2 weeks)*

The Pedorthics, Bracing and Prosthetics rotation is a two week training experience at an outpatient orthotics and prosthetics clinic. The overall goal of the experience is for the student to develop fundamental skills in evaluating and

managing patients with common orthotic and prosthetic needs. In addition, students will participate in the assessment and fitting of the patient for the appropriate medical devices needed to improve function.

2 credits

#### *PMEDG 1710 Dermatology (4 weeks)*

The Dermatology rotation is a four week training experience at an outpatient dermatology clinic. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with common dermatologic pathologies. In addition, students will learn diagnostic and treatment modalities related to the treatment of various dermatologic conditions.

4 credits

#### *PMEDG 1711 Rheumatology (4 weeks)*

The Rheumatology rotation is a four week training experience at an outpatient rheumatology clinic. The overall goal of the experience is to assist the student to develop fundamental skills in evaluating and managing patients with common and general rheumatologic complaints.

4 credits

#### *PMEDG 1712 Physical Therapy (2 weeks)*

The goal of the Physical Therapy rotation is to expose the podiatric student to the rehabilitation of lower extremity injuries and disease, including evaluation and therapeutic management with an emphasis on regaining appropriate lower extremity function.

2 credits

#### *PMEDG 1713 Wound Care (4 weeks)*

The Wound Care rotation is a four week training experience. The overall goal is for the student to develop fundamental skills in the evaluation and management of patients presenting with ulcerations. Students will have an opportunity to treat wounds in a variety of somatic locations resulting from various etiologies. Students will enhance their ability to distinguish among various types of ulcers, select and apply wound dressings and topical agents, and employ various techniques of debridement.

4 credits

#### *PMEDG 1714 Endocrinology (4 weeks)*

The Endocrinology rotation is a four week training experience in an outpatient endocrinology clinic. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with endocrinologic disorders including diabetes, osteoporosis, thyroid disorders, and disorders of the pituitary and adrenal glands. Under the supervision of endocrinologists, students will augment their ability to examine the endocrine patient, order and interpret tests, and participate in the treatment of

the endocrine patient.  
4 credits

*PMEDG 1715 Neurology (4 weeks)*

The Neurology rotation is a four week training experience in an outpatient neurology clinic. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with neurologic disorders. Working closely with a neurologist, students will learn to complete a thorough neurologic history and physical examination, develop a differential diagnosis, and participate in the treatment of patients with neurologic disorders.  
4 credits

*PMEDG 1716 Orthotic Fabrication (2 weeks)*

The Orthotic Fabrication rotation is a two week training experience at a prescription foot orthotic laboratory. The overall goal of the experience is for the student to develop fundamental skills with orthosis design, construction and materials. In addition, students will gain an in-depth insight into the indications, construction and use of all types of foot orthoses.  
2 credits

*PMEDG 1740 International (2 weeks)*

The International rotation, if approved, is a two week training experience that may include both inpatient and outpatient settings and often takes place as a medical mission to underdeveloped nations. The overall goal of the experience is for the student to expand his or her awareness of public health needs and improve cultural competence while learning to provide medical care without all of the technological capacities typically available in the United States. Requires the approval of the University President, CHS Dean, and AZPod Director.  
2 credits

*PMEDG 1808 Optional Rotation (4 weeks)*

Students are provided a month during the fourth year that may be utilized as a vacation month, a month to remediate a prior rotation, or that may be filled with a four-week Optional Rotation selected from available fourth year clerkships or third year elective rotations. See the course description for Clinical Clerkship or the specific elective rotations of interest.  
4 credits

## POSTDOCTORAL EDUCATION

AZPod supports students with the transition from predoctoral training to postdoctoral training through the Office of Clinical Education and the Department of Postdoctoral Education. AZPod also benefits from its membership in the Midwestern University Osteopathic Postdoctoral Training Institute (OPTI). AZPod is associated

with residencies at healthcare facilities nationwide that are approved by the Council on Podiatric Medical Education (CPME). Affiliated programs include Franciscan Alliance St. Margaret Mercy (Indiana), Tuba City Regional Health Care (Navajo Nation), and Tucson Medical Center (Arizona). AZPod graduates have successfully matched with top ranked residencies throughout the country. AZPod assists hospitals in the development of new residency programs and continues to support affiliated programs. Because residency development is a high priority, AZPod also continues to work with national organizations in developing and sustaining residency programs for future podiatrists.

## SCHOLARSHIPS AND AWARDS

### *Scholarships*

*American Association of Women Podiatrist Founders Scholarship*

*American College of Foot and Ankle Surgeon's Division IV Student Travel Scholarship*

*American College of Foot and Ankle Surgeon's Division VIII New England States Scholarship*

*APMA Educational Foundation*

*Association of Schools of Allied Health Professionals Scholarship*

*Basil M. Tucker Scholarship*

*Hispanic Scholarship Foundation Scholarship*

*Indian Health Service Health Professions Scholarship*

*John R. Burdick Endowed Fund for International Medicine*

*Johnson & Johnson Wound Management Scholarship*

*Meyer Friedlander and Milton Klasky Tikkun Olam Scholarship*

*Podiatry Insurance Company of America Scholarship*

*The Puerto Rico Podiatric Medicine Scholarship*

*Washington State Podiatric Medical Association Ed Erickson Scholarship*

*Western Interstate Commission for Higher Education (WICHE)*

*Zelda Walling Vicha Memorial Scholarship*

### **Research Scholarships**

*Carol A. Jensen Innovation in Podiatric Medicine Research Scholarship*

*Irvin O. Kanat, D.P.M. Diabetic Foot Care Research Scholarship*

*Earl G. Kaplan, D.P.M. Surgical Research Scholarship*

*Anita J. Moynihan Wound Care Research Scholarship*

*William F. Todd, D.P.M. Biomechanics/Sports Medicine Research Scholarship*

#### **Awards**

*American Board of Podiatric Medicine Graduate of Merit Award*

*Michael L. Stone, DPM Outstanding Professional Conduct Award*

*Paul H. and Carol F. Rasmussen Memorial Award for Excellence in Biomechanics*

*Samuel Mason, DPM Pioneering Service Award*

*Timothy Holbrook, DPM Memorial Award of Excellence*

*Jeffrey C. Page, DPM Distinguished Student Award*

*Kathleen M. Stone, DPM Leadership Award*

*Ken Suarez, Ph.D. Award of Research Excellence*

#### **FACULTY**

##### **Donald R. Curtis, D.P.M.**

Rosalind Franklin University  
Dr. William M. Scholl College of Podiatric Medicine  
Associate Professor

##### **Denise B. Freeman, D.P.M., M.S.E.**

Temple University  
Pennsylvania College of Podiatric Medicine  
Associate Director/Director of Academic Education/Professor

##### **David W. Jenkins, D.P.M.**

Samuel Merritt University  
California College of Podiatric Medicine  
Professor

##### **Jeffrey L. Jensen, D.P.M.**

Samuel Merritt University  
California College of Podiatric Medicine  
Associate Dean and Director/Professor

##### **Jason Kayce, D.P.M.**

Midwestern University Arizona School of Podiatric Medicine  
Assistant Professor

##### **Janna Kroleski, D.P.M.**

Kent State University  
Ohio College of Podiatric Medicine  
Assistant Professor

##### **Jeffrey C. Page, D.P.M.**

California College of Podiatric Medicine  
Professor

##### **Tanya L. Thoms, D.P.M.**

Samuel Merritt University  
California College of Podiatric Medicine  
Associate Professor

##### **Melanie Violand, D.P.M.**

New York College of Podiatric Medicine  
Director of Podiatric Postgraduate Education  
Assistant Director/Director of Clinical Education/Associate Professor

##### **Lance Wissman, D.P.M.**

Rosalind Franklin University  
William M. Scholl College of Podiatric Medicine  
Associate Professor

# DOCTOR OF NURSE ANESTHESIA PRACTICE PROGRAM

## MISSION

The mission of the Midwestern University Doctor of Nurse Anesthesia Practice program is aligned with the mission of Midwestern University in meeting the needs of those seeking to embrace scholarship, leadership, and holistic understanding of the practice of nurse anesthesia.

## ACCREDITATION

The Nurse Anesthesia Program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA), 222 South Prospect Avenue, Park Ridge, IL 60068-4001, 847/655-1160. Accreditation was granted for the period of October 12, 2011 through October 31, 2021. [www.coacrna.org](http://www.coacrna.org)

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program for Certified Registered Nurse Anesthetists (CRNAs) is offered as a full-time (one-year) or part-time (two-year) curriculum designed for working CRNAs.

- This program is delivered online.
- The healthcare focus of Midwestern University gives students numerous opportunities for collaboration across disciplines, demonstrating how a team-oriented focus creates a patient-oriented practice.
- The diverse curriculum includes coursework in leadership, healthcare policy, ethics, research, and process improvement, along with advanced nurse anesthesia practice. A scholarly project is required.

## ADMISSIONS

Admission to the Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program for Certified Registered Nurse Anesthetists (CRNAs) is considered on a competitive basis for Certified Registered Nurse Anesthetists (CRNAs) or Graduate Registered Nurse Anesthetists (GRNAs). The Doctor of Nurse Anesthesia Practice (D.N.A.P.) at Midwestern University uses a rolling admissions process. Completed applications are reviewed and decisions to interview individual candidates are made at regular intervals during the admission cycle. Telephone interviews are conducted and the selection process of each candidate for admission is made until the class is filled. Applicants are notified of their selection status within two weeks after their interview date. Typically, a class is filled by mid-June but applications are accepted continuously. Applications received are reviewed by the Office of Admissions for completeness and referred to the coordinator of the D.N.A.P. Program to determine applicant eligibility for an interview. Acceptance into the D.N.A.P. Program is determined by the Admissions Committee. Admission decisions are made on a rolling basis until the maximum enrollment for the Program is reached.

### Admission Requirements

To be considered for admission to the Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program for CRNAs or GRNAs at Midwestern University, students must:

1. Successfully complete an accredited graduate degree program in nurse anesthesia, and submission of the CRNA school transcript.
2. Have active clinical or educational practice.
3. Have completed a telephone interview.
4. Recent GRNAs must pass the National Certifying Exam (NCE) prior to the start of the second quarter of the D.N.A.P. Program in order to advance.

### Application Process and Deadlines

To be considered for admission into the Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program for Certified Registered Nurse Anesthetists (CRNAs), applicants must submit to the Office of Admissions application packets that include:

1. A completed online application.
2. A nonrefundable, non-waivable application fee of \$50.
3. Official transcripts verifying completion of an accredited graduate degree program in nurse anesthesia.
4. Official final transcripts from all colleges attended post high school must be submitted.

Complete application online and mail supporting documents to:

Midwestern University  
Office of Admissions  
19555 North 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
admissaz@midwestern.edu

Admissions decisions are made on a rolling basis until the maximum enrollment for the program is reached. Students are advised to complete their application files as early as possible to ensure timely consideration.

*Please Note: The receipt of the application materials and the status of the file can be tracked on the University's web site. Upon receipt of the application the Office of Admissions will send instructions for accessing your account information. Please notify Midwestern University of any changes to your mailing address and e-mail address.*

All requests for withdrawing an application must be done in writing.

### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses. The candidate must be able to accurately auscultate lung/breath, heart and bowel

sounds to complete the curricular requirement to individually complete physical examination of a patient/client.

2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to move at least 50 lbs. vertically and horizontally.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head/neck exams, including intra- and extra- oral examinations. These activities will take place in large and small group settings as directed by the Program's curricular requirements.

Candidates are required to verify that they understand and meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet the Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean and Program Director, will determine what reasonable accommodations can be provided. The College is not able to



grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### Transfer Policy

The Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program for Certified Registered Nurse Anesthetists (CRNAs) may elect to accept transfer students. Transfer students must apply to the program and if qualified, must participate in an admissions interview. The Admissions Committee must approve all transfer students and will determine the number of graduate transfer credits allowed.

## GRADUATION REQUIREMENTS

To qualify for graduation with a Doctor of Nurse Anesthesia Practice (D.N.A.P.) completion degree program from the Nurse Anesthesia Program of Midwestern University, students must:

1. Follow an approved course of study acceptable to the Program Student Academic Review Committee.
2. Satisfactorily complete the required number of 45 credit hours, pass all courses with a cumulative GPA of 2.75 or higher, and achieve a "B-" or higher in all DNAPG courses.
3. Receive a favorable recommendation from the Nurse Anesthesia Program, Student Academic Review Committee, and the College of Health Sciences Student Promotion and Graduation Committee.
4. Be recommended for conferral of the doctoral degree by the University Faculty Senate.
5. Settle all financial accounts with the University.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## LICENSURE AND CERTIFICATION REQUIREMENTS

Students must have a current (unencumbered) licensure to practice as a Registered Nurse and Certified Registered Nurse Anesthetist in at least one legal jurisdiction in the United States or its territories.

## 12 MONTH CURRICULUM

Please note that information provided in the catalog does not establish a contractual relationship between MWU and the student. The Doctor of Nurse Anesthesia Practice completion degree program reserves the right to alter its curriculum, however and whenever it deems appropriate.

Method of Delivery: Online.

**Total Quarter Credits in the Professional Program: 45**

### First Professional Year:

Total Credit Hours Required: 45

#### Fall Quarter

DNAPG 1510 Foundations of Clinical Practice 4

DNAPG 1511 Systems Thinking and Organizational Leadership 3

DNAPG 1512 Scholarly Project I 4

**Total 11**

#### Winter Quarter

DNAPG 1520 Healthcare Policy 3

DNAPG 1521 Ethics and Informatics 3

DNAPG 1522 Scholarly Project II 4

**Total 10**

#### Spring Quarter

DNAPG 1530 Biostatistics and Research: Generating Evidence for Practice 4

DNAPG 1531 Patient Safety and Health Promotion 3

DNAPG 1532 Scholarly Project III 4

**Total 11**

#### Summer Quarter

DNAPG 1540 Education Process and Research 3

DNAPG 1541 Population Based Care 3

DNAPG 1542 Scholarly Project IV 4

DNAPG 1543 Healthcare Administration and Advanced Business Principles for the Anesthesia Professional 3

**Total 13**

## 24 MONTH CURRICULUM

The Doctor of Nurse Anesthesia Practice completion degree program reserves the right to alter its curriculum, however and whenever it deems appropriate.

Method of Delivery: Online.

**Total Quarter Credits in the Professional Program: 45**

### First Professional Year:

Total Quarter Credit Hours Required: 29

#### Fall Quarter

DNAPG 1510 Foundations of Clinical Practice 4

DNAPG 1511 Systems Thinking and Organizational Leadership 3

**Total 7**

#### Winter Quarter

DNAPG 1520 Healthcare Policy 3

DNAPG 1521 Ethics and Informatics 3

**Total 6**

#### Spring Quarter

DNAPG 1530 Biostatistics and Research: Generating Evidence for Practice 4

DNAPG 1531 Patient Safety and Health Promotion 3

**Total 7**

#### Summer Quarter

DNAPG 1540 Education Process and Research 3

DNAPG 1541 Population Based Care 3

DNAPG 1543 Healthcare Administration and Advanced Business Principles for the Anesthesia Professional 3

**Total 9**

### Second Professional Year:

Total Quarter Credit Hours Required: 16

#### Fall Quarter

DNAPG 1512 Scholarly Project I 4

**Total 4**

#### Winter Quarter

DNAPG 1522 Scholarly Project II 4

**Total 4**

#### Spring Quarter

DNAPG 1532 Scholarly Project III 4

**Total 4**

#### Summer Quarter

DNAPG 1542 Scholarly Project IV 4

**Total 4**

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *DNAPG 1510 Foundations of Clinical Practice*

This course affords students the opportunity to evaluate and analyze their clinical or educational nurse anesthesia practice and determine strategies for improvement. Evidence derived from a substantive literature review forms the underpinnings for the improvement process for patients, populations, clinical or educational settings.  
4 credits

### *DNAPG 1511 Systems Thinking and Organizational Leadership*

This course examines organizational management of local and national healthcare delivery systems. Examination of systems analysis frames leadership influence in the modern, diverse healthcare environment. The course also explores health and illness, anesthesia providers and other members of the healthcare team with emphasis on interdisciplinary approaches.  
3 credits

### *DNAPG 1512 Scholarly Project I*

Scholarly Project I is the first of a 4-course sequence that introduces the student to the D.N.A.P. scholarly project. Students identify a clinical or educational problem that requires systematic inquiry to build a research utilization project or research study proposal. The problem and significance as well as the conceptual or theoretical framework and initial literature search are included. Quantitative and qualitative research methodologies as well as the research utilization process are examined.  
4 credits

### *DNAPG 1520 Healthcare Policy*

Political advocacy is highly valued in the nurse anesthesia profession. This course analyzes issues and policies that affect nurse anesthesia practice and healthcare at local, state and national levels. Change theory and leadership models are examined in the context of how nurse anesthetists influence healthcare policy. The course includes interdisciplinary,

intraprofessional and interprofessional models for examining healthcare policy. Leadership development to address and influence health policy development for patients and the profession is included.

3 credits

*DNAPG 1521 Ethics and Informatics*

This course explores informatics and the use of technology including data identification, data collection, processing data management of data that supports nurse anesthesia practice and nurse anesthesia education. Ethical and legal issues surrounding patient information in the digital world are explored.

3 credits

*DNAPG 1522 Scholarly Project II*

This scholarly project course focuses on completion of a substantive literature review. The literature is organized, analyzed, integrated and synthesized.

4 credits

*DNAPG 1530 Biostatistics and Research: Generating Evidence for Practice*

Statistical analysis of qualitative and quantitative research designs is explored.

4 credits

*DNAPG 1531 Patient Safety and Health Promotion*

Analyzes human error, patient safety and quality assurance using a collaborative model. The course also examines crisis resource management, simulation, and other aspects of anesthesia practice as related to risk management.

3 credits

*DNAPG 1532 Scholarly Project III*

The course includes research study methodology consistent with the research question and/or aim of the scholarly project. Methodology addresses the specific type of study, measurement tools, data collection, data management and data analysis. For research utilization projects, a plan for evaluation of outcomes is included. Data analysis explores proposed methods for analyzing the study or project findings. Preparation of an IRB application is included.

4 credits

*DNAPG 1541 Population Based Care*

This course focuses on Anesthesia as it pertains to the family units, the aging population and anesthesia as a contributor to the larger health system.

3 credits

*DNAPG 1542 Scholarly Project IV*

This is the final capstone course. A professional poster is completed based on the key elements of the study proposal or research utilization project. Students will submit the final product as a manuscript for publication, a poster at a local or national meeting, or as a platform presentation.

4 credits

*DNAPG 1543 Healthcare Administration and Advanced Business Principles for the Anesthesia Professional*

This course provides a framework for starting and managing a business in the healthcare environment. It incorporates the preparation of a business plan including contract negotiation, legal considerations, financial planning and corporate structure, enabling the Nurse Anesthetist to successfully navigate the anesthesia marketplace.

3 credits

## FACULTY

**Rodney Fisher, Ph.D., CRNA**

University of Kansas Medical Center  
Program Director and Associate Professor

**Frederick Imus, Ed.D., CRNA**

University of Phoenix  
Associate Professor

**Lee Ranalli, DNP, CRNA**

University of Alabama  
DNAP Program Coordinator and Assistant Professor

**Shari M. Burns, Ed.D., CRNA**

University of Phoenix  
Professor

**Bryan Tune, Ph.D., DNP, CRNA**

University of Arizona  
Professor

# NURSE ANESTHESIA PROGRAM

## MISSION

The Midwestern University Nurse Anesthesia Program educates nurses through academic and clinical experience resulting in safe, professional and competent nurse anesthetists who meet the anesthesia healthcare needs of society.

## ACCREDITATION

The Nurse Anesthesia Program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA), 222 South Prospect Avenue, Park Ridge, IL 60068-4001, 847/655-1160. Accreditation was granted for the period of October 12, 2011 through October 31, 2021. [www.coacrna.org](http://www.coacrna.org)

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Nurse Anesthesia Program is 27 months divided into a didactic phase (4 quarters) and a clinical phase (5 quarters). The initial portion of the didactic phase of the program provides the student with a strong foundation in the basic sciences. Students are then introduced to a series of courses that address all aspects of anesthesia equipment and anesthesia management.

The clinical phase of the program begins in the summer of the second year of the program. This phase of the program provides students with the necessary hands-on experience to develop the knowledge, skills and attitudes essential to the practice of nurse anesthesia in a variety of practice settings. All students may rotate to multiple clinical sites including, but not limited to, Arizona, Arkansas, California, Colorado, Florida, Louisiana, Montana, Nevada, New Mexico, Ohio, Texas, Utah, and Washington State. These sites provide students with a broad scope of experiences in rural, urban, and suburban hospitals, as well as specialty rotations in cardiac surgery, pediatrics, obstetrics and neurosurgery. Thus, a student may be assigned to rotations in any combination of these states to ensure the highest quality clinical education. For a current list of the program's clinical sites see Clinical Practicum I - V under Course Descriptions. The program

adds new clinical sites on an ongoing basis. For an updated list of clinical sites please contact the Program at 623/572-3760. Students are required to make arrangements for transportation to and lodging at these clinical sites. The university does not provide for the cost of transportation or lodging.

Students that satisfactorily complete the Nurse Anesthesia Program will receive a Master of Science degree with a concentration in Nurse Anesthesia.

## ADMISSIONS

Admission to the Nurse Anesthesia Program is considered on a competitive basis for prospective students who are registered nurses and hold a baccalaureate degree in nursing. Applications are reviewed by the Office of Admissions for completeness and referred to the Director of the Nurse Anesthesia Program or the Admissions Committee Chair of the Nurse Anesthesia Program to determine applicant eligibility for an interview. Acceptance into the Nurse Anesthesia Program is determined by the Admissions Committee. The Nurse Anesthesia Admissions Committee meets after the interviews. The Committee reviews the full application file for applicants who were interviewed. The Office of Admissions, notifies each applicant in writing of the admission action/decision. Decisions on acceptance are made until the maximum enrollment for the Program is reached.

The Nurse Anesthesia Program at Midwestern University uses a rolling admissions process. Completed applications are reviewed and decisions to interview individual candidates are made at regular intervals during the admission cycle. Interviews are conducted and the selection process of each candidate for admission is made until the class is filled. Typically, a class is filled by mid-December so applicants are strongly encouraged to have their applications submitted by **July 1st**. Applicants are notified of their selection status within two weeks after their interview date.

### Admission Requirements

To be considered for admission to the Nurse Anesthesia Program at Midwestern University, students must submit the following documented evidence:

1. Minimum cumulative grade point average (GPA) of 3.00 on a 4.00 scale.
2. Minimum science GPA of 3.00 on a 4.00 scale.
  - Courses included in the calculation of the science GPA include anatomy, physiology, pharmacology, chemistry, physics, and microbiology.
3. Completion of a baccalaureate degree in nursing, granted by a regionally accredited U.S. college or university.
4. Satisfactory completion with a C or better of all prerequisite coursework prior to the application (grades of C- are not acceptable).
5. Licensure to practice as a registered nurse: an unrestricted license to practice in at least one legal jurisdiction in the United States or its territories. The applicant possesses no previous sanctions or restrictions on the RN license.
6. Minimum of one year of full time critical care registered nursing experience prior to application. Critical care experience includes all types of Adult ICU (Intensive Care Unit), Pediatric ICU, and Emergency Room. Neonatal intensive care unit experience does not meet this requirement. Experience should include management of mechanical ventilation, invasive monitoring, and vasoactive medication infusions.
7. Demonstration of sincere understanding of and interest in nurse anesthesia.
8. Oral and written communication skills necessary to interact with faculty, patients, and colleagues.

4. Official final transcripts from all colleges attended post-high school.

Mail completed application packets to:

Midwestern University  
Office of Admissions  
19555 North 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
admissaz@midwestern.edu

*Please note:* The receipt of the application materials and the status of the file can be tracked on the University's website. Upon receipt of the application the Office of Admissions will send instructions for accessing account information. Applicants are responsible for notifying the Office of Admissions at the above address of any changes in mailing address and/or e-mail address.

All requests for withdrawal of an application must be done in writing via e-mail, fax or letter submitted to the Office of Admissions.

#### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. Observation: The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses. The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete physical examination of a patient/client.
2. Communication: The candidate must be able to communicate in English, proficiently and sensitively in verbal and written form, and be able to perceive nonverbal communication.
3. Motor: Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to move at least 50 lbs. vertically and horizontally.

#### Prerequisite Courses

Course	Sem. Hrs.	Qtr. Hrs.
Anatomy & Physiology	8	12
General Chemistry (1 course)	3	4
*Organic Chemistry is not required but strongly recommended		
*Biochemistry is not required but strongly recommended		

#### Application Process and Deadlines

To be considered for admission into the Nurse Anesthesia Program, applicants must submit to the Office of Admissions application packets that include:

1. A completed Application for Admission form.
2. A nonrefundable, nonwaivable application fee of \$50.
3. Official transcripts verifying completion of baccalaureate or higher level degrees in Nursing from regionally accredited programs and satisfactory completion of all prerequisite coursework.

4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head/neck exams, including intra- and extra- oral examinations. These activities will take place in large and small group settings as directed by the Program's curricular requirements.

Candidates are required to verify that they understand and meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet the Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean and Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Transfer Policy**

The Nurse Anesthesia Program may elect to accept transfer students. Transfer students must apply to the program and, if qualified, must participate in an admission interview. The Admissions Committee must approve all transfer students and will determine the number of graduate transfer credits allowed. In addition, a letter from a student's former program director must accompany the application.

Transfer students are not accepted during the clinical phase of the program.

## **GRADUATION REQUIREMENTS**

To qualify for graduation with a Master of Science from the Nurse Anesthesia Program of Midwestern University, students must:

1. Follow an approved course of study acceptable to the Program Student Academic Review Committee.
2. Satisfactorily complete the required number of 134 credit hours, pass all courses with a cumulative GPA of 2.75 or higher, and achieve a "B-" or higher in all NAAPG courses.
3. Receive a favorable recommendation from the Nurse Anesthesia Program, Student Academic Review Committee, and the College of Health Sciences Student Promotion and Graduation Committee.
4. Be recommended for conferral of the master's degree by the University Faculty Senate.
5. Settle all financial accounts with the University.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## **LICENSURE AND CERTIFICATION REQUIREMENTS**

Students must have a current unrestricted Arizona registered nursing license or a current unrestricted license from one of the states in the nursing compact at the time they enter the program. Students from a non-compact state will have to obtain licensure in Arizona. During the didactic year, students will apply for and secure licenses for all states required for rotations including non-compact states. Additional state nursing licenses costs are the responsibility of the student. ACLS and PALS certification are required. Costs for ACLS and PALS are the responsibility of the student.

Midwestern University's Nurse Anesthesia program meets the educational requirements to become certified to practice as a certified registered nurse anesthetist in the following states and US territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri,

Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional requirements to obtain certification in the state, district or territory in which they intend to pursue employment.

## CURRICULUM

Please note that information provided in the catalog does not establish a contractual relationship between MWU and the student. The Nurse Anesthesia Program reserves the right to alter its curriculum, however and whenever it deems appropriate.

### Total Quarter Credits in the Professional Program: 134

#### First Professional Year:

Total Quarter Credit Hours Required: 69

#### Summer Quarter

ANATG	1552	Human Anatomy and Embryology (with Gross Anatomy Lab)	7
BIOCG	550	Biochemistry for Nurse Anesthetists	3
NAAPG	510	Principles & Pathophysiology of Anesthesia Introduction	2
NAAPG	570	Professional Aspects of Nurse Anesthesia I	2
NAAPG	580	Evidence-Based Practice	0.5
<b>Total</b>			<b>14.5</b>

#### Fall Quarter

COREG	1560F	Interprofessional Healthcare	0.5
NAAPG	540	Principles and Pathophysiology of Anesthesia I	4
NAAPG	540L	Principles and Pathophysiology of Anesthesia Laboratory I	2
NAAPG	551	Anesthesia Pharmacology I	4
NAAPG	581	Evidence-Based Practice	0.5
PASSG	1568	Advanced Physical Assessment Across the Lifespan	4
PHYSG	1573	Human Physiology I	4
<b>Total</b>			<b>19</b>

#### Winter Quarter

COREG	1570F	Interprofessional Healthcare	0.5
NAAPG	541	Principles and Pathophysiology of Anesthesia II	6
NAAPG	541L	Principles and Pathophysiology of Anesthesia Laboratory II	2
NAAPG	552	Anesthesia Pharmacology II	4
NAAPG	582	Evidence-Based Practice	0.5
PHYSG	1584	Human Physiology II	4
<b>Total</b>			<b>17</b>

#### Spring Quarter

COREG	1580F	Interprofessional Healthcare	0.5
NAAPG	542	Principles and Pathophysiology of Anesthesia III	6
NAAPG	542L	Principles and Pathophysiology of Anesthesia Laboratory III	2
NAAPG	553	Anesthesia Pharmacology III	4
NAAPG	560	Research Methods	3
NAAPG	571	Professional Aspects of Nurse Anesthesia II	2.5
NAAPG	583	Evidence-Based Practice	0.5
<b>Total</b>			<b>18.5</b>

#### Second Professional Year:

Total Quarter Credit Hours Required: 52

#### Summer Quarter

NAAPG	615	Clinical Rotation I	11
NAAPG	620	Clinical Rotation Didactic Component I	2
<b>Total</b>			<b>13</b>

#### Fall Quarter

NAAPG	616	Clinical Rotation II	11
NAAPG	621	Clinical Rotation Didactic Component II	2
<b>Total</b>			<b>13</b>

#### Winter Quarter

NAAPG	617	Clinical Rotation III	11
NAAPG	622	Clinical Rotation Didactic Component III	2
<b>Total</b>			<b>13</b>

### Spring Quarter

NAAPG 618	Clinical Rotation IV	11
NAAPG 623	Clinical Rotation Didactic Component IV	2
<b>Total</b>		<b>13</b>

### Third Professional Year:

Total Quarter Credit Hours Required: 13

### Summer Quarter

NAAPG 719	Clinical Rotation V	11
NAAPG 724	Clinical Rotation Didactic Component V	2
<b>Total</b>		<b>13</b>

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *ANATG 1552 Human Anatomy and Embryology (with Gross Anatomy Lab)*

This course presents lectures and laboratory (human cadaver dissection and prosection, microscopy) sessions emphasizing the embryologic development of the human body, the relationship between body structure and function, and the use of gross human anatomy in physical diagnosis.  
7 credits

### *BIOCG 550 Biochemistry for Nurse Anesthetists*

Biochemistry is concerned with the functioning of cellular constituents at the molecular level in health and how their functions are altered in disease. Biochemistry is fundamental to understanding all branches of the life sciences. Topics include cellular energy metabolism, signal transduction, cell biology, complete blood count, anemias, diabetes, and hemostasis tests.  
3 credits

### *COREG 1560F, 1570F, 1580F Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be

completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.  
Each course 0.5 credits

### *NAAPG 510 Principles & Pathophysiology of Anesthesia Introduction*

The course introduces the student to the scope and complexity of anesthesia management. Principles and Pathophysiology of Anesthesia Intro focuses on general principles, related to anesthesia equipment, monitoring, perioperative patient assessment, basic anesthesia care, documentation of care, airway management, regional anesthesia, and methods for pain management.  
2 credits

### *NAAPG 540 Principles and Pathophysiology of Anesthesia I*

The course introduces the student to the scope and complexity of anesthesia management. Principles of Anesthesia I focuses on general principles, including anesthesia equipment, monitoring, perioperative patient assessment, basic anesthesia care, documentation of care, airway management, regional anesthesia, and methods for pain management.  
4 credits

### *NAAPG 541, 542 Principles and Pathophysiology of Anesthesia II, III*

These courses introduce the student to the scope and complexity of anesthesia management. Principles and Pathophysiology of Anesthesia II introduces the management of patients with coexisting disease that complicate anesthesia management, and the anesthetic management of specific types of procedures. The final course in this series focuses on more complex anesthesia management scenarios including the specialty practice of cardiac, neurologic, obstetric, and pediatric anesthesia.  
Each course 6 credits

### *NAAPG 540L, 541L, 542L Principles and Pathophysiology of Anesthesia Laboratory I, II, III*

These laboratory courses accompany the Principles and Pathophysiology of Anesthesia lecture series. The content focuses on the application of skills and knowledge needed to conduct the administration of general, regional and MAC anesthesia. Application of the theoretical principles to individual patient scenarios is emphasized.  
Each course 2 credits

### *NAAPG 551, 552, 553 Anesthesia Pharmacology I, II, III*

These courses focus on drugs and delivery systems used for anesthesia. The major emphasis is on inhalational agents, local anesthetics, muscle relaxants and reversal agents, narcotics and induction agents. General principles of drug action, drug dynamics and kinetics, toxicities and therapeutic



uses are included for all drug groups. Students are exposed to drugs affecting major organ systems of the body. Applications using real anesthesia scenarios are included to translate pharmacology theory to anesthesia practice. Drug calculations, conversion, preparing and administering medications, IV fluid management, documentation, and anesthetic planning are included.

Each course 4 credits

#### *NAAPG 560 Research Methods*

This course provides an overview of research designs used in basic science, applied, and descriptive research. The course is intended to teach research skills used in all of the health professions and to aid in the interpretation of published research reports.

3 credits

#### *NAAPG 570 Professional Aspects of Nurse Anesthesia I*

This course will present material concerning professional issues surrounding the practice of Nurse Anesthesia.

2 credits

#### *NAAPG 571 Professional Aspects of Nurse Anesthesia II*

This course will present material concerning professional issues surrounding the practice of Nurse Anesthesia.

2.5 credits

#### *NAAPG 580, 581, 582, 583 Evidence-Based Practice*

The purpose of this four-quarter series is to foster the student's critical analysis of research related to clinical anesthesia practice. Using current anesthesia literature students will read, critique and present literature on a specified topic. Lecture and classroom discussion aimed at promoting the usefulness of research will enhance student awareness regarding transferring research and theory to clinical practice.

Each course 0.5 credits

#### *NAAPG 615, 616, 617, 618, 719 Clinical Rotation I, II, III, IV, V*

Students will begin the clinical practicum in the summer of their second year in the program. Students will rotate to a variety of hospitals in Arizona, California, Colorado, Florida, Louisiana, Montana, Nevada, New Mexico, Ohio, Texas, Utah, and Washington State. These rotations will include specialty rotations in cardiac surgery, neurosurgery, pediatrics, and obstetrics.

Prerequisites: Completion of all didactic course work through spring quarter of first year; successful completion of previous clinical rotation

Current Clinical Sites Include:

1. Banner Boswell Medical Center, Sun City, AZ  
Distance from campus: 15 minutes

2. Banner Del E. Webb Medical Center, Sun City West, AZ  
Distance from campus: 23 minutes

3. Banner Gateway Medical Center, Gilbert, AZ  
Distance from campus: 48 minutes

4. Banner Ironwood Medical Center, Queen Creek, AZ  
Distance from campus: 1 hour

5. Carl T. Hayden Vet Affairs Center, Phoenix, AZ  
Distance from campus: 26 minutes

6. Central Valley Medical Center, Nephri, UT  
Distance from campus: 9 hours

7. Children's Hospital Medical Center of Akron, Akron, OH  
Distance from campus: 30 hours

8. Cobre Valley Regional Medical Center, Globe, AZ  
Distance from campus: 2 hours

9. Community Hospital of Anaconda, Anaconda, MT  
Distance from campus: 16 hours

10. Community Regional Medical Center, Fresno, Fresno, CA  
Distance from campus: 9 hours

11. Corpus Christi Medical Center, Corpus Christi,  
Distance from campus: 16 hours

12. Delta County Memorial Hospital, Delta, CO  
Distance from campus: 10 hours

13. Doctor's Hospital at Renaissance, Edinburg, TX  
Distance from campus: 18 hours

14. El Paso Children's Hospital, El Paso, TX  
Distance from campus: 7 hours

15. Gallup Indian Medical Center, Gallup, NM  
Distance from campus: 5 hours

16. Glenwood Regional Medical Center, West Monroe, LA  
Distance from campus: 21 hours

17. Holy Cross Hospital, Tucson, AZ  
Distance from campus: 2 hours

18. Humboldt General Hospital, Winnemucca, NV  
Distance from campus: 13 hours

19. Kittitas Valley Community Hospital, Ellensburg, WA  
Distance from campus: 21 hours

20. Little Colorado Medical Center, Winslow, AZ  
Distance from campus: 3 hours

21. Madera Community Hospital, Madera, CA  
Distance from campus: 9 hours

22. Maricopa Medical Center, Phoenix, AZ  
Distance from campus: 30 minutes

23. Mason General Hospital, Shelton, WA  
Distance from campus: 22 hours

24. Montrose Memorial Hospital, Montrose, CO  
Distance from campus: 9 hours

25. Mountain Vista Medical Center, Mesa, AZ  
Distance from campus: 1 hour

26. Northeastern Nevada Regional Hospital, Elko, NV  
Distance from campus: 11 hours

27. Phoenix Indian Medical Center, Phoenix, AZ  
Distance from campus: 25 minutes

28. Saint James Healthcare, Butte, MT

Distance from campus: 16 hours  
 29. Saint Luke's Medical Center, Phoenix, AZ  
 Distance from campus: 30 minutes  
 30. San Juan Regional Medical Center, Farmington, NM  
 Distance from campus: 8 hours  
 31. Sunnyside Community Hospital, Sunnyside, WA  
 Distance from campus: 20 hours  
 32. Tampa General Hospital, Tampa, FL  
 Distance from campus: 32 hours  
 33. Tri State Memorial Hospital, Clarkston, WA  
 Distance from campus: 19 hours  
 34. Tuba City Indian Medical Center, Tuba City, AZ  
 Distance from campus: 6 hours  
 35. Tsehootsooi Medical Center, Fort Defiance, AZ  
 Distance from campus: 6 hours  
 36. University Hospital Conway, Monroe, LA  
 Distance from campus: 19 hours  
 37. University Hospital Shreveport, Monroe, LA  
 Distance from campus: 19 hours  
 38. University of Texas Southwestern Medical Center,  
 Dallas, TX  
 Distance from campus: 15 hours  
 Each rotation 11 credits

*NAAPG 620, 621, 622, 623, 724 Clinical Rotation Didactic Component I, II, III, IV, V*

This course comprises the didactic component of NAAPG 615 through NAAPG 719. The student's retention of didactic information from the first year of the program will be evaluated and a professional case report will be presented by the student.  
 Each course 2 credits

*PASSG 1568 Advanced Physical Assessment Across the Lifespan*

This course is designed to teach the student the art and technique of physical assessment. Course content includes lectures and reading assignments covering normal and abnormal physical findings. In addition, there are weekly physical exam laboratory sessions designed to provide the student with hands-on practice in exam techniques. At the conclusion of the course the student will be expected to pass a written final exam and satisfactorily perform a complete physical examination.  
 4 credits

*PHYSG 1573, 1584 Human Physiology I, II*

In this two-quarter series, students are introduced through didactic instruction and clinical case sessions to the basic physiologic principles that underline the normal function of the various organs and organ systems. These core principles provide the foundation through which the student develops an understanding of health in physiologic terms and appreciation of diverse regulatory processes that maintain the homeostasis of the human body.  
 Each course 4 credits

## ELECTIVE COURSE DESCRIPTIONS

*NAAPG 500 Independent Study*

This independent study course provides an opportunity for didactic, simulation, or clinical inquiry to supplement the required course of study.  
 0.5 - 6 credits

## FACULTY

**Rodney Fisher, Ph.D., CRNA**

University of Kansas Medical Center  
 Program Director and Associate Professor

**Amanda Gibson, DNAP, CRNA**

Midwestern University, Nurse Anesthesia Program  
 Assistant Professor

**F. Scott Imus, Ed.D., CRNA**

University of Phoenix  
 Associate Professor

**Morgan Morrow, DNAP, CRNA**

Midwestern University  
 Assistant Professor

**Kristen Mumme, M.S.N., CRNA**

Florida International University  
 Assistant Professor

**Lee Ranalli, DNP, CRNA**

University of Alabama  
 Assistant Professor

**Melissa Ranalli, M.S.N., CRNA**

California State University Fullerton  
 Assistant Professor

# CLINICAL PSYCHOLOGY PROGRAM

## MISSION

The Midwestern University Doctor of Psychology (Psy.D.) in Clinical Psychology Program educates students in the general practice of evidence-based clinical psychology serving a diverse population.

## ACCREDITATION

The Clinical Psychology Program is accredited by the American Psychological Association (APA). Clinical Psychology accreditation information can be obtained from the Commission on Accreditation of the American Psychological Association, 750 First Street NE; Washington, DC 20002-4242. Phone: 202/336-5979. Website: <http://www.apa.org/ed/accreditation/index.aspx>.

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413; 800/621-7440.

## DEGREE DESCRIPTION

The Clinical Psychology (Psy.D.) Program emphasizes a broad and general training in psychology, through which students will develop the essential diagnostic, therapeutic, and consultative skills for a successful career as a Clinical Psychologist. Because the Clinical Psychology Program is at a healthcare university, students have the opportunity to interact with many healthcare professionals. As part of an interprofessional approach, training provides opportunities for professional interaction and collaboration with other health care professionals through various formal and informal activities such as research forums and community outreach and involvement activities.

The Midwestern University Clinical Psychology Program's central purpose is to train students using a Practitioner-Scholar model of training through an academic curriculum designed to integrate discipline-specific knowledge in psychology and theory with the practice and delivery of evidenced-based psychological interventions, diagnostics, assessments, and scholarship. Training and education within the program emphasizes the application of psychological knowledge and skills and the integration between science and practice in a manner that is respectful and appreciative of diversity and contextual factors.

## Program Aim

To provide broad and general training in clinical psychology that is empirically-based and diversity-informed to be able to practice as health service psychologists who deliver psychological services in intervention and assessment in a manner consistent with accepted ethical and legal practices; account for appropriate diversity and contextual factors in application; and incorporate scientific and evidentiary knowledge in practice using accepted profession wide competencies and discipline specific knowledge.

## Program Competencies

The Program assesses student competency using a portfolio-based system (the Comprehensive Assessment Method in Psychology [CAMP]) to evaluate work samples throughout the Program for demonstrations of competency. The CAMP serves as the Program's focal point for information regarding its effectiveness in training students on the nine Health Service Psychology Profession-wide Competencies outlined in the Standards of Accreditation for Health Service Psychology approved by the American Psychological Association in 2015. These areas include:

- Research
- Ethical and legal standards
- Individual and cultural diversity
- Professional values, attitudes, and behaviors
- Communication and interpersonal skills
- Assessment
- Intervention
- Supervision
- Consultation and interprofessional/interdisciplinary skills.

The profession-wide competencies demonstrate functional abilities and skills essential to the professional practice of health service psychology. CAMP was developed to evaluate competency through portfolios of student work samples, such as literature reviews, intervention tapes, and testing reports. Many of the CAMP assignments are included in course requirements and are therefore reflected in course grades. Course grades provide a general measure of developmental progress, knowledge, and skills, while CAMP assignments

provide assessment of student achievement of competency. In addition to gauging how students are progressing along Program competencies, the CAMP system provides a concrete method for students to assess and monitor their own unique strengths and weaknesses as they progress in a sequential, and increasingly complex manner through the curriculum.

The profession-wide competencies are predicated on the acquisition of discipline specific knowledge that serves as the foundation for the identity and orientation to health service psychology. These core areas of knowledge base and foundation are acquired through the Program's curriculum and include: History and Systems of Psychology, Basic Content Areas (Affective, Biological, Cognitive, Developmental, and Social Aspects of Behavior), Research Methods, Statistical Analysis, and Psychometrics.

The foundational courses expose students to knowledge through learning experiences with primary source materials, critical thinking and communication at an advanced level, and integration of discipline-specific knowledge with practice. Diversity and culture as well as scientific and evidence bases of psychology are incorporated throughout the foundational classes through primary source articles and class activities. The student's knowledge is assessed by course grades as well as a capstone project or specific class assignment in the competency areas identified above.

The Program views self-reflection as a critical element in adopting a commitment to life-long learning and interest in scholarly activity. The developmental nature of competency achievement in a cumulative progression from basic- to intermediate-level tasks allows students first to acquire knowledge and skills in distinct areas of competency, followed by opportunities to demonstrate competency through integration and application of knowledge and skills on more complex tasks required within the profession.

### **Program Requirements**

The Psy.D. Program is designed to be completed in four years. Full-time students will take three years of coursework, during which they will complete in succession a one-year clerkship, two years of practicum training, and a year-long predoctoral internship. In addition to coursework and clinical training requirements, students are required to pass all competency assignments, including the Comprehensive Exam and Dissertation. Five year and neuropsychology curricula (each of which requires an additional year of practicum training) are also offered.

### **Clerkship**

Students benefit from early exposure to clinical and professional roles. Students participate in an observational learning field training experience called Clerkship beginning in the Winter quarter of their first year, after successfully completing Professional Development (PSYCG 1581) in Fall

quarter of the first year. Clerkship students shadow, interact, assist and collaborate with health and mental health professionals in a clinical setting during their first year in the program. This introduction to clinical practice provides opportunities to observe the delivery of healthcare services with clients in a variety of settings. Clerkships are located in various mental health settings.

### **Practicum**

Practicum is a 16-20 hour/week clinical training experience in which second and third year students are placed at a Program-approved field placement site. Students learn to deliver psychological services under the supervision of a licensed psychologist in a variety of settings with diverse clinical populations. Each 12-month field experience is coupled with an on-campus seminar course to process and reflect on clinical training experiences, and to integrate science and theory with their applied experiences.

### **Comprehensive Examination**

The Comprehensive Examination (CAMP 3-0), Intake and Analysis of Psycho-Diagnostic Interview, Case Conceptualization, and Intervention Strategy, is comprised of two parts. Part 1 consists of viewing of a psycho-diagnostic interview and compiling a summary and analysis. Part 2 of the exam includes discussion of a chosen theoretical orientation, case conceptualization, and an intervention strategy.

### **Internship**

Successful completion of the doctoral internship experience is an essential Program requirement toward degree attainment. The predoctoral internship is a 2,000-hour requirement at an approved site over a 12-month (full-time) or 24-month (part-time) period. The internship is designed to provide intensive advanced clinical training that builds upon the coursework and practicum experiences. Students are eligible to apply for an internship after successfully passing the Qualifying Examination, the Comprehensive Exam, and Dissertation Proposal, by the dates specified in program materials.

### **Dissertation**

A Dissertation is required for graduation. This is intended as a scholarly work that permits the student an opportunity to enhance their knowledge about a particular clinical area. Under the guidance of a faculty committee, students are required to pass the dissertation proposal defense before the project is implemented. The student then completes data collection and analysis required for the project and completes the dissertation document. Each student must present an oral defense of the project upon its completion. Following the defense, and after all revisions are completed, the student must provide the program with a bound copy in order to graduate from the Program. With the Program Director's approval, students needing additional time to complete the Dissertation following completion of their internship

must register for PSYCG 1820 Dissertation Continuation, a 1 credit course.

## ADMISSIONS

The Clinical Psychology Program considers applicants who possess the academic and professional promise necessary for development as competent, caring members of the healthcare community. The Program requires an interview with applicants before decisions are made concerning admission into the Program.

### Admission Requirements

To be considered for admission, applicants must have met the following requirements:

1. Completion of a bachelor's degree from a regionally accredited college or university.
  - A minimum cumulative undergraduate grade point average (GPA) of 3.00 on a 4.00 scale.
  - If the applicant has graduate courses, but no degree granted, this will be viewed as an extension of the undergraduate work and will be evaluated as part of a cumulative GPA.
  - If the applicant has a conferred graduate degree in psychology or a related mental health field from a regionally accredited university, the GPA from that graduate program will be weighted more heavily than the undergraduate GPA.
2. Completion of 18 semester hours or equivalent of prerequisite coursework in psychology with a grade of B- or better including: Introduction to General Psychology, Human Growth & Development or Personality Theory, Abnormal Psychology, Statistics or Tests and Measurements.
3. Graduate Records Examination (GRE) general tests taken no earlier than five years prior to the date on which the application is submitted.
  - For more information about the GRE, contact Educational Testing Services (ETS) at 610/771-7670, 866/473-4373 or visit [www.ets.org/gre](http://www.ets.org/gre).
4. Demonstration of community service or extracurricular activities.
5. Motivation for and commitment to healthcare as demonstrated by previous work, volunteer work, or other life experiences.
6. Oral and written communication skills necessary to interact with patients and colleagues.
7. Commitment to abide by Midwestern University's Drug-Free Workplace and Substance Abuse Policy.
8. Passage of the Midwestern University criminal background check.

### Application Process and Deadlines

To be considered for admission to the Clinical Psychology Program, students must submit the following:

1. Completed online application at <https://psycas.liaisoncas.com/applicant-ux/#/login>.
2. Two signed and sealed letters of recommendation from professionals who know the student well (teachers, advisors, professional colleagues or supervisors). One letter must be from an academic reference.
3. A personal statement that reflects the educational and career goals of applicants and provides a self-appraisal of their qualifications for the Program and profession. Applicants are encouraged to include explanations of any factors in their application materials that might impact evaluation of their application.
4. Current resume/Curriculum Vitae.
5. Official transcripts from all postsecondary schools attended.
6. GRE general test scores.

### Priority Application Deadline - December 15th

Applicants who submit their complete application on or before December 15th will be given first consideration for admission and will be notified of the admissions decision on or before January 31st. Those who are not accepted into the Program at this time will have the option of forwarding their application into the standard deadline (see below).

### Standard Application Deadline - April 20th

Applicants who submit their complete application on or before April 20th will be considered for admission and will be notified of the admissions decision on or before May 21st. Applications received between April 21st and July 15th will be considered on a rolling basis for seats that may be available or placement on the alternate list.

Applicants may track the receipt of their completed application materials and the status of their files on the University's website with the instructions for accessing account information that will be sent by the Office of Admissions after receipt of their application.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address and e-mail address. All requests for application withdrawals must be made in writing to the Office of Admissions (address above).

### Interview and Selection Process

Completed applications are reviewed to determine the applicant's eligibility for interviews, which are conducted on the Midwestern University campus during several admission days throughout the admissions cycle. The on-campus

interview is the final step in the application process. Upon completion of the interview, the Program makes admissions recommendations and the Dean, via the Office of Admissions, notifies applicants of admissions recommendations.

### **Reapplication Process**

After receiving either a denial or end-of-cycle letter, prospective students may reapply for the following year's admissions cycle. To initiate the reapplication process, prospective students must complete and submit new applications and proceed through the standard application process.

### **Transfer Policy**

In order to receive credit for previous coursework completed at other institutions, students must submit a Transfer of Credit Request Application to be evaluated by the Education Committee. The transfer of credit has the following conditions:

1. A maximum of 40 quarter hours of credit for coursework completed prior to matriculation may be considered according to CHS policy for advanced placement.
2. Transferred course credit is limited to graduate level courses from recognized, regionally accredited degree granting institutions.
3. Credit is not transferred for a clinical practicum or an internship.
4. Credit may be awarded for required courses from other doctoral programs.
5. Credit may only be awarded for courses in which grades of B- or better were attained.
6. The Program may require a competency examination to determine satisfactory performance before awarding credit for a course.
7. Credit can only be awarded for courses completed within the seven-year period prior to matriculation.
8. Transfer of Credit Request Applications must be submitted by August 15th.

## **GRADUATION REQUIREMENTS**

Doctoral students may elect to earn a M.A. degree while pursuing the Psy.D. degree after completion of the first two years of coursework, clerkship, and practicum experiences. Students are only admitted into the Psy.D. Program and there is no separate master degree program.

The Master of Arts (M.A.) in Clinical Psychology is awarded if the following conditions are fulfilled by students in the Psy.D. Program:

1. Satisfactory completion of all required 1500 and 1600 level courses.

2. Attainment of a cumulative grade point average of 3.00 or higher and a minimum of B- or P in all required courses, seminars, and practica.
3. Satisfactory completion of Qualifying Exam.
4. Full payment of all outstanding tuition and fees.
5. Favorable recommendation for master's degree conferral from the Clinical Psychology Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee.
6. Recommendation for conferral of the master's degree by the University Faculty Senate.

To receive the Psy.D. in Clinical Psychology, the student must complete the following requirements within six years (standard track) of matriculation:

1. Satisfactory completion of a minimum of 219.5 - 226.5 (depending on year of matriculation) credit hours (Core Curriculum Sequence).
2. Attainment of a cumulative grade point average of 3.00 or higher and a minimum of B- or P in all required courses, seminars, and practica.
3. Successful completion of the Qualifying Exam (CAMP 2-4).
4. Satisfactory completion of the Comprehensive Exam and all other competency assignments.
5. Satisfactory completion of an approved one-year internship.
6. Satisfactory completion of a Dissertation including a successful oral defense and the submission of a bound copy.
7. Favorable recommendation for doctoral degree conferral from the Clinical Psychology Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee.
8. Recommendation for conferral of the doctoral degree by the University Faculty Senate.
9. Full payment of all outstanding tuition and fees.
10. Completion of all graduation clearance requirements as instructed by the Office of the Registrar.

### **Requirement for Full-Time Study in Residence**

At least one full year of full time study on campus must be satisfied as a condition of graduation. The requirement can be satisfied in either of the following ways:

1. The successful completion with a minimum of twelve quarter hours of credit per term for three consecutive quarters, or
2. The successful completion of 40 quarter hours within one twelve-month period including the summer quarter.

## LICENSURE REQUIREMENTS

Licensure requirement and standards for professional practice vary from state to state and prospective students are urged to examine the requirements of the specific state in which they plan to practice. The Association of State and Provincial Psychology Boards can provide useful information on this issue.

This program meets the "Guidelines for Defining 'Doctoral Degree in Psychology'" as implemented by the Association for State and Provincial Psychology Boards (ASPPB)/National Register Designation Project. Therefore, a graduate of this program who decides to apply for licensure as a psychologist will typically meet the jurisdictional educational requirements for licensing. Please contact the state / provincial / territorial licensing board in the jurisdiction in which you plan to apply for information about additional licensure requirements. Additional information including links to jurisdictions is available on the ASPPB's web site: [www.asppb.org](http://www.asppb.org).

Once licensed, a graduate of a designated program is eligible to apply for credentialing as a Health Service Psychologist by the National Register of Health Service Psychologists. Graduation from a designated program typically ensures that the program completed meets the educational requirements for the National Register credential. However, individual circumstances vary, and, there are additional requirements that must be satisfied prior to being credentialed by the National Register of Health Service Psychologists and listed on the [FindaPsychologist.org](http://FindaPsychologist.org) database. Doctoral students may apply to have their credentials banked and reviewed prior to licensure. For further information about the National Psychologist's Trainee Register and the National Register application process, consult the National Register's web site: [www.nationalregister.org](http://www.nationalregister.org).

Midwestern University's Doctor of Psychology (Glendale) program meets the educational requirements for licensure to practice as a psychologist in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Guam, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

*Special Note:* Licensure in California requires additional hours of coursework in the following areas: Human Sexuality (10 hours); Child Abuse and Reporting (7 hours); Spousal or partner abuse assessment, detection, and intervention (2 hours).

Midwestern University's Doctor of Psychology (Glendale) program has not made a determination that its Doctor of Psychology Program curriculum meets the territorial educational requirements for licensure or certification in Puerto Rico.

## NEUROPSYCHOLOGY CONCENTRATION

The Clinical Psychology Program offers a 5-year Neuropsychology Concentration that tailors the student's program of study through elective courses, practice field experiences, and research and scientific inquiry to concentrate in the area of clinical neuropsychology. The Neuropsychology Concentration is based on the APA Division 40 and Houston Conference Guidelines with the goal of providing students with training that will serve as a foundation for internship and post-doctoral neuropsychology training. Students do not receive a neuropsychology designation, or a separate degree in neuropsychology. Students who elect the Neuropsychology Concentration will earn a degree in Clinical Psychology, which appears on all transcripts and diplomas. Students in the Clinical Psychology Program apply to the Neuropsychology Concentration in the first year of study; acceptance into the Program does not guarantee acceptance into the Neuropsychology Concentration.

### Neuropsychology Concentration Requirements:

- Four neuropsychology courses which typically include:
  - Introduction to Neuropsychological Assessment
  - Clinical Neuroscience
  - Clinical Neuroanatomy
  - Advanced Neuropsychological Assessment
- Two, year-long practica at Neuropsychology based sites
- Approved Dissertation on neuropsychology topic
- Completion of Internship

## CURRICULUM (STARTING CLASS OF 2019 AND 2020)

**Total Quarter Credits in the Professional Program: 219.5 - 220.5**

**\*Note: The starting class of 2019 is not required to take the one credit Clinical Appraisal and Interviewing II course (PSYCG 1521).**

### First Year

Total Credits First Year Required: 60.5

#### Fall Quarter

COREG	1560H	Interprofessional Healthcare	0.5
PSYCG	1509	Fundamentals of Graduate Level Writing	1
PSYCG	1515	Tests and Measurements	3
PSYCG	1524	Intelligence Testing I	3
PSYCG	1525	Intelligence Testing II	2
PSYCG	1572	Psychopathology: Anxiety-Based and Personality Disorders	3
PSYCG	1573	Psychopathology: Psychotic and Mood Disorders	3
PSYCG	1581	Professional Development	1

**Total 16.5**

#### Winter Quarter

COREG	1570H	Interprofessional Healthcare	0.5
PSYCG	1501	Professional Issues and Ethics	3
PSYCG	1508	Fundamentals of APA Style	1
PSYCG	1520	Clinical Appraisal and Interviewing I	3
PSYCG	1521	Clinical Appraisal and Interviewing II	1
PSYCG	1526	Personality Assessment I	4
PSYCG	1530	Introduction to Psychotherapy	3
PSYCG	1582	Clerkship I	1

**Total 16.5**

#### Spring Quarter

COREG	1580H	Interprofessional Healthcare	0.5
PSYCG	1502	Life Span Development I	3
PSYCG	1514	Research Methods and Design	3

PSYCG	1527	Personality Assessment II: Projective Techniques	4
PSYCG	1565	Professional Writing	1
PSYCG	1570	Psychopathology: Child and Adolescent	3
PSYCG	1583	Clerkship II	1
<b>Total</b>			<b>15.5</b>

#### Summer Quarter

PSYCG	1503	Life Span Development II	3
PSYCG	1510	Statistics	3
PSYCG	1528	Advanced Assessment	3
PSYCG	1550	Biological Bases of Behavior	3
<b>Total</b>			<b>12</b>

#### Second Year

Total Credit Second Year Required: 59

#### Fall Quarter

PSYCG	1602	Cognitive-Affective Bases of Behavior	3
PSYCG	1631	Cognitive Behavioral Approaches to Psychotherapy	3
PSYCG	1639	Integrated Behavioral Healthcare	3
PSYCG	1680	Research Seminar	2
PSYCG	1682	Practicum I	3
PSYCG	1683	Practicum Seminar I	1
<b>Total</b>			<b>15</b>

#### Winter Quarter

PSYCG	1610	Diversity in Clinical Psychology	3
PSYCG	1632	Psychodynamic Approaches to Psychotherapy	3
PSYCG	1649	Group Therapy	3
PSYCG	1655	History and Systems	3
PSYCG	1684	Practicum II	3
PSYCG	1685	Practicum Seminar II	1
<b>Total</b>			<b>16</b>

#### Spring Quarter

PSYCG	1635	Marriage and Family Counseling and Therapy	3
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PSYCG	1650	Psychopharmacology	3
PSYCG	1653	Existential and Humanistic Theory and Therapy	3
PSYCG	1686	Practicum III	3
PSYCG	1687	Practicum Seminar III	1
<b>Total</b>			<b>13</b>

**Summer Quarter**

PSYCG	1640	Introduction to Neuropsychology	3
PSYCG	1670	Advanced Psychotherapy Practice	3
PSYCG	1671	Advanced Psychopathology	2
PSYCG	1688	Practicum IV	3
PSYCG	1689	Practicum Seminar IV	1
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>15</b>

**Third Year**

Total Credits Third Year Required: 51

**Fall Quarter**

PSYCG	1711	Advanced Statistics	3
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1
PSYCG	1795	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Winter Quarter**

PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1784	Advanced Practicum II	3
PSYCG	1785	Advanced Practicum Seminar II	1
PSYCG	1796	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Spring Quarter**

PSYCG	1732	Supervision and Consultation Models & Practice	3
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PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
PSYCG	1797	Dissertation	2
		Electives	6
<b>Total</b>			<b>15</b>

**Summer Quarter**

PSYCG	1788	Advanced Practicum IV	3
PSYCG	1798	Dissertation	3
<b>Total</b>			<b>6</b>

**Fourth Year**

Total Credits Fourth Year Required: 50

**Fourth Year**

PSYCG	1800	Internship	50
<b>Total</b>			<b>50</b>

**5 YEAR CURRICULUM (STARTING CLASS OF 2019 AND 2020)**

**Total Quarter Credits in the Professional Program: 234.5 - 235.5**

For those students who choose to pursue an advanced elective practicum year prior to internship, the curriculum sequence is the same for the first two years excluding the Dissertation credit sequence. The curriculum sequence for years 3, 4, and 5 follows:

**Third Year**

Total Year Credit Hours Required: 45

**Fall Quarter**

PSYCG	1711	Advanced Statistics	3
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1
		Elective	3
<b>Total</b>			<b>13</b>

**Winter Quarter**

PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1784	Advanced Practicum II	3

PSYCG	1785	Advanced Practicum Seminar II	1
		Elective	3
<b>Total</b>			<b>13</b>
<b>Spring Quarter</b>			
PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
		Electives	6
<b>Total</b>			<b>13</b>
<b>Summer Quarter</b>			
PSYCG	1788	Advanced Practicum IV	3
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>6</b>
<b>Fourth Year</b>			
Total Quarter Credit Hours Required:			24
<b>Fall Quarter</b>			
PSYCG	1795	Dissertation	2
PSYCG	1882	Advanced Elective Practicum I	3
PSYCG	1883	Advanced Elective Practicum Seminar I	1
<b>Total</b>			<b>6</b>
<b>Winter Quarter</b>			
PSYCG	1796	Dissertation	2
PSYCG	1884	Advanced Elective Practicum II	3
PSYCG	1885	Advanced Elective Practicum Seminar II	1
<b>Total</b>			<b>6</b>
<b>Spring Quarter</b>			
PSYCG	1797	Dissertation	2
PSYCG	1886	Advanced Elective Practicum III	3
PSYCG	1887	Advanced Elective Practicum Seminar III	1
<b>Total</b>			<b>6</b>
<b>Summer Quarter</b>			
PSYCG	1798	Dissertation	3
PSYCG	1888	Advanced Elective Practicum IV	3

**Total** **6**

**Fifth Year**

Total Quarter Credit Hours Required: 50

**Year 5**

PSYCG 1800 Internship 50

**Total** **50**

**NEUROPSYCHOLOGY CURRICULUM (STARTING CLASS OF 2019 AND 2020)**

**Total Quarter Credits in the Professional Program: 234.5 - 235.5**

**First Year**

Total Credits First Year Required: 60.5

**Fall Quarter**

COREG 1560H Interprofessional Healthcare 0.5

PSYCG 1509 Fundamentals of Graduate Level Writing 1

PSYCG 1515 Tests and Measurements 3

PSYCG 1524 Intelligence Testing I 3

PSYCG 1525 Intelligence Testing II 2

PSYCG 1572 Psychopathology: Anxiety-Based and Personality Disorders 3

PSYCG 1573 Psychopathology: Psychotic and Mood Disorders 3

PSYCG 1581 Professional Development 1

**Total** **16.5**

**Winter Quarter**

COREG 1570H Interprofessional Healthcare 0.5

PSYCG 1501 Professional Issues and Ethics 3

PSYCG 1508 Fundamentals of APA Style 1

PSYCG 1520 Clinical Appraisal and Interviewing I 3

PSYCG 1521 Clinical Appraisal and Interviewing II 1

PSYCG 1526 Personality Assessment I 4

PSYCG 1530 Introduction to Psychotherapy 3

PSYCG 1582 Clerkship I 1

**Total** **16.5**

<b>Spring Quarter</b>				<b>Total</b>			<b>16</b>
COREG	1580H	Interprofessional Healthcare	0.5	<b>Spring Quarter</b>			
PSYCG	1502	Life Span Development I	3	PSYCG	1635	Marriage and Family Counseling and Therapy	3
PSYCG	1514	Research Methods and Design	3	PSYCG	1653	Existential and Humanistic Theory and Therapy	3
PSYCG	1527	Personality Assessment II: Projective Techniques	4	PSYCG	1686	Practicum III	3
PSYCG	1565	Professional Writing	1	PSYCG	1687	Practicum Seminar III	1
PSYCG	1570	Psychopathology: Child and Adolescent	3			Neuropsychology Elective	3
PSYCG	1583	Clerkship II	1	<b>Total</b>			<b>13</b>
<b>Total</b>			<b>15.5</b>	<b>Summer Quarter</b>			
<b>Summer Quarter</b>				PSYCG	1510	Statistics	3
PSYCG	1503	Life Span Development II	3	PSYCG	1670	Advanced Psychotherapy Practice	3
PSYCG	1528	Advanced Assessment	3	PSYCG	1671	Advanced Psychopathology	2
PSYCG	1550	Biological Bases of Behavior	3	PSYCG	1688	Practicum IV	3
PSYCG	1640	Introduction to Neuropsychology	3	PSYCG	1689	Practicum Seminar IV	1
<b>Total</b>			<b>12</b>	<b>Total</b>			<b>12</b>
<b>Second Year</b>				<b>Third Year</b>			
Total Credit Second Year Required:			56	Total Credits Third Year Required:			45
<b>Fall Quarter</b>				<b>Fall Quarter</b>			
PSYCG	1602	Cognitive-Affective Bases of Behavior	3	PSYCG	1639	Integrated Behavioral Healthcare	3
PSYCG	1631	Cognitive Behavioral Approaches to Psychotherapy	3	PSYCG	1711	Advanced Statistics	3
PSYCG	1680	Research Seminar	2	PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1682	Practicum I	3	PSYCG	1782	Advanced Practicum I	3
PSYCG	1683	Practicum Seminar I	1	PSYCG	1783	Advanced Practicum Seminar I	1
		Neuropsychology Elective	3	<b>Total</b>			<b>13</b>
<b>Total</b>			<b>15</b>	<b>Winter Quarter</b>			
<b>Winter Quarter</b>				PSYCG	1708	Mental Health Law	3
PSYCG	1610	Diversity in Clinical Psychology	3	PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1632	Psychodynamic Approaches to Psychotherapy	3	PSYCG	1784	Advanced Practicum II	3
PSYCG	1649	Group Therapy	3	PSYCG	1785	Advanced Practicum Seminar II	1
PSYCG	1655	History and Systems	3			Elective	3
PSYCG	1684	Practicum II	3	<b>Total</b>			<b>13</b>
PSYCG	1685	Practicum Seminar II	1	<b>Spring Quarter</b>			
				PSYCG	1650	Psychopharmacology	3

PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
		Neuropsychology Elective	3
<b>Total</b>			<b>13</b>

**Summer Quarter**

PSYCG	1788	Advanced Practicum IV	3
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>6</b>

**Fourth Year**

Total Credits Fourth Year Required: 24

**Fourth Year - Fall Quarter**

PSYCG	1795	Dissertation	2
PSYCG	1882	Advanced Elective Practicum I	3
PSYCG	1883	Advanced Elective Practicum Seminar I	1
<b>Total</b>			<b>6</b>

**Winter Quarter**

PSYCG	1796	Dissertation	2
PSYCG	1884	Advanced Elective Practicum II	3
PSYCG	1885	Advanced Elective Practicum Seminar II	1
<b>Total</b>			<b>6</b>

**Spring Quarter**

PSYCG	1797	Dissertation	2
PSYCG	1886	Advanced Elective Practicum III	3
PSYCG	1887	Advanced Elective Practicum Seminar III	1
<b>Total</b>			<b>6</b>

**Summer Quarter**

PSYCG	1798	Dissertation	3
PSYCG	1888	Advanced Elective Practicum IV	3
<b>Total</b>			<b>6</b>

**Fifth Year**

Total Quarter Credit Hours Required: 50

**Year 5**

PSYCG	1800	Internship	50
<b>Total</b>			<b>50</b>

**CURRICULUM (STARTING CLASS OF 2018)**

**Total Quarter Credits in the Professional Program: 221.5**

**First Year**

Total Credits First Year Required: 61.5

**Fall Quarter**

COREG	1560H	Interprofessional Healthcare	0.5
PSYCG	1501	Professional Issues and Ethics	3
PSYCG	1502	Life Span Development I	3
PSYCG	1509	Fundamentals of Graduate Level Writing	1
PSYCG	1515	Tests and Measurements	3
PSYCG	1572	Psychopathology: Anxiety-Based and Personality Disorders	3
PSYCG	1581	Professional Development	1
PSYCG	1602	Cognitive-Affective Bases of Behavior	3

**Total 17.5**

**Winter Quarter**

COREG	1570H	Interprofessional Healthcare	0.5
PSYCG	1503	Life Span Development II	3
PSYCG	1508	Fundamentals of APA Style	1
PSYCG	1516	Tests and Measures II	2
PSYCG	1524	Intelligence Testing I	3
PSYCG	1525	Intelligence Testing II	2
PSYCG	1573	Psychopathology: Psychotic and Mood Disorders	3
PSYCG	1582	Clerkship I	1

**Total 15.5**

**Spring Quarter**

COREG	1580H	Interprofessional Healthcare	0.5
PSYCG	1514	Research Methods and Design	3
PSYCG	1520	Clinical Appraisal and Interviewing I	3
PSYCG	1526	Personality Assessment I	4

PSYCG	1550	Biological Bases of Behavior	3
PSYCG	1565	Professional Writing	1
PSYCG	1583	Clerkship II	1
<b>Total</b>			<b>15.5</b>

**Summer Quarter**

PSYCG	1510	Statistics	3
PSYCG	1527	Personality Assessment II: Projective Techniques	4
PSYCG	1530	Introduction to Psychotherapy	3
PSYCG	1570	Psychopathology: Child and Adolescent	3
<b>Total</b>			<b>13</b>

**Second Year**

Total Credit Second Year Required: 59

**Fall Quarter**

PSYCG	1528	Advanced Assessment	3
PSYCG	1631	Cognitive Behavioral Approaches to Psychotherapy	3
PSYCG	1639	Integrated Behavioral Healthcare	3
PSYCG	1680	Research Seminar	2
PSYCG	1682	Practicum I	3
PSYCG	1683	Practicum Seminar I	1
<b>Total</b>			<b>15</b>

**Winter Quarter**

PSYCG	1610	Diversity in Clinical Psychology	3
PSYCG	1632	Psychodynamic Approaches to Psychotherapy	3
PSYCG	1649	Group Therapy	3
PSYCG	1655	History and Systems	3
PSYCG	1684	Practicum II	3
PSYCG	1685	Practicum Seminar II	1
<b>Total</b>			<b>16</b>

**Spring Quarter**

PSYCG	1635	Marriage and Family Counseling and Therapy	3
PSYCG	1653	Existential and Humanistic Theory and Therapy	3

PSYCG	1650	Psychopharmacology	3
PSYCG	1686	Practicum III	3
PSYCG	1687	Practicum Seminar III	1
<b>Total</b>			<b>13</b>

**Summer Quarter**

PSYCG	1640	Introduction to Neuropsychology	3
PSYCG	1670	Advanced Psychotherapy Practice	3
PSYCG	1671	Advanced Psychopathology	2
PSYCG	1688	Practicum IV	3
PSYCG	1689	Practicum Seminar IV	1
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>15</b>

**Third Year**

Total Credits Third Year Required: 51

**Fall Quarter**

PSYCG	1711	Advanced Statistics	3
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1
PSYCG	1795	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Winter Quarter**

PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1784	Advanced Practicum II	3
PSYCG	1785	Advanced Practicum Seminar II	1
PSYCG	1796	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Spring Quarter**

PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3

PSYCG	1787	Advanced Practicum Seminar III	1
PSYCG	1797	Dissertation	2
		Electives	6
<b>Total</b>			<b>15</b>
<b>Summer Quarter</b>			
PSYCG	1788	Advanced Practicum IV	3
PSYCG	1798	Dissertation	3
<b>Total</b>			<b>6</b>
<b>Fourth Year</b>			
Total Credits Fourth Year Required:			50
<b>Fourth Year</b>			
PSYCG	1800	Internship	50
<b>Total</b>			<b>50</b>

## 5 YEAR CURRICULUM (STARTING CLASS OF 2018)

### Total Quarter Credits in the Professional Program: 236.5

For those students who choose to pursue an advanced elective practicum year prior to internship, the curriculum sequence is the same for the first two years excluding the Dissertation sequence. The curriculum sequence for years 3, 4, and 5 follows:

#### Third Year

Total Year Credit Hours Required: 45

#### Fall Quarter

PSYCG	1711	Advanced Statistics	3
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1
		Elective	3
<b>Total</b>			<b>13</b>

#### Winter Quarter

PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1784	Advanced Practicum II	3
PSYCG	1785	Advanced Practicum Seminar II	1
		Elective	3

**Total 13**

#### Spring Quarter

PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
		Electives	6

**Total 13**

#### Summer Quarter

PSYCG	1788	Advanced Practicum IV	3
PSYCG	1794	Dissertation	3

**Total 6**

#### Fourth Year

Total Quarter Credit Hours Required: 24

#### Fall Quarter

PSYCG	1795	Dissertation	2
PSYCG	1882	Advanced Elective Practicum I	3
PSYCG	1883	Advanced Elective Practicum Seminar I	1

**Total 6**

#### Winter Quarter

PSYCG	1796	Dissertation	2
PSYCG	1884	Advanced Elective Practicum II	3
PSYCG	1885	Advanced Elective Practicum Seminar II	1

**Total 6**

#### Spring Quarter

PSYCG	1797	Dissertation	2
PSYCG	1886	Advanced Elective Practicum III	3
PSYCG	1887	Advanced Elective Practicum Seminar III	1

**Total 6**

#### Summer Quarter

PSYCG	1798	Dissertation	3
PSYCG	1888	Advanced Elective Practicum IV	3

**Total 6**

<b>Fifth Year</b>			
Total Quarter Credit Hours Required:			50
<b>Year 5</b>			
PSYCG	1800	Internship	50
<b>Total</b>			<b>50</b>

**NEUROPSYCHOLOGY CURRICULUM  
(STARTING CLASS OF 2018)  
Total Quarter Credits in the Professional Program: 236.5**

<b>First Year</b>			
Total Credits First Year Required:			61.5
<b>Fall Quarter</b>			
COREG	1560H	Interprofessional Healthcare	0.5
PSYCG	1501	Professional Issues and Ethics	3
PSYCG	1502	Life Span Development I	3
PSYCG	1509	Fundamentals of Graduate Level Writing	1
PSYCG	1515	Tests and Measurements	3
PSYCG	1572	Psychopathology: Anxiety-Based and Personality Disorders	3
PSYCG	1581	Professional Development	1
PSYCG	1602	Cognitive-Affective Bases of Behavior	3
<b>Total</b>			<b>17.5</b>

<b>Winter Quarter</b>			
COREG	1570H	Interprofessional Healthcare	0.5
PSYCG	1503	Life Span Development II	3
PSYCG	1508	Fundamentals of APA Style	1
PSYCG	1516	Tests and Measures II	2
PSYCG	1524	Intelligence Testing I	3
PSYCG	1525	Intelligence Testing II	2
PSYCG	1573	Psychopathology: Psychotic and Mood Disorders	3
PSYCG	1582	Clerkship I	1
<b>Total</b>			<b>15.5</b>

<b>Spring Quarter</b>			
COREG	1580H	Interprofessional Healthcare	0.5
PSYCG	1514	Research Methods and Design	3

PSYCG	1520	Clinical Appraisal and Interviewing I	3
PSYCG	1526	Personality Assessment I	4
PSYCG	1550	Biological Bases of Behavior	3
PSYCG	1565	Professional Writing	1
PSYCG	1583	Clerkship II	1
<b>Total</b>			<b>15.5</b>

<b>Summer Quarter</b>			
PSYCG	1527	Personality Assessment II: Projective Techniques	4
PSYCG	1530	Introduction to Psychotherapy	3
PSYCG	1570	Psychopathology: Child and Adolescent	3
PSYCG	1640	Introduction to Neuropsychology	3
<b>Total</b>			<b>13</b>

<b>Second Year</b>			
Total Credit Second Year Required:			56
<b>Fall Quarter</b>			
PSYCG	1528	Advanced Assessment	3
PSYCG	1631	Cognitive Behavioral Approaches to Psychotherapy	3
PSYCG	1680	Research Seminar	2
PSYCG	1682	Practicum I	3
PSYCG	1683	Practicum Seminar I	1
		Neuropsychology Elective	3
<b>Total</b>			<b>15</b>

<b>Winter Quarter</b>			
PSYCG	1610	Diversity in Clinical Psychology	3
PSYCG	1632	Psychodynamic Approaches to Psychotherapy	3
PSYCG	1649	Group Therapy	3
PSYCG	1655	History and Systems	3
PSYCG	1684	Practicum II	3
PSYCG	1685	Practicum Seminar II	1
<b>Total</b>			<b>16</b>

<b>Spring Quarter</b>				PSYCG 1732	Supervision and Consultation Models & Practice	3
PSYCG	1635	Marriage and Family Counseling and Therapy	3	PSYCG 1786	Advanced Practicum III	3
PSYCG	1653	Existential and Humanistic Theory and Therapy	3	PSYCG 1787	Advanced Practicum Seminar III	1
PSYCG	1686	Practicum III	3		Neuropsychology Elective	3
PSYCG	1687	Practicum Seminar III	1	<b>Total</b>		<b>13</b>
		Neuropsychology Elective	3	<b>Summer Quarter</b>		
<b>Total</b>			<b>13</b>	PSYCG 1788	Advanced Practicum IV	3
<b>Summer Quarter</b>				PSYCG 1794	Dissertation	3
PSYCG	1510	Statistics	3	<b>Total</b>		<b>6</b>
PSYCG	1670	Advanced Psychotherapy Practice	3	<b>Fourth Year</b>		
PSYCG	1671	Advanced Psychopathology	2	Total Credits Fourth Year Required:		24
PSYCG	1688	Practicum IV	3	<b>Fourth Year - Fall Quarter</b>		
PSYCG	1689	Practicum Seminar IV	1	PSYCG 1795	Dissertation	2
<b>Total</b>			<b>12</b>	PSYCG 1882	Advanced Elective Practicum I	3
<b>Third Year</b>				PSYCG 1883	Advanced Elective Practicum Seminar I	1
Total Credits Third Year Required:			45	<b>Total</b>		<b>6</b>
<b>Fall Quarter</b>				<b>Winter Quarter</b>		
PSYCG	1639	Integrated Behavioral Healthcare	3	PSYCG 1796	Dissertation	2
PSYCG	1711	Advanced Statistics	3	PSYCG 1884	Advanced Elective Practicum II	3
PSYCG	1754	Social and Cultural Bases of Behavior	3	PSYCG 1885	Advanced Elective Practicum Seminar II	1
PSYCG	1782	Advanced Practicum I	3	<b>Total</b>		<b>6</b>
PSYCG	1783	Advanced Practicum Seminar I	1	<b>Spring Quarter</b>		
<b>Total</b>			<b>13</b>	PSYCG 1797	Dissertation	2
<b>Winter Quarter</b>				PSYCG 1886	Advanced Elective Practicum III	3
PSYCG	1708	Mental Health Law	3	PSYCG 1887	Advanced Elective Practicum Seminar III	1
PSYCG	1739	Issues in Substance Abuse	3	<b>Total</b>		<b>6</b>
PSYCG	1784	Advanced Practicum II	3	<b>Summer Quarter</b>		
PSYCG	1785	Advanced Practicum Seminar II	1	PSYCG 1798	Dissertation	3
		Elective	3	PSYCG 1888	Advanced Elective Practicum IV	3
<b>Total</b>			<b>13</b>	<b>Total</b>		<b>6</b>
<b>Spring Quarter</b>						
PSYCG	1650	Psychopharmacology	3			



**Fifth Year**

Total Quarter Credit Hours Required:	50
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**Year 5**

PSYCG 1800 Internship	50
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<b>Total</b>	<b>50</b>
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**CURRICULUM (STARTING CLASS OF 2017)**

The Clinical Psychology Program reserves the right to alter its curriculum, however and whenever it deems appropriate. This catalog does not establish a contractual relationship between MWU and the student.

**Total Quarter Credits in the Professional Program: 226.5**

**First Year**

Total Credits First Year Required:	62.5
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**Fall Quarter**

COREG 1560H Interprofessional Healthcare	0.5
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PSYCG 1501 Professional Issues and Ethics	3
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PSYCG 1502 Life Span Development I	3
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PSYCG 1509 Fundamentals of Graduate Level Writing	1
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PSYCG 1515 Tests and Measurements	3
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PSYCG 1572 Psychopathology: Anxiety-Based and Personality Disorders	3
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PSYCG 1581 Professional Development	1
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PSYCG 1602 Cognitive-Affective Bases of Behavior	3
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<b>Total</b>	<b>17.5</b>
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**Winter Quarter**

COREG 1570H Interprofessional Healthcare	0.5
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PSYCG 1503 Life Span Development II	3
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PSYCG 1508 Fundamentals of APA Style	1
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PSYCG 1516 Tests and Measures II	2
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PSYCG 1524 Intelligence Testing I	3
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PSYCG 1525 Intelligence Testing II	2
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PSYCG 1570 Psychopathology: Child and Adolescent	3
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PSYCG 1582 Clerkship I	1
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<b>Total</b>	<b>15.5</b>
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**Spring Quarter**

COREG 1580H Interprofessional Healthcare	0.5
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PSYCG 1514 Research Methods and Design	3
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PSYCG 1526 Personality Assessment I	4
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PSYCG 1550 Biological Bases of Behavior	3
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PSYCG 1565 Professional Writing	1
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PSYCG 1573 Psychopathology: Psychotic and Mood Disorders	3
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PSYCG 1583 Clerkship II	1
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<b>Total</b>	<b>15.5</b>
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**Summer Quarter**

PSYCG 1510 Statistics	3
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PSYCG 1520 Clinical Appraisal and Interviewing I	3
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PSYCG 1527 Personality Assessment II: Projective Techniques	4
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PSYCG 1530 Introduction to Psychotherapy	3
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PSYCG 1584 Clerkship III	1
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<b>Total</b>	<b>14</b>
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**Second Year**

Total Credit Second Year Required:	63
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**Fall Quarter**

PSYCG 1528 Advanced Assessment	3
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PSYCG 1631 Cognitive Behavioral Approaches to Psychotherapy	3
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PSYCG 1639 Integrated Behavioral Healthcare	3
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PSYCG 1680 Research Seminar	2
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PSYCG 1682 Practicum I	3
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PSYCG 1683 Practicum Seminar I	1
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<b>Total</b>	<b>15</b>
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**Winter Quarter**

PSYCG 1601 Advanced Professional Development and Ethics	2
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PSYCG 1632 Psychodynamic Approaches to Psychotherapy	3
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PSYCG 1635 Marriage and Family Counseling and Therapy	3
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PSYCG 1684 Practicum II	3
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PSYCG	1685	Practicum Seminar II	1
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1780	Dissertation Seminar I	1
<b>Total</b>			<b>16</b>

**Spring Quarter**

PSYCG	1610	Diversity in Clinical Psychology	3
PSYCG	1650	Psychopharmacology	3
PSYCG	1686	Practicum III	3
PSYCG	1687	Practicum Seminar III	1
PSYCG	1736	Behavioral Therapy	3
PSYCG	1781	Dissertation Seminar II	1
<b>Total</b>			<b>14</b>

**Summer Quarter**

PSYCG	1640	Introduction to Neuropsychology	3
PSYCG	1655	History and Systems	3
PSYCG	1670	Advanced Psychotherapy Practice	3
PSYCG	1671	Advanced Psychopathology	2
PSYCG	1688	Practicum IV	3
PSYCG	1689	Practicum Seminar IV	1
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>18</b>

**Third Year**

Total Credits Third Year Required: 51

**Fall Quarter**

PSYCG	1649	Group Therapy	3
PSYCG	1711	Advanced Statistics	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1
PSYCG	1795	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Winter Quarter**

PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3

PSYCG	1784	Advanced Practicum II	3
PSYCG	1785	Advanced Practicum Seminar II	1
PSYCG	1796	Dissertation	2
		Elective	3
<b>Total</b>			<b>15</b>

**Spring Quarter**

PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
PSYCG	1797	Dissertation	2
		Electives	6
<b>Total</b>			<b>15</b>

**Summer Quarter**

PSYCG	1788	Advanced Practicum IV	3
PSYCG	1798	Dissertation	3
<b>Total</b>			<b>6</b>

**Fourth Year**

Total Credits Fourth Year Required: 50

**Fourth Year**

PSYCG	1800	Internship	50
<b>Total</b>			<b>50</b>

**5 YEAR CURRICULUM (STARTING CLASS OF 2017)**

**Total Quarter Credits in the Professional Program: 241.5**

For those students who choose an advanced elective practicum year prior to internship, the curriculum sequence is the same for the first two years, excluding the Dissertation Credit Sequence. The curriculum sequence for years 3, 4, and 5 is as follows:

**Third Year**

Total Year Credit Hours Required: 45

**Fall Quarter**

PSYCG	1649	Group Therapy	3
PSYCG	1711	Advanced Statistics	3
PSYCG	1782	Advanced Practicum I	3
PSYCG	1783	Advanced Practicum Seminar I	1

		Elective	3
<b>Total</b>			<b>13</b>
<b>Winter Quarter</b>			
PSYCG	1708	Mental Health Law	3
PSYCG	1739	Issues in Substance Abuse	3
PSYCG	1784	Advanced Practicum II	3
PSYCG	1785	Advanced Practicum Seminar II	1
		Elective	3
<b>Total</b>			<b>13</b>
<b>Spring Quarter</b>			
PSYCG	1732	Supervision and Consultation Models & Practice	3
PSYCG	1786	Advanced Practicum III	3
PSYCG	1787	Advanced Practicum Seminar III	1
		Electives	6
<b>Total</b>			<b>13</b>
<b>Summer Quarter</b>			
PSYCG	1788	Advanced Practicum IV	3
PSYCG	1794	Dissertation	3
<b>Total</b>			<b>6</b>
<b>Fourth Year</b>			
Total Quarter Credit Hours Required:			24
<b>Fall Quarter</b>			
PSYCG	1795	Dissertation	2
PSYCG	1882	Advanced Elective Practicum I	3
PSYCG	1883	Advanced Elective Practicum Seminar I	1
<b>Total</b>			<b>6</b>
<b>Winter Quarter</b>			
PSYCG	1796	Dissertation	2
PSYCG	1884	Advanced Elective Practicum II	3
PSYCG	1885	Advanced Elective Practicum Seminar II	1
<b>Total</b>			<b>6</b>
<b>Spring Quarter</b>			
PSYCG	1797	Dissertation	2

PSYCG	1886	Advanced Elective Practicum III	3
PSYCG	1887	Advanced Elective Practicum Seminar III	1

**Total 6**

**Summer Quarter**

PSYCG	1798	Dissertation	3
PSYCG	1888	Advanced Elective Practicum IV	3

**Total 6**

**Fifth Year**

Total Quarter Credit Hours Required: 50

**Year 5**

PSYCG	1800	Internship	50
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**Total 50**

**NEUROPSYCHOLOGY CURRICULUM (STARTING CLASS OF 2017)**

**Total Quarter Credits in the Professional Program: 241.5**

**First Year**

Total Credits First Year Required: 62.5

**Fall Quarter**

COREG	1560H	Interprofessional Healthcare	0.5
PSYCG	1501	Professional Issues and Ethics	3
PSYCG	1502	Life Span Development I	3
PSYCG	1509	Fundamentals of Graduate Level Writing	1
PSYCG	1515	Tests and Measurements	3
PSYCG	1572	Psychopathology: Anxiety-Based and Personality Disorders	3
PSYCG	1581	Professional Development	1
PSYCG	1602	Cognitive-Affective Bases of Behavior	3

**Total 17.5**

**Winter Quarter**

COREG	1570H	Interprofessional Healthcare	0.5
PSYCG	1503	Life Span Development II	3
PSYCG	1508	Fundamentals of APA Style	1
PSYCG	1516	Tests and Measures II	2
PSYCG	1524	Intelligence Testing I	3

PSYCG	1525	Intelligence Testing II	2
PSYCG	1570	Psychopathology: Child and Adolescent	3
PSYCG	1582	Clerkship I	1
<b>Total</b>			<b>15.5</b>

**Spring Quarter**

COREG	1580H	Interprofessional Healthcare	0.5
PSYCG	1514	Research Methods and Design	3
PSYCG	1526	Personality Assessment I	4
PSYCG	1550	Biological Bases of Behavior	3
PSYCG	1565	Professional Writing	1
PSYCG	1573	Psychopathology: Psychotic and Mood Disorders	3

PSYCG	1583	Clerkship II	1
<b>Total</b>			<b>15.5</b>

**Summer Quarter**

PSYCG	1520	Clinical Appraisal and Interviewing I	3
PSYCG	1527	Personality Assessment II: Projective Techniques	4
PSYCG	1530	Introduction to Psychotherapy	3
PSYCG	1584	Clerkship III	1
PSYCG	1640	Introduction to Neuropsychology	3

<b>Total</b>			<b>14</b>
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**Second Year**

Total Credit Second Year Required: 60

**Fall Quarter**

PSYCG	1528	Advanced Assessment	3
PSYCG	1631	Cognitive Behavioral Approaches to Psychotherapy	3
PSYCG	1680	Research Seminar	2
PSYCG	1682	Practicum I	3
PSYCG	1683	Practicum Seminar I	1
		Neuropsychology Elective	3

<b>Total</b>			<b>15</b>
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**Winter Quarter**

PSYCG	1601	Advanced Professional Development and Ethics	2
PSYCG	1632	Psychodynamic Approaches to Psychotherapy	3
PSYCG	1635	Marriage and Family Counseling and Therapy	3
PSYCG	1684	Practicum II	3
PSYCG	1685	Practicum Seminar II	1
PSYCG	1754	Social and Cultural Bases of Behavior	3
PSYCG	1780	Dissertation Seminar I	1

<b>Total</b>			<b>16</b>
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**Spring Quarter**

PSYCG	1610	Diversity in Clinical Psychology	3
PSYCG	1686	Practicum III	3
PSYCG	1687	Practicum Seminar III	1
PSYCG	1736	Behavioral Therapy	3
PSYCG	1781	Dissertation Seminar II	1
		Neuropsychology Elective	3

<b>Total</b>			<b>14</b>
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**Summer Quarter**

PSYCG	1510	Statistics	3
PSYCG	1655	History and Systems	3
PSYCG	1670	Advanced Psychotherapy Practice	3
PSYCG	1671	Advanced Psychopathology	2
PSYCG	1688	Practicum IV	3
PSYCG	1689	Practicum Seminar IV	1

<b>Total</b>			<b>15</b>
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**Third Year**

Total Credits Third Year Required: 45

**Fall Quarter**

PSYCG	1639	Integrated Behavioral Healthcare	3
PSYCG	1649	Group Therapy	3
PSYCG	1711	Advanced Statistics	3
PSYCG	1782	Advanced Practicum I	3

PSYCG 1783	Advanced Practicum Seminar I	1
<b>Total</b>		<b>13</b>
<b>Winter Quarter</b>		
PSYCG 1708	Mental Health Law	3
PSYCG 1739	Issues in Substance Abuse	3
PSYCG 1784	Advanced Practicum II	3
PSYCG 1785	Advanced Practicum Seminar II	1
	Elective	3
<b>Total</b>		<b>13</b>
<b>Spring Quarter</b>		
PSYCG 1650	Psychopharmacology	3
PSYCG 1732	Supervision and Consultation Models & Practice	3
PSYCG 1786	Advanced Practicum III	3
PSYCG 1787	Advanced Practicum Seminar III	1
	Neuropsychology Elective	3
<b>Total</b>		<b>13</b>
<b>Summer Quarter</b>		
PSYCG 1788	Advanced Practicum IV	3
PSYCG 1794	Dissertation	3
<b>Total</b>		<b>6</b>
<b>Fourth Year</b>		
Total Credits Fourth Year Required:		24
<b>Fourth Year - Fall Quarter</b>		
PSYCG 1795	Dissertation	2
PSYCG 1882	Advanced Elective Practicum I	3
PSYCG 1883	Advanced Elective Practicum Seminar I	1
<b>Total</b>		<b>6</b>
<b>Winter Quarter</b>		
PSYCG 1796	Dissertation	2
PSYCG 1884	Advanced Elective Practicum II	3
PSYCG 1885	Advanced Elective Practicum Seminar II	1
<b>Total</b>		<b>6</b>
<b>Spring Quarter</b>		

PSYCG 1797	Dissertation	2
PSYCG 1886	Advanced Elective Practicum III	3
PSYCG 1887	Advanced Elective Practicum Seminar III	1
<b>Total</b>		<b>6</b>
<b>Summer Quarter</b>		
PSYCG 1798	Dissertation	3
PSYCG 1888	Advanced Elective Practicum IV	3
<b>Total</b>		<b>6</b>
<b>Fifth Year</b>		
Total Quarter Credit Hours Required:		50
<b>Year 5</b>		
PSYCG 1800	Internship	50
<b>Total</b>		<b>50</b>

## CORE COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *COREG 1560H, 1570H, 1580H Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated. Each course 0.5 credits

### *PSYCG 1501 Professional Issues and Ethics*

The legal, ethical, and professional issues are discussed in the context of the delivery of mental health services. These issues include APA ethical standards, privacy issues, confidentiality, mental health codes, mental health law and legislation, certification and licensure, ethical standards in research, confidentiality in insurance and managed care contexts, and ethical standards in private practice, schools, hospitals and clinics, community settings, and government. 3 credits

### *PSYCG 1502 Life Span Development I*

This course examines the major developmental issues from birth through adolescence. The topics include normal and abnormal development in the context of physical, biological, cognitive, social, and emotional functioning. Other topics include a study of models of development including learning theory, cognitive theory (Piaget), and other theories. Speech and language development are also examined as a basis for later human cognition. Developmental factors related to issues of culture, ethnicity, disabilities, and gender are addressed.

3 credits

### *PSYCG 1503 Life Span Development II*

This course examines the biopsychosocial factors in adult development and aging. Topics include physical and psychological changes that occur from early adulthood through senescence, and normal and abnormal changes through this cycle including cognitive changes. The course examines the role of work and career as it impacts on basic adult life processes. Retirement is examined as it relates to psychological consolidation and the prospect of death and dying. Cross-cultural, gender, familial, and gender perspectives are included.

3 credits

### *PSYCG 1508 Fundamentals of APA Style*

This course introduces the student to the basic guidelines for the correct usage of the APA style in writing. The course provides a comprehensive overview of the publication manual of the American Psychological Association 6th Ed.

Throughout the quarter, participants in this course will increase their familiarity with the APA style guidelines through an in-depth examination of each chapter of the manual.

1 credit

### *PSYCG 1509 Fundamentals of Graduate Level Writing*

This course serves as a broad overview of basic skills necessary for graduate level writing; it provides a review of fundamental grammatical rules and principles, including but not limited to: sentence structure, spelling, punctuation, tense shifting, transitions, subject-pronoun agreement and use of formal tone. A basic format for how to write a research paper will be provided, incorporating the use of: an effective thesis statement, main themes/ideas and appropriate paragraph structure. Finally, the distinction between expository, persuasive and analytical writing will be highlighted.

1 credit

### *PSYCG 1510 Statistics*

The course examines basic statistical measures including parametric and nonparametric tests at both the theoretical and applied levels. The course will allow the student to

understand the statistical methods used in clinical research. Emphasis is placed on the preparation of the students for their own clinical research. Topics include complex factorial ANOVA, Repeated Measures ANOVA, multiple regression, power analysis, MANOVA, and factor analysis.

3 credits

### *PSYCG 1514 Research Methods and Design*

This course is a survey of the methods used in empirical clinical research, program evaluation, and clinical outcomes studies. Students will learn both experimental and quasi-experimental designs. Strategies for research design, subject selection, and statistical analysis will also be examined.

3 credits

### *PSYCG 1515 Tests and Measurements*

This is the first in a two course sequence about the measurement of individual differences designed for students in the clinical psychology program. This course examines the philosophical, historical, and methodological foundations of psychological testing, assessment, and measurement. The course focuses on the statistical basis of validity, reliability, tests of intelligence, personality assessment, counseling and assessment, neuropsychological assessment, computer-assisted assessment, and the assessment of persons with disabilities. Previously Test and Measurements I.

3 credits

### *PSYCG 1520 Clinical Appraisal and Interviewing I*

This course provides the student with basic principles and techniques of clinical interviewing and assessment. The approach is both didactic and experiential with the student conducting mock interviews of patients. Emphasis is placed not only on understanding verbal information but also on meta-communication including body language, voice quality, and pacing, and other aspects of nonverbal interpersonal interaction. Students are introduced to differential diagnosis, report writing, inferential analysis, diversity issues related to appraisal and interviewing, and psychological inference.

3 credits

### *PSYCG 1521 Clinical Appraisal and Interviewing II*

This course is to supplement the concepts and knowledge on psychodiagnostic interviewing with practice skills and applications of concepts in psychodiagnostic interviewing. The format of the course is lab-based, allowing for a safe environment for students to develop competency in psychodiagnostic interviewing.

1 credit

Prerequisite: Must be taken concurrently with PSYCG 1520; PSYCG 1572 Psychopathology: Anxiety-Based and Personality Disorders; PSYCG 1573 Psychopathology: Psychotic and Mood Disorders

*PSYCG 1524 Intelligence Testing I*

This course introduces the student to the theory, administration, scoring, and interpretation of standard intelligence tests. Intellectual assessment scales examined include the Stanford-Binet, and the various Wechsler Scales. Basic interpretation and report writing skills are developed. Biopsychosocial, cultural, ethnic, and disability factors affecting test validity and interpretation are also examined.  
3 credits

*PSYCG 1525 Intelligence Testing II*

The purpose of this course is to emphasize using the clinical instruments to assess cognitive functioning of children and adults. The course is designed to develop competency in administration and report writing and consists of lecture, demonstration, practice administrations, and individual checkouts of competencies in test administration. The students receive constructive feedback in the areas of test administration, scoring, interpretation of results and report writing.  
2 credits

*PSYCG 1526 Personality Assessment I*

This course introduces the student to the administration, interpretation, and scoring of the objective tests for personality assessment. Tests examined include the MMPI2, PAI, and Millon Scales. Basic interpretation and report writing skills are taught for the objective personality assessment instruments. Biopsychosocial, cultural, ethnic, gender, and disability factors affecting assessment validity and interpretation are also examined.  
4 credits

*PSYCG 1527 Personality Assessment II: Projective Techniques*

This course provides the clinical psychology student with instruction and practice in the administration, scoring, and interpretation of the projective techniques including the Rorschach, TAT, and projective drawings. The course addresses relevant cultural, ethnic, gender, and disability factors in considering interpretation of results and in the development of integrative report writing.  
4 credits

*PSYCG 1530 Introduction to Psychotherapy*

From a historical basis, this course introduces the student to the various psychotherapeutic traditions. Treatment approaches examined include psychoanalytic, psychodynamic, Gestalt, behavioral, cognitive/behavioral, interpersonal, and others. Through both didactic and experiential means, the student will be exposed to the fundamental aspects of each treatment approach. Also reviewed is the current literature on empirically verified treatment approaches as well as issues related to culture,

ethnicity, gender, and disabilities.  
3 credits

*PSYCG 1550 Biological Bases of Behavior*

This course examines the historical and current understandings of the physical/neurological underpinnings of human behavior. Recent advances in imaging techniques are examined as they relate to our understanding of the structure and function of the neurological substrate in human functioning.  
3 credits

*PSYCG 1601 Advanced Professional Development and Ethics*

This course examines the role of the psychologist in divergent settings. Topics include ethics, standards of practice, models and techniques of supervision, practice development and management, documentation needs, record keeping, and information protection in light of the latest Department of Health and Human Services and Health Insurance Portability and Accountability regulations and liability management. Matriculating class of 2017 only.  
2 credits

*PSYCG 1565 Professional Writing*

Building upon concepts introduced in the Fundamentals of Graduate Level Writing and Fundamentals of APA Style classes, this course examines applications of writing style to a diverse array of professional documents, including empirical article reviews, psychotherapy documentation, and psychodiagnostic report writing.  
1 credit

*PSYCG 1570 Psychopathology: Child and Adolescent*

This course provides the student with a basic understanding of the major psychological disorders of childhood and adolescence. Topics include an examination of developmental disorders, impulse disorders, eating disorders, and disorders of behavior and affect. Theories on the etiology of the disorders are reviewed in the context of both diagnosis and treatment.  
3 credits

*PSYCG 1572 Psychopathology: Anxiety-Based and Personality Disorders*

This course reviews the theory and research underlying the anxiety-based and personality disorders. Topics include anxiety disorders, dissociative and somatoform disorders, personality disorders, impulse control disorders, and psychosexual disorders.  
3 credits

*PSYCG 1573 Psychopathology: Psychotic and Mood Disorders*

This course reviews the theory and research underlying the psychotic and mood disorders. Topics include symptoms and symptom presentations of schizophrenia, depressive and bipolar disorders, other psychotic disorders, cognitive disorders, and substance abuse and dependence. The importance of cultural, gender, ethnic, and disability factors will be discussed in relation to the psychiatric disorders.  
3 credits

*PSYCG 1581 Professional Development*

This lecture course is meant to prepare students for didactic and clinical experiences in the Program. The course will focus on graduate students' rights and responsibilities, professional behavior and expectations, difference between administrative and clinical supervision, and peer mentorship. This course will also introduce students to the Comprehensive Assessment Method in Psychology (CAMP), including profession-wide competencies in Clinical Psychology, and how they relate to field training experiences. (Previously Intro to Clerkship).  
1 credit

*PSYCG 1582 Clerkship I*

The clerkship is a supervised observational field experience, focusing on the development of clinical inquiry skills, assessment ability, knowledge of community resources, diversity issues, and consultation skills. The clerkship is a supervised experience that may take place at hospitals, clinics, human service agencies, schools, shelters, or faith based institutions. Students participating in the clerkship are under the direct supervision of a site supervisor and also receive feedback from faculty in the clinical psychology program.  
1 credit

*PSYCG 1583 Clerkship II*

This is a continuation of PSYCG 1582.  
1 credit

*PSYCG 1584 Clerkship III*

This is a continuation of PSYCG 1583.  
1 credit

Prerequisites: PSYCG 1583 Clerkship II and Approval of Program Director

*PSYCG 1610 Diversity in Clinical Psychology*

This course examines the impact of culture, race, ethnicity, gender, sexual orientation, disability and religion on theory and practice in clinical psychology. The course looks at the interaction between the clinician's own perceptions of culture and that of the patient. The impact of these issues is also discussed as it affects the delivery of psychological and psychiatric services. The societal impact due to differential

access to services is also examined along with possible solutions to this problem.  
3 credits

*PSYCG 1528 Advanced Assessment*

This course concentrates on the development of skills needed in the interpretation of test findings. Emphasis is placed on a synergistic understanding of the contributions of various test findings to the formulation of a valid diagnostic impression. Students are expected to continue development of skills in formulating diagnostic conclusions, clinical report writing, research report writing, and examination of differential diagnoses. Previously PSYCG 1620.  
3 credits

*PSYCG 1631 Cognitive Behavioral Approaches to Psychotherapy*

From the pioneering work of Beck and Ellis to the current theory and practice of such therapists as Meichenbaum and Freeman, this course examines the major paradigm shift in clinical psychology with the so-called "Cognitive Revolution." The course reviews the impact of cognitive behavioral therapy on the development of empirically verified treatment approaches. It also reviews the current research supporting the use of a cognitive behavioral approaches with certain diagnostic conditions and populations. Previously Cognitive Theories and Approaches to Psychotherapy.  
3 credits

*PSYCG 1632 Psychodynamic Approaches to Psychotherapy*

Beginning with the seminal work of Freud, this course examines the theory and technique in the psychodynamic psychotherapy. Classical and newer models, such as Self Psychology and Object Relations, are included. The work of Freud, Klein, Kernberg, and Kohut among others will be reviewed illustrating the rich and diverse approaches within the psychodynamic tradition.  
3 credits

*PSYCG 1635 Marriage and Family Counseling and Therapy*

Taking from family systems theory, this course examines the basic models, theories and assumptions underlying marriage and family therapy while considering the biopsychosocial perspective. Using case studies, films, and videotapes, the course examines fundamental techniques of both therapy and diagnostic evaluation such as the use and development of the genogram.  
3 credits

*PSYCG 1639 Integrated Behavioral Healthcare*

This course focuses on the skills needed to provide psychological services in primary care settings. Topics include consultation and collaboration with primary care physicians; improving patient adherence to medical treatment regimens;



flexibility of scheduling to match services to patients' identified needs; brief, focused assessment and intervention strategies; and health behaviors for lifestyle changes.  
3 credits

Prerequisites: PSYCG 1520 Clinical Appraisal and Interviewing I; PSYCG 1521 Clinical Appraisal and Interviewing II

*PSYCG 1640 Introduction to Neuropsychology*

This course reviews the major systems and structures of the brain and central nervous system. In addition to examining normal neurological functioning, the course discusses common impairments in cognition, language, and perception with a neurological base. Topics covered include neurological syndromes such as cerebral vascular accidents, head trauma and concomitant brain injury, seizure disorders, and various forms of dementia. A variety of neuropsychological assessment instruments will also be introduced.  
3 credits

*PSYCG 1649 Group Therapy*

This course includes the history and current models and theories of group therapy. Both didactic and experiential methods are used to introduce the student to different kinds of group interventions. The recommended uses of group interventions for different types of problems, settings, and age groups are included.  
3 credits

*PSYCG 1650 Psychopharmacology*

This course examines the development and use of pharmacological agents in the treatment of psychopathology. Further, the course examines the use of medication with empirically verified therapy approaches. All classes of psychopharmacological agents are reviewed including neuroleptics, anxiolytics, mood stabilizers, and antidepressants.  
3 credits

*PSYCG 1754 Social and Cultural Bases of Behavior*

This course examines the influence of socioeconomic and cultural influences on behavior. Normative and abnormal behavior is examined in the biopsychosocial context. Also covered is the assessment of individual behavior in new or unfamiliar sociocultural contexts. Previously PSYCG 1654.  
3 credits

*PSYCG 1655 History and Systems*

This course is a survey of the historical development of both experimental and clinical psychology. Major systems of psychology include sensory-perceptual psychology (Gestalt), Freudian, psychodynamic, behavioral, cognitive, social, family, humanistic, and existential psychology. Major theorists such as Freud, Adler, Jung, Maslow, Skinner, Piaget,

Beck, and Meichenbaum, are examined.  
3 credits

*PSYCG 1680 Research Seminar*

This course provides supervision for the student in the development and analysis of student-based research. The faculty advisor provides the student with direction in the formulation of the research question, research design, analysis, and write-up. Effectiveness and efficacy of various interventions are also reviewed.  
2 credits

*PSYCG 1682 Practicum I*

This course is designed to provide the practical experiences in psychodiagnostics and psychotherapeutics that are appropriate for the training of practitioners in the human services.  
3 credits

*PSYCG 1683 Practicum Seminar I*

In a four quarter sequence, students meet on campus to discuss training experiences and progress at their practicum training site during their first year of practicum training. Students receive feedback on cases with the goal of integrating theory with practice to supplement direct supervision received by site supervisors. Seminar discussion focuses on psycho-diagnostic formulation, case conceptualization, treatment processes, and review of peer cases. Administrative and organizational issues are discussed to develop a professional attitude and capacity for problem-solving.  
1 credit

*PSYCG 1684 Practicum II*

This is a continuation of PSYCG 1682.  
3 credits

*PSYCG 1685 Practicum Seminar II*

This is a continuation of PSYCG 1683.  
1 credit

*PSYCG 1686 Practicum III*

This is a continuation of PSYCG 1684.  
3 credits

*PSYCG 1687 Practicum Seminar III*

This is a continuation of PSYCG 1685.  
1 credit

*PSYCG 1688 Practicum IV*

This is a continuation of PSYCG 1686.  
3 credits

*PSYCG 1689 Practicum Seminar IV*

This is a continuation of PSYCG 1687.

1 credit

*PSYCG 1708 Mental Health Law*

This course provides an overview of the judicial/legal aspects as they pertain to the practice of psychology. Risk management considerations, forensic psychological issues, and other mental health law issues will be explored.

3 credits

*PSYCG 1711 Advanced Statistics*

This course focuses on clinical research with emphasis on research design and multivariate analysis. Particular attention is given to the application of research methodology, and psychometric issues regarding theory and practice.

3 credits

*PSYCG 1670 Advanced Psychotherapy Practice*

The course is designed to assist the student to develop a personal approach to psychotherapy practice, based upon their training in theoretical models and treatment, and their individual personality. The course focuses on using the students' theoretical model to conceptualize their clients and to provide appropriate treatment interventions within that theoretical model. Case management and ongoing evaluation are discussed. Previously PSYCG 1730.

3 credits

*PSYCG 1732 Supervision and Consultation Models & Practice*

This course focuses on supervision and consultation in psychology. Major models of supervision and consultation will be presented. Both didactic and experiential methods of instruction will be used to expose students to the implementation and practices of supervision and consultation.

3 credits

*PSYCG 1739 Issues in Substance Abuse*

This course presents major theories of etiology and treatment of substance abuse and dependence. Addictions to different classes of substances, intoxication and withdrawal effects, and methods of assessment, diagnosis, treatment, management, and relapse prevention will be discussed.

3 credits

*PSYCG 1602 Cognitive-Affective Bases of Behavior*

This course explores the role of thought and emotion in its influence on human behavior. Normative cognitive and affective processes are examined, including major theoretical perspectives, research findings, and controversies. Historic and current research is examined in support of various models as well as gender, cultural, ethnic, and disability

issues. Previously PSYCG 1560.

3 credits

*PSYCG 1653 Existential and Humanistic Theory and Therapy*

This course covers principles and techniques of Existential and Humanistic (E-H) models of therapy through an examination of the history, theoretical framework, and practical applications of E-H therapy with clientele. There will be a focus on Person-Centered Therapy, Contemporary Gestalt Therapy, Existential and Emotion-focused therapies, among others. This course includes both didactic and experiential approaches. Through video demonstrations, role-play, and structured exercises, students practice and further develop their intervention skills within an E-H framework. Previously Humanistic and Experiential Theory and Therapy (PSYCG 1753).

3 credits

*PSYCG 1671 Advanced Psychopathology*

This psychopathology course focuses on complex case studies to provide greater breadth and depth of knowledge in the areas of clinical theory, clinical research findings, comorbidity, and socio-cultural diversity. Special consideration is given to conceptualization of problems from diverse theoretical orientations and perspectives. The course will be taught through lecture, case study presentations, class discussion, readings, and class presentations. Class assignments will include proposals, papers, and presentations designed to mirror activities of practicing psychologists.

Previously PSYCG 1771.

2 credits

*PSYCG 1780 Dissertation Seminar I*

This course focuses on the development of the dissertation prior to the proposal defense. Students will meet regularly with their dissertation chair to make progress toward the completion of their dissertation proposals. Matriculating class of 2017 only.

1 credit

*PSYCG 1781 Dissertation Seminar II*

This course focuses on the development of the dissertation after the proposal defense. Students will meet with their dissertation chair on a regular basis to make progress toward data collection and analysis (for empirical projects). Students completing empirical projects will begin data collection during the quarter with the goal of starting data analysis by the start of the following quarter. Students completing non-empirical projects will work with their dissertation chair to ensure that significant progress is made. Matriculating class of 2017 only.

1 credit

*PSYCG 1782 Advanced Practicum I*

This practicum experience offers the opportunity to enhance the student's skills in a particular area of interest.

3 credits

*PSYCG 1783 Advanced Practicum Seminar I*

In a four-quarter sequence, students meet on campus to discuss training experiences and progress at their practicum training site during their second year of practicum training. Students receive feedback on cases with the goal of integrating theory with practice to supplement direct supervision received by site supervisors. Seminar discussion focuses on conceptualizing cases and treatment through peer case review. Administrative and organizational issues are also discussed to develop an effective professional attitude and capacity for pragmatic problem-solving.

1 credit

*PSYCG 1784 Advanced Practicum II*

This is a continuation of PSYCG 1782.

3 credits

*PSYCG 1785 Advanced Practicum Seminar II*

This is a continuation of PSYCG 1783.

1 credit

*PSYCG 1786 Advanced Practicum III*

This is a continuation of PSYCG 1784.

3 credits

*PSYCG 1787 Advanced Practicum Seminar III*

This is a continuation of PSYCG 1785.

1 credit

*PSYCG 1788 Advanced Practicum IV*

This is a continuation of PSYCG 1786.

3 credits

*PSYCG 1794, 1795, 1796, 1797, 1798, 1799 Dissertation*  
Successful graduation from the Program requires completion of a Dissertation, an essential component of a student's academic and clinical education. The Dissertation is intended as a doctoral level scholarly work that permits students to enhance their understanding about a particular clinical issue; its completion permits the Program to evaluate the student's ability to apply theory, research, and practice in the area of clinical psychology.

Each course 2-3 credits

Prerequisites: PSYCG 1680 Research Seminar and Approval of Program Director

*PSYCG 1800 Internship*

The internship is a 12-24 month commitment (2,000 hours) that is designed to provide an intensive clinical experience expanding upon the required didactic and the practicum experiences.

50 credits

*PSYCG 1811, 1812, 1813, 1814 Dissertation Continuation I, II, III, IV*

This course sequence is reserved for students on internship needing additional time for completion of the required Dissertation.

Per quarter 0.5 credits

*PSYCG 1820 Dissertation Advanced Continuation*

This course is reserved for students needing additional quarters beyond the internship year in the program to complete the required Dissertation.

1 credit

*PSYCG 1821 Internship Continuation*

This course is reserved for students requiring additional time to complete internship requirements beyond the fourth year in the program.

Per quarter 0.5 credits

## ELECTIVE COURSE DESCRIPTIONS

*PSYCG 1709 Forensic Psychology*

Building on basic information of the legal system and mental health law, students will gain a broad understanding of the ways in which psychologists interact with the legal system.

This may include assessment, evaluation, treatment, testimony, and consultation.

3 credits

*PSYCG 1712 Grief and Loss*

This course focuses on the concepts of grief and loss in psychology. Major issues as established by the Association for Death Education and Counseling (ADEC) will be covered including: Dying, End-of-Life Decision Making, Loss, Grief and Mourning, Assessment and Intervention, Traumatic Death and Death Education. Both didactic and experiential methods of instruction will be used to expose students to the vast body of knowledge covering this area.

3 credits

*PSYCG 1713 Psychology of Aging/Geropsychology*

The course examines the biopsychosocial factors in aging/geropsychology. Topics include history of aging studies, biological underpinnings of aging, psychological components of aging, as well as social aspects of aging. Cross-cultural, familial, and gender perspectives are included. The goal of this class is to provide an introduction to the

specialty field of geropsychology and to help students gain an understanding of both the conceptual and empirical foundations underlying the practice of clinical geropsychology in today's society.  
3 credits

*PSYCG 1715 Animal Assisted Psychotherapy*

Animal Assisted Psychotherapies (AAT), as well as their theoretical foundations, are reviewed in this course. Both canine assisted psychotherapy (CAP) and equine assisted psychotherapy (EAP) approaches will be addressed as well as brief discussions of AAT with other animals. There is an emphasis on developing skills in case analysis and treatment, with special attention to the development and processing of treatment activities.  
3 credits

*PSYCG 1721 Human Sexuality*

The purpose of this course is to provide the Clinical Psychology student with an introduction to human sexuality throughout the life-cycle. Sexual development and issues affecting individuals and couples will be examined and sexual dysfunctions will be reviewed along with treatment modalities for the most common disorders.  
3 credits

*PSYCG 1735 Practice Management Issues*

This course will introduce students to business principles as they apply to professional psychology. Students will be exposed to various business-of-practice issues and decisions, such as starting, managing, marketing, and diversifying a psychology practice, and will consider the related ethical, legal, and financial issues involved.  
3 credits

*PSYCG 1736 Behavioral Therapy*

Beginning with the work of the major learning theorists such as Pavlov, Hull, Thorndike, and Skinner the course examines the basic theories and techniques that underlie the behavioral therapy approach in clinical psychology. Using recent studies in empirical verification of therapeutic approaches, the course will review the use of specific behavioral interventions with such disorders as anxiety, behavior problems, phobia, and obsessive-compulsive disorder. Previously PSYCG 1636.  
3 credits

*PSYCG 1741 Health Psychology*

This course serves as a study of theory, research, and applications of health psychology including the psychological factors that influence physical health and illness and the application of behavioral principles to the prevention and treatment of illness and the promotion of health.  
3 credits

*PSYCG 1742 Advanced Health Psychology*

This course serves as a study of applications of health psychology including the psychological factors that influence physical health and illness and the application of specific behavioral principles to the prevention and treatment of illness and the promotion of health.  
3 credits

*PSYCG 1743 Introduction to Neuropsychological Assessment*

This course is for intermediate students in the neuropsychology concentration. This course provides an introduction to the assessment of brain-behavior relationships. A variety of neuropsychological tests will be introduced, covering the major cognitive domains in Human Neuropsychology, with an emphasis on the process by which such tests are interpreted, in light of all the data available, including historical, interview, observational, and test data.  
3 credits

*PSYCG 1744 Clinical Neuroanatomy*

The focus of this course is the gross anatomy of the human brain and spinal cord, and the functional organization of the central nervous system. The major neuroanatomic structures including the motor system, somatosensory system, cranial nerves, cerebellum, basal ganglia, limbic structures, ventricles, meninges, and the vascular supply of the brain will be discussed. The functionality of these systems as well as the consequences of damage to that system will be presented.  
3 credits

*PSYCG 1745 Advanced Neuropsychological Assessment*

This advanced assessment course will use a case conference format to explore advanced topics in neuropsychological assessment including a more comprehensive understanding of functional neuroanatomy and central nervous system functioning, treatment and assessment of diverse populations, clinical ethics, clinical interventions for neuropsychological conditions and other special topics. Emphasis is on exploration of special topics using a single case format with each student presenter responsible for helping to guide discussion for that week.  
3 credits

*PSYCG 1746 Clinical Neuroscience*

This course will cover the neuroscience basis for important aspects of behavior. Neurobiological, genetic, and neurochemical etiology of neurological and psychological disorders will be discussed. Students will gain a more comprehensive understanding of the fundamental mechanisms that underlie normal neurological functioning as well as diseases and disorder of the central nervous system.  
3 credits

*PSYCG 1747 Advanced Practicum Seminar  
Neuropsychological Track*

This is a supervised field experience for students in the neuropsychology track, designed to integrate field training with course content. It focuses on the development of clinical inquiry skills, knowledge of interventions, assessment ability, knowledge of community resources, diversity issues, and consultation skills with an emphasis on neuropsychological assessment. The practicum is a supervised experience that may take place at hospitals, clinics, human service agencies, schools, or appropriate organizations. Students are under the direct supervision of a site supervisor and receive feedback from faculty and advanced students in the Program.  
1 credit

*PSYCG 1748 Bullying and Interpersonal Violence*

Students will become aware of the causes of violence, the impact on victims of violence, and programmatic attempts to reduce violence. Students will explore current research regarding violence and learn prevention and treatment strategies.  
3 credits

*PSYCG 1749 Psychological Management of Chronic Pain*

This course presents major theories and techniques of chronic pain management from the psychological perspective. Varying pain disorders, co-occurring disorders, treatment and management modalities, special populations, and relapse prevention will be explored.  
3 credits

*PSYCG 1750 Stress Management, Relaxation and  
Hypnotherapy Techniques*

This course surveys stress management, relaxation and other techniques across theoretical orientations and philosophies that may be useful and effective in interventions to manage stress, reduce anxiety, and promote relaxation. Complementary and alternative medicine approaches, such as yoga and meditation, psychoneuroimmunology and its relationship to health, self-care skills, and health behavior change will be included.  
3 credits

*PSYCG 1752 Treatment of Traumatic Stress*

This course covers assessment and conceptualization of traumatic stress reactions and provides empirically-supported treatments to those affected by trauma. Readings and discussion focus on the physiological, cognitive, emotional, and behavioral impact of traumatic stress and provide instruction on the application of treatment techniques, such as relaxation training, biofeedback and exposure-based interventions. Students are exposed to principles of psychological first aid to trauma victims and early

intervention in crisis situations. Course examines the cultural context in which trauma occurs.  
3 credits

*PSYCG 1760 Advanced Child Therapy*

This course provides exposure, practice, and research on therapeutic orientation and techniques with children and adolescents. Focus will be on how to incorporate developmental models into conceptualization, treatment planning, and treatment outcome, and on current evidence-based counseling and intervention methods. Additional areas of focus will include discussion about ethical issues in treatment with minors, involving family/caregivers/school-based systems, accessing community supports, and the impact of diversity on the child's functioning and treatment.  
3 credits

*PSYCG 1770 Adjunctive Intervention Modalities*

This course will assist students in expanding approaches to psychotherapy practice through the incorporation of adjunctive forms of intervention. The course builds upon the students' pre-existing theoretical models for conceptualization and intervention, addressing empirical support for creative therapeutic techniques. Within the context of clinical, developmental, and cultural considerations, various adjunctive interventions will be discussed, including art therapy, play therapy, music therapy, and animal-assisted therapy.  
3 credits

*PSYCG 1775, 1776, 1777 Advanced Independent Study*

This course permits the student to pursue individualized study in a relevant area of clinical psychology under the direct supervision of program faculty. A study plan is developed in consultation with program faculty and with the approval of the Program Director.  
Each course 1-3 credits

*PSYCG 1778 Directed Readings in Clinical Psychology*

This course permits extensive exploration of an approved topic in clinical psychology. With the consultation of a program faculty member, a reading list is developed around a relevant issue. The readings focus on the interchange between theory, research, diversity issues, and clinical practice.  
3 credits

*PSYCG 1882, 1884, 1886, 1888 Advanced Elective  
Practicum I, II, III, IV*

This elective practicum experience offers the opportunity to enhance the student's skills in a particular area of interest.  
Each course 3 credits

*PSYCG 1883, 1885, 1887 Advanced Elective Practicum Seminar I, II, III*

As a part of a four-quarter sequence, students meet on campus to discuss their training experiences and progress at their practicum training site placement during their third year of practicum training. Students receive feedback on cases with the primary goal of integrating theory with practice to supplement direct supervision received by site supervisors. Seminar discussion focuses on conceptualizing cases and treatment through peer review of cases. Administrative and organizational issues are also discussed to develop an effective professional attitude and capacity for pragmatic problem-solving.

Each course 1 credit

## FACULTY

**Ruchi Bhargava, Ph.D.**

Gallaudet University  
Director of Clinical Training and Associate Professor

**Angela M. Breitmeyer, Psy.D.**

Arizona School of Professional Psychology  
Associate Professor

**Bhupin Butaney, Ph.D.**

St. Johns University  
Associate Director of Clinical Education and Associate Professor

**Jared Chamberlain, Ph.D.**

University of Nevada, Reno  
Program Director and Associate Professor

**Melissa Flint, Psy.D.**

Arizona School of Professional Psychology  
Internship Coordinator and Associate Professor

**Adam Fried, Ph.D.**

Fordham University  
Assistant Professor

**Kate Jansen, Ph.D.**

University of Toledo  
Assistant Professor

**Jessica J. Powell, Psy.D.**

Pacific University  
Assistant Professor

**Thomas B. Virden III, Ph.D.**

Western Michigan University  
Professor

**Penny Zaddack, Psy.D.**

Midwestern University  
Assistant Clinical Professor, Clinical Faculty

# PHYSICAL THERAPY PROGRAM

## MISSION

The Midwestern University Physical Therapy Program will use the highest educational and professional standards to prepare physical therapists who can provide quality physical therapy services to a diverse population across all levels of the healthcare continuum.

Expected outcomes for the Program emphasize strengthening Program-community relationships by providing continuing professional development opportunities for practicing physical therapists, encouraging expertise in clinical practice, and enhancing the awareness and knowledge of the physical therapy profession among diverse communities.

## ACCREDITATION

The Physical Therapy Program at Midwestern University, Glendale, Arizona is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, VA 22314; telephone: 703/706-3245; email: [accreditation@apta.org](mailto:accreditation@apta.org); website: <http://www.capteonline.org>. If needing to contact the program/institution directly, please call 623/572-3920 or email [azpt@midwestern.edu](mailto:azpt@midwestern.edu).

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413; 800/621-7440.

## DEGREE DESCRIPTION

Midwestern University's Physical Therapy Program offers a course of study leading to the Doctor of Physical Therapy (D.P.T.) degree for qualified students. The full-time, continuous, 36-month, entry-level Doctor of Physical Therapy curriculum is designed to deliver the academic and clinical education required to prepare students for their professional role as key members of the healthcare team and as an integral part of the healthcare delivery system. The general education, professional training, experience, and personal character development of physical therapists uniquely prepare them to coordinate care related to functional improvement and functional ability. The clinical phase of the program provides the students with necessary hands-on experience to develop the knowledge, skills and attitudes essential to practice physical therapy in a variety of

settings. All students will be required to travel for clinical education experiences. The focus of the professional clinical doctorate degree program is to prepare entry-level practitioners to provide physical therapy services in large, small, traditional, and nontraditional community and institutional practice settings that require independent judgment, leadership, and autonomous practice. The Program also provides the foundation for graduates to identify and contribute to effecting solutions to the major, emergent health issues of our society and to contribute to the academic and clinical education of future practitioners. The graduate will be prepared to make valuable, ongoing contributions to society, healthcare, and the profession through leadership activities and collaborative efforts with others in physical therapy and interprofessional education, practice, and research.

### Time Limit for Completion of Coursework

The Doctor of Physical Therapy Program is a continuous, full-time program for 36 months. The maximum allotted time for completion of the doctorate program is 54 months.

### Program Goals and Expected Outcomes

Based on its mission, the Physical Therapy Program has developed goals for students, graduates, faculty members, and the Program.

1. Students and graduates will be competent in providing physical therapy services to a diverse population across all levels of the healthcare continuum.
  - » Graduates will pass the National Physical Therapy Examination.
  - » Students and graduates will actively engage in interprofessional collaborative practice.
  - » Students and graduates will be engaged in community outreach programs.
  - » Students and graduates will be engaged in health promotion, prevention, or wellness activities.
2. Students and graduates will demonstrate professionalism, independent judgment, clinical problem solving, and leadership.
  - » Students and graduates will demonstrate professional behavior.
  - » Students and graduates will utilize evidence-based practice by critically applying scientific research and

- other forms of best evidence to improve their practice.
- » Graduates will assume leadership roles in the community or profession.
  - » Graduates will assume leadership roles in the clinical setting.
  - » Graduates will be members of the American Physical Therapy Association.
3. Graduates will have the ability to contribute to didactic and clinical education of future practitioners and to the body of knowledge in the profession.
    - » Graduates will become clinical educators.
    - » Graduates will publish in professional magazines or journals or give presentations at local, state, or national meetings.
    - » Graduates will participate in post-professional continuing education programs.
    - » Graduates will participate in residency and/or fellowship programs, and obtain ABPTS specialist certification.
  4. Faculty members will provide high-quality teaching and professional standards, scholarship, and service to the University, community and profession.
    - » Faculty will provide high-quality teaching.
    - » Faculty will disseminate scholarly products.
    - » Faculty will provide service to the University, community and profession.

## ADMISSIONS

The College of Health Sciences Physical Therapy Program uses a holistic admissions process for students who possess the academic and professional promise necessary for development as competent, caring members of the healthcare community. The Doctor of Physical Therapy Program is open on a competitive admissions basis to applicants having bachelor's degrees in any field but who have not completed an accredited physical therapy program. To select these candidates, a competitive admissions framework has been established. Within this competitive admissions framework, multiple criteria are used to select the most qualified candidates from an applicant pool that exceeds the number of seats available. The Physical Therapy Program uses the Centralized Application Service for Physical Therapy Schools (PTCAS). The Physical Therapy Program Admissions Committee reviews completed applications throughout the admissions cycle to determine the applicant's eligibility for an interview. Interviews are typically conducted during the fall and winter. Admission decisions are generally made by the end of January.

### Admission Requirements

Students seeking admission to the Physical Therapy Program must submit the following documented evidence:

1. Completion of a bachelor's degree from a regionally accredited college or university.
2. Minimum cumulative grade point average (GPA) of 3.0 and a minimum science GPA of 2.9 on a 4.0 scale.
3. Completion of prerequisite courses totaling 46 semester/66 quarter credits as listed below from a regionally accredited college or university.
  - Grades of C or better (grades of C- are NOT acceptable) in each course.
4. Graduate Record Examination (GRE) general test scores using the Midwestern University institution code of 4160.
  - The test must have been taken no more than five years prior to the planned enrollment year.
  - For more information about the GRE, contact Educational Testing Services (ETS) at 609/771-7670 or 1-866-473-4373 or visit [www.gre.org](http://www.gre.org)
5. Demonstration of a people or service orientation through community service or extracurricular activities.
6. Motivation for and commitment to healthcare as demonstrated by previous work, volunteer work, or other life experiences.
7. Oral and written communication skills necessary to interact with patients and colleagues.
8. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
9. Passage of the Midwestern University criminal background check.
10. Provision of additional documentation needed to meet specific Program requirements.
11. It is required that applicants complete a minimum of 60 hours of observation in a physical therapy clinic in at least two practice environments.



## Prerequisite Courses

	Sem. Hrs.	Qtr. Hrs.
<i>Science Courses:</i>		
Biology with lab	4	6
Vertebrate Anatomy with lab	3	4
Physiology	3	4
General Chemistry with lab	4	6
General Physics with lab	8	12
<i>General Courses:</i>		
Math (college algebra or above)	3	4
Statistics (should include inferential statistics)	3	4
English—must include at least one composition course (oral communication/public speaking recommended)	9	13
Social & Behavioral Sciences (including at least one psychology course)	9	13

## Application Process and Deadlines

To be considered for admission to the Physical Therapy Program, applicants must submit the following to Northwestern University Office of Admissions.

1. **PTCAS Application**  
Applicants are required to submit their applications to PTCAS at <http://www.ptcas.org> by December 15th. Please refer to the PTCAS application instructions for specific details about completing the application, required documents, and processing time. The PTCAS application should be available for applicants during the summer months. Due to the large number of applications and the limited number of seats available, applicants are strongly encouraged to complete their PTCAS application by December 15th. The Northwestern University Physical Therapy Program reviews completed applications throughout the admissions cycle.
2. **GRE scores**  
Applicants are required to submit official GRE general test scores directly to Northwestern University. The MWU institutional code for submitting scores is 4160. Only test scores earned during the previous five years and sent directly from the Educational Testing Service (ETS) will be accepted. The Office of Admissions must receive official GRE scores no later than January 15th.
3. **Completed Applications**  
The Office of Admissions will send letters verifying

receipt of PTCAS applications with all required materials to all applicants who meet the minimum cumulative GPA requirement of 3.0. The letters will also include instructions on checking the status of the required application materials online. Applicants are responsible for tracking the receipt of their application materials and ensuring the submission of all required documents. Only applicants who submit completed applications with all required application materials by January 15th will be considered for potential entrance into the Program.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or email address. All application withdrawal requests must be made in writing via e-mail, fax, or letter to:

Office of Admissions  
Northwestern University  
19955 N. 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
[admissaz@northwestern.edu](mailto:admissaz@northwestern.edu)

## Interview and Selection Process

When applicants are considered eligible for interviews after review of their completed admissions files, they are notified of available interview dates and invited by the Office of Admissions to schedule an on-campus interview. A typical interview day involves participation in the following activities, which are coordinated by the Office of Admissions: an interview with at least two interviewers, lunch with current Northwestern University students, a campus tour, and an opportunity to meet with an admissions counselor and a representative from the financial aid office. During interview sessions, the interviewer questions applicants about their academic, personal, and professional aspirations and preparedness for admission to the Program. Each interviewer rates prospective students on a standardized evaluation form. These evaluations are included in the applicant files provided to the Physical Therapy Admissions Committee. The Physical Therapy Admissions Committee meets after each interview panel to review the files of applicants who have been interviewed. The Committee reviews the full application files for interviewed applicants and then formulates and submits recommendations to the Dean for final approval. The Dean, via the Office of Admissions, notifies applicants in writing of admission decisions.

## Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses. The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete physical examination of a patient/client.
2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to move at least 50 pounds vertically and horizontally.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head/neck exams, including intra- and extra-oral examinations. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical

Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

#### **Reapplication Process**

Students who receive either denial or end-of-cycle letters may reapply for the following year's admissions cycle. Before reapplying, individuals contemplating reapplication should seek the advice of an admissions counselor.

To initiate the reapplication process, prospective students must complete and submit new applications and proceed through the standard application process.

#### **Transfer Process**

The Physical Therapy Program does not accept transfer students.

## **EVALUATION OF STUDENT PERFORMANCE**

Students in the Doctor of Physical Therapy Program are formally evaluated at appropriate intervals during the curriculum to assess and document satisfactory achievement of learning objectives and prescribed competencies. These evaluations occur on a regular basis at scheduled times during each course. Depending on the learning and competency outcomes objectives, these evaluations are designed to assess the level of knowledge, problem solving skills, psychomotor and clinical competencies and behavioral performances of students during each course and/or clinical experience. Students are graded on a numerical/alphabetical system using a standard grading scale, which is published in the College of Health Sciences section of the Midwestern University catalog. Students will be required to participate in competency-based evaluations at various intervals throughout their curriculum.

Evaluation of clinical skills occurs throughout various stages of the curriculum and includes progressive assessments performed in academic courses using simulated situations and patients. Evaluations of student performance during the

clinical experiences will be formal and will use established criteria developed by physical therapy clinical and academic educators.

## GRADUATION REQUIREMENTS

To qualify for the degree Doctor of Physical Therapy (D.P.T.), students must:

1. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75.
2. Satisfactorily complete the required minimum of 170.5 quarter credit hours in the curriculum.
3. Receive a favorable recommendation for doctoral degree conferral from the Physical Therapy Academic Review Committee and the CHS Student Promotion and Graduation Committee.
4. Receive a favorable recommendation for doctoral degree conferral from the University Faculty Senate.
5. Settle all financial accounts with the institution.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## LICENSURE REQUIREMENTS

After graduating from an accredited physical therapist education program, a student must pass a national examination and meet licensure requirements of the state in which he or she wishes to practice. Graduation and degree conferral do not guarantee passing the national examination or passing the licensure requirements of the state.

Midwestern University's Doctor of Physical Therapy program meets the educational requirements for licensure to practice as an physical therapist in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

## CURRICULUM

The Physical Therapy Program reserves the right to alter the curriculum whenever it deems appropriate. This catalog does not establish a contractual relationship between Midwestern University and the student.

Total credits first year: 62.5  
 Total credits second year: 58  
 Total credits third year: 50  
 Total for program completion: 170.5

The Class of 2021 and 2022 will utilize the curriculum listed in the academic year 2019-20 catalog.

### First Professional Year:

Total Quarter Credit Hours Required: 62.5

#### Summer Quarter

ANATG	1551	Human Anatomy and Embryology (with Gross Anatomy Lab)	7
PTHEG	1505	Introduction to Pharmacology and Medical Imaging	2
PTHEG	1506	Patient Management I	2
PTHEG	1511	Introduction to the Profession of Physical Therapy	3

**Total** 14

#### Fall Quarter

COREG	1560K	Interprofessional Healthcare	0.5
PHYSG	1574	Human Physiology I	4
PTHEG	1519	Pathophysiology I	3
PTHEG	1574	Physical Therapy Evaluation	3
PTHEG	1580	Kinesiology/Biomechanics I	4

**Total** 14.5

#### Winter Quarter

COREG	1570K	Interprofessional Healthcare	0.5
PHYSG	1585	Human Physiology II	4
PTHEG	1541	Neuromuscular Rehabilitation I	6
PTHEG	1556	Patient Management II	3
PTHEG	1581	Kinesiology/Biomechanics II	4

**Total** 17.5

#### Spring Quarter

COREG	1580K	Interprofessional Healthcare	0.5
PTHEG	1531	Evidence-Based Practice I	3
PTHEG	1542	Neuromuscular Rehabilitation II	5
PTHEG	1561	Musculoskeletal Rehabilitation I	5
PTHEG	1592	Acute Care Rehabilitation	3

**Total** 16.5

**Second Professional Year:**

Total Quarter Credit Hours Required: 58

**Summer Quarter**

PTHEG 1620 Integrated Clinical Experience I (1/2 of the class) 0.5

PTHEG 1619 Pathophysiology II 3

PTHEG 1640 Biopsychosocial Issues 3

PTHEG 1652 Physical Therapy Roles and Professional Issues 4

PTHEG 1661 Musculoskeletal Rehabilitation II 5

**Total** 15/15.5

**Fall Quarter**

PTHEG 1620 Integrated Clinical Experience I (1/2 of the class) 0.5

PTHEG 1626 Exercise Science & Health Promotion 3

PTHEG 1636 Physical Agents 3

PTHEG 1642 Pediatric Rehabilitation 4

PTHEG 1649 Management and Reimbursement in Healthcare Systems 3

**Total** 13/13.5

**Winter Quarter**

PTHEG 1621 Integrated Clinical Experience II (1/2 of the class) 0.5

PTHEG 1606 Cardiopulmonary Rehabilitation 5

PTHEG 1662 Orthotics 2

PTHEG 1663 Musculoskeletal Rehabilitation III 4

PTHEG 1682 Geriatric Rehabilitation 4

**Total** 15/15.5

**Spring Quarter**

PTHEG 1621 Integrated Clinical Experience II (1/2 of the class) 0.5

PTHEG 1610 Clinical Competency I 4

PTHEG 1632 Clinical Conditions and Differential Screening 4

PTHEG 1664 Prosthetics 3

PTHEG 1678 Administration in Healthcare Systems 3

**Total** 14/14.5

**Third Professional Year:**

Total Quarter Credit Hours Required: 50

**Summer Quarter**

PTHEG 1710 Clinical Competency II 3

PTHEG 1743 Neuromuscular Rehabilitation III 5

PTHEG 1772 Integumentary Rehabilitation 4

**Total** 12

**Fall Quarter**

PTHEG 1795 Clinical Experience I 12

**Total** 12

**Winter Quarter**

PTHEG 1798 Clinical Experience II 12

**Total** 12

**Spring Quarter**

PTHEG 1733 Evidence-Based Practice II 2

PTHEG 1799 Clinical Experience III 12

**Total** 14

**CORE COURSE DESCRIPTIONS**

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed for a course description, it is implied that there is no prerequisite.

*ANATG 1551 Human Anatomy and Embryology (with Gross Anatomy Lab)*

This course presents the anatomy of the human body and relevant embryological development in a lecture and laboratory format. The emphasis is on the relationship of form and function and the use of anatomy in physical diagnosis. Laboratory sessions include dissection of human cadavers. Student progress is evaluated through written and practical examination.  
7 credits

*COREG 1560K, 1570K, 1580K Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine.

The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.  
Each course 0.5 credits

#### *PHYSG 1574 Human Physiology I*

In this two-quarter series, students are introduced through didactic instruction and clinical case sessions to the basic physiologic principles that underline the normal function of the various organs and organ systems. These core principles provide the foundation through which the student develops an understanding of health in physiologic terms and appreciation of diverse regulatory processes that maintain the homeostasis of the human body.

4 credits

#### *PHYSG 1585 Human Physiology II*

In this two-quarter series, students are introduced through didactic instruction and clinical case sessions to the basic physiologic principles that underline the normal function of the various organs and organ systems. These core principles provide the foundation through which the student develops an understanding of health in physiologic terms and appreciation of diverse regulatory processes that maintain the homeostasis of the human body.

4 credits

#### *PTHEG 1505 Introduction to Pharmacology and Medical Imaging*

This course will introduce students to pharmacological intervention in patient-client management. It will provide categories of drugs affecting individual body systems and basic information on pharmacokinetics and pharmacodynamics. Drug effects on the body as they relate to exercise and drug interactions will be discussed. Students will also learn various forms of medical imaging and relate their use to the neuromuscular system. Examples include plain film radiography, MRI, CT scan, PET scan, and diagnostic ultrasound.

2 credits

#### *PTHEG 1506 Patient Management I*

Students will learn the fundamental principles and skills for patient care with emphasis on safety and patient mobility. Topics include: universal precautions and blood-borne pathogens, hand hygiene, body mechanics, draping, and patient positioning. Other topics include selection, adjustment, and prescription of assistive and adaptive devices;

patient mobilization techniques; and basic wheelchair skills including sizing, parts management, and propulsion.  
2 credits

#### *PTHEG 1511 Introduction to the Profession of Physical Therapy*

This course explores professionalism in physical therapy practice. Students will gain knowledge about their professional responsibilities for clinical practice, attributes of a profession, professional association positions and policies, principles of ethics, ethical codes, benefits of professional association membership, and professional development. Students will explore the role of the healthcare professional in education and learn goal setting, writing behavioral objectives and determining instructional strategies. This course will be delivered using lecture, discussion, and small group learning, as well as structured projects.

3 credits

#### *PTHEG 1519 Pathophysiology I*

This course provides foundational material on the concepts of pain, injury, the inflammatory response and tissue healing. Students are also introduced to the pathophysiology, epidemiology, clinical signs and symptoms, prognosis, and medical management of both acquired and hereditary conditions and disorders relevant to physical therapist practice. Diagnostic imaging, laboratory values, and pharmaceutical management will also be presented. Implications for physical therapy management and decision making will be discussed.

3 credits

#### *PTHEG 1531 Evidence-Based Practice I*

This course is designed to provide students with foundational knowledge and skills needed to provide evidence-based patient care. This course covers study design, formulation of research questions and hypotheses, types of data, sampling methodology, statistics, measurement, variables, and interpretation of research findings. An introduction to the five steps of the evidence-based practice process is presented in this course.

3 credits

#### *PTHEG 1541 Neuromuscular Rehabilitation I*

This course addresses the neuroscience of the human nervous system with emphasis on neuroanatomy, physiology and pathological conditions. Students will learn physical therapy examination techniques at the body structures and functions level of the International Classification of Functioning framework. This course will also address basic medical management (diagnostic process and pharmacologic management) and clinical manifestations of peripheral and central nervous system disorders.

6 credits

*PTHEG 1542 Neuromuscular Rehabilitation II*

This course presents clinical decision making conceptual frameworks to guide the evaluation and management of patients with neurologic conditions. Pathology, medical and pharmacologic management and physical therapy evaluation of patients with stroke and Parkinson's Disease will be presented. Movement analysis strategies and motor learning principles will be applied to assess and evaluate movement system dysfunction. Outcome measures will be applied to the examination with an emphasis on activity and participation level assessment. Intervention strategies to address impairments will be discussed and applied in this course.  
5 credits

*PTHEG 1556 Patient Management II*

Therapeutic exercise prescription is a fundamental skill in physical therapist practice. This course will provide students with foundations and techniques associated with exercise prescription to improve flexibility, range of motion, endurance, and strength. Exercises specific to each body region and common conditions will be covered.  
3 credits

*PTHEG 1561 Musculoskeletal Rehabilitation I*

Building on the principles of evaluation including all elements of the International Classification of Functioning Disability and Health (ICF) and Patient-Client Management introduced in PTHEG 1574, this course introduces students to evidenced-based evaluation methods for pathologies of the cervical and thoracic spine and upper extremity. Pharmacological and non-pharmacological medical management of upper quadrant musculoskeletal disorders will be covered. Students will continue to refine their ability to perform a subjective examination, propose a hypothesis and conduct a physical examination of persons with musculoskeletal disorders of the upper quadrant.  
5 credits

*PTHEG 1574 Physical Therapy Evaluation*

This course introduces students to the International Classification of Functioning (ICF) framework and theoretical frameworks for clinical problem solving and hypothesis development. Students will learn the patient/client management model with emphasis on history taking, screening for all body systems, and identification of red flags requiring referral. Physical therapy documentation and medical terminology, abbreviations, and symbols will be covered.  
3 credits

*PTHEG 1580 Kinesiology/Biomechanics I*

Physical therapists must understand the biomechanics of normal movement and the pathomechanics of the musculoskeletal system in order to prevent, evaluate, and

recommend appropriate intervention for patients with movement dysfunction. Course content includes biomechanical principles and the structure and function of the upper quadrant joints. Students will assess the static posture and movement patterns of all joints in the upper quadrant, measure range of motion at each of the joints and test the strength of the muscles surrounding the joint.  
4 credits

*PTHEG 1581 Kinesiology/Biomechanics II*

This course is a continuation of Kinesiology/Biomechanics I. Students will apply biomechanical principles to the structure and function of joints of the lower quadrant. The biomechanical principles of gait and posture will be presented, and students will learn to identify normal and abnormal posture and gait. Students will assess the static posture and movement patterns of all joints in the lower quadrant and will measure range of motion at each of the joints and test the strength of the muscles surrounding the joint.  
4 credits

*PTHEG 1592 Acute Care Rehabilitation*

Students will learn concepts and skills for managing patients in an acute care environment. Topics include: special considerations for examination, evaluation, plan of care development, discharge planning, and documentation. Students will learn and apply information related to transmission based precautions, medical lines and support equipment, lab values, and acute care pharmacology. Patient mobilization strategies and techniques will be applied to patients in the acute care setting. Basic concepts related to managing patients in the ICU and Emergency Department will also be covered.  
3 credits

*PTHEG 1606 Cardiopulmonary Rehabilitation*

This course provides students with knowledge and skills to evaluate, treat, and complete documentation regarding individuals with cardiopulmonary disorders and co-morbidities. Application of cardiopulmonary pathology and pathophysiology, pharmacotherapeutics and other medical management of the cardiopulmonary system is emphasized. Exercise prescription for those with cardiac, vascular, and pulmonary disorders and co-morbidities as well as indications for physical therapy is discussed. Emphasis will also be placed on the development of clinical decision-making and problem-solving skills and students will integrate this information to formulate individualized plans for management of patients with cardiac, vascular, or pulmonary disorders and co-morbidities.  
5 credits

### *PTHEG 1610 Clinical Competency I*

Clinical Competency I is designed to prepare students for examination, assessment, and treatment of complex patients. This course will build upon foundational knowledge and clinical experiences for further development of clinical reasoning. An emphasis is placed on clinical decision making related to physical therapy management of a patient with multi-system involvement. Student skills in communication, time management, documentation, self-assessment, and interprofessional collaborative practice will also be emphasized.

4 credits

### *PTHEG 1619 Pathophysiology II*

This course is a continuation of Pathophysiology I. Students continue learning the pathophysiology, epidemiology, clinical signs and symptoms, prognosis, and medical management of both acquired and hereditary conditions and disorders relevant to physical therapist practice. Diagnostic imaging, laboratory values, and pharmaceutical management will also be presented. Implications for physical therapy management and decision making will be discussed.

3 credits

### *PTHEG 1620 Integrated Clinical Experience I (1/2 of the class)*

This is the first of two integrated clinical experiences. Upon completion of all coursework through spring quarter of the first professional year, students participate in integrated part-time, supervised clinical practice. Students are provided the opportunity to apply select components of the patient/client management model, and professional practice expectations to patients/clients in the outpatient clinic under the direct supervision of a licensed physical therapist. Minimum GPA requirements apply.

0.5 credits

### *PTHEG 1621 Integrated Clinical Experience II (1/2 of the class)*

This is the second of two integrated clinical experiences. Upon completion of all coursework through fall quarter of the second professional year, students participate in integrated part-time, supervised clinical practice. Students are provided the opportunity to apply more advanced components of the patient/client management model, and professional practice expectations to patients/clients in the outpatient clinic under the direct supervision of a licensed physical therapist. Minimum GPA requirements apply.

0.5 credits

### *PTHEG 1626 Exercise Science & Health Promotion*

Physical therapists have a role in the prevention of disease and promotion of health and wellness for individuals and communities. In this course students will learn principles of

clinical exercise testing and prescription with emphasis on aerobic fitness. This course will build on principles of strength and flexibility from PTHEG 1556 Patient Management II. Material will be applied to healthy individuals with special considerations and chronic disease and to communities. This class will also include basic principles of nutrition as they relate to health promotion and wellness.

3 credits

### *PTHEG 1632 Clinical Conditions and Differential Screening*

This course provides a comprehensive overview of the pathophysiology, epidemiology and clinical signs and symptoms associated with disorders of the various body systems and the musculoskeletal pathologies that manifest from them. The implications for physical therapy, medical management and pharmaceutical interventions of these disorders will be discussed. Students will apply clinical reasoning and the latest research and evidence to differentiate disorders that originate within the neuro-musculoskeletal system, in addition to screening for serious pathology.

4 credits

### *PTHEG 1636 Physical Agents*

This course addresses theoretical principles of underlying physiological changes that occur in response to the application of thermal, mechanical, electromagnetic, and electrotherapeutic agents. Students will learn the clinical indications for each physical agent. Students will develop skills in effective application, will study the normal and abnormal responses of tissue following application, and be able to identify any precautions and contraindications.

3 credits

### *PTHEG 1640 Biopsychosocial Issues*

This course fosters self-reflection via journaling, and prepares students to recognize and respond with sensitivity to the biopsychosocial needs of patients, families, and others during professional interactions. Students will learn about psychological and psychiatric conditions that may impact patient management, and participate in integrated community and/or clinical experiences in a variety of settings for improved patient communication and cultural competence.

3 credits

### *PTHEG 1642 Pediatric Rehabilitation*

This course introduces principles of physical therapy practice applied to the pediatric population. Students will learn clinical decision-making skills for the examination/evaluation process. The course also consists of evidence-based intervention strategies, including how to evaluate and implement use of adaptive equipment and orthotic devices.

Students will learn about the practice of pediatric physical therapy in a variety of settings, such as the neonatal intensive care unit, educational settings, acute care, home care and outpatient clinics.

4 credits

*PTHEG 1649 Management and Reimbursement in Healthcare Systems*

This course will develop the knowledge and skills required for patient/client management within the various healthcare reimbursement systems. Payment models will be analyzed for their impact on patient services, interprofessional care delivery, organizational operations, major stakeholders, and relationship to legal and ethical decision making. Topics of outcome based quality improvement/assurance processes, risk management, coding, and case/utilization management are highlighted. Leadership and professional development is emphasized.

3 credits

*PTHEG 1652 Physical Therapy Roles and Professional Issues*

This course explores a variety of professional issues highlighting the five roles of the physical therapist and the principles and structure of the healthcare delivery system. Relevant issues in physical therapy practice and health policy are discussed, analyzed, and debated. Concepts of access, cost, and quality in addition to healthcare regulation, legislative processes, and third party payer concepts are explored. Privacy, consent, and discrimination laws as well as ethical principles will be applied to professional scenarios.

4 credits

*PTHEG 1661 Musculoskeletal Rehabilitation II*

Building on the principles of evaluation including all elements of the International Classification of Functioning (ICF) and the Patient-Client Management model introduced in PTHEG 1574 Physical Therapy Evaluation, this course introduces students to evidenced-based evaluation methods for pathologies of the lumbar spine, pelvis and lower extremities. Pharmacological and non-pharmacological medical management of lower quadrant musculoskeletal disorders will be covered. Students will continue to refine their ability to perform a subjective examination, propose a hypothesis and conduct a physical examination of persons with musculoskeletal disorders of the lower quadrant.

5 credits

*PTHEG 1662 Orthotics*

This course introduces students to the use of orthoses for the upper extremity, lower extremity, and spine. Students will recognize impairments, functional activity limitations, and participation restrictions that may be improved with an orthosis. Description of how orthotics are fabricated and used to improve function as a result of impairment will be

presented. Course material will address components of orthotics, materials used in fabrication of orthotics, design, fitting, alignment, prescription, and training as related to therapy patient management.

2 credits

*PTHEG 1663 Musculoskeletal Rehabilitation III*

Students will use evidence-based treatment approaches to guide clinical decision making for patients with complex musculoskeletal conditions. Students will learn advanced intervention techniques such as high velocity, low amplitude thrust manipulation; soft tissue and neural tissue mobilizations; aquatic therapy; and ergonomics. Students will apply knowledge of musculoskeletal rehabilitation to special patient populations such as: individuals who are pregnant or have pelvic dysfunction. Examination of cadaver pro-sections will be utilized to enhance student's knowledge and understanding of related pathologies.

4 credits

*PTHEG 1664 Prosthetics*

This course introduces students to the use of upper and lower extremity prosthetics. Students will recognize impairments, functional activity limitations, and participation restrictions that may be improved with a prosthetic device. Components, materials, design, fitting, alignment, prescription, training, and total patient management are discussed. Emphasis is placed on lower extremity prostheses, development of basic analytical and psychomotor skills for evaluating prosthetic components, environments, and patient activities to enhance function.

3 credits

*PTHEG 1678 Administration in Healthcare Systems*

Today's healthcare environment requires the business acumen to plan, organize, and manage human, technical, environmental, and financial resources effectively and efficiently. Students will have the opportunity to perform community needs analyses, and create a business proposal for a pro-bono service, new rehabilitation service line, or business. Employment and contract law, organizational management, feasibility studies and strategic planning, marketing, consulting, and business ethics will be explored. Students will participate in a mentored resume development and career planning session.

3 credits

*PTHEG 1682 Geriatric Rehabilitation*

This course will focus on physical therapy management of well and medically complex older adults incorporating evidence-based practice and knowledge of lifespan development into clinical decision making. Emphasis is placed on the selection of screening, examination, and outcome measurement tools, determination of medical



necessity and prognosis, case management, and plan of care development. Additional emphasis is placed on health promotion and safety, differentiating normal and abnormal aging, interprofessional communication, and the selection, progression, and modification of interventions.

4 credits

#### *PTHEG 1710 Clinical Competency II*

Clinical Competency II is the second of two courses assessing student readiness for full-time clinical education experiences. This course reinforces and enhances advanced clinical decision-making skills for more complex patients. Student knowledge and skills in patient management, safety, professional behavior, communication, clinical reasoning, and documentation are evaluated through simulated patient encounters and a comprehensive examination.

3 credits

#### *PTHEG 1733 Evidence-Based Practice II*

Students will select a patient case from one of the full-time clinical education experiences, and create a written case report and professional presentation based on the patient case. This assignment will illustrate the student's application of the evidence-based practice process for an individual patient. This project will demonstrate the student's ability to ask relevant clinical questions; identify and appraise the existing literature; integrate the literature with the patient's circumstances, preferences, and values; evaluate the result; and disseminate the information in a professional manner.

2 credits

#### *PTHEG 1743 Neuromuscular Rehabilitation III*

This course presents an interdisciplinary framework for the management of patients with neurologic conditions, with analysis of the roles of other health care providers. Interdisciplinary examination, management and care settings will be discussed. Examination of the environment and the wheelchair evaluation will be presented. Pathology, medical management and physical therapy management for individuals with multiple sclerosis, spinal cord injury, acquired brain injury, vestibular dysfunction, cerebellar dysfunction, psychogenic disorders and other acquired neurological conditions will be addressed.

5 credits

#### *PTHEG 1772 Integumentary Rehabilitation*

This course will focus on physical therapy examination of and intervention for the integumentary system. Pathophysiology of integumentary diseases/conditions and lymphedema as well as evidence-based applications for safe and effective use of biophysical agents, wound dressings, and topical agents will be addressed. Emphasis will be placed on the development of clinical decision making and problem-solving skills and students will integrate this information to

formulate individualized plans for management of patients with lymphedema and acute and chronic integumentary conditions.

4 credits

#### *PTHEG 1795 Clinical Experience I*

This is the first in a series of three full-time clinical experiences. Students participate in twelve weeks of full-time, supervised clinical practice in the clinical environment. Students perform patient examination, evaluation and interpretation of examination results, determine a physical therapy diagnosis and prognosis, design and safely implement a plan of care, and evaluate patient outcomes. Students will also practice a variety of skills critical to professionalism and professional development. Minimum GPA requirements apply.

12 credits

#### *PTHEG 1798 Clinical Experience II*

This is the second in a series of three full-time clinical experiences. Students participate in twelve weeks of full-time, supervised clinical practice to refine patient/client management skills and professional behaviors assigned to a different clinical site, clinical instructor, and/or patient population. Students continue to apply the process of clinical problem solving in the evaluation and treatment of patients/clients, display appropriate professional attitudes and behaviors, and effectively integrate current research into the clinical decision making process to further improve clinical skills. Minimum GPA requirements apply.

12 credits

#### *PTHEG 1799 Clinical Experience III*

This is the third in a series of three full-time clinical experiences. Students participate in twelve weeks of full-time, supervised clinical practice to refine patient/client management skills and professional behaviors assigned to a different clinical site, clinical instructor, and/or practice setting from the first two experiences. Students continue to apply the process of clinical problem solving in the evaluation and treatment of patients/clients, display appropriate professional attitudes and behaviors, and effectively integrate current research into the clinical decision making process to achieve entry-level clinical practice. Minimum GPA requirements apply.

12 credits

## ELECTIVE COURSE DESCRIPTION

### *PTHEG 1301 Research Elective I*

In this elective course, students have the opportunity to assist physical therapy faculty with research projects pertaining to the faculty member's research agenda. Students obtain individual faculty member approval to assist with research prior to enrollment in this course.

1 credit

### *PTHEG 1302 Research Elective II*

Students who have successfully completed PTHE 1301 Research Elective I may have the opportunity to continue working on a research project with a physical therapy faculty member. Students obtain individual faculty member approval to assist with research prior to enrollment in this course.

1 credit

### *PTHEG 1304 Companion Animal Rehabilitation*

This course is designed to provide students an introduction to companion animal rehabilitation. An overview of basic comparative anatomy will be reviewed, as well as commonly used therapeutic interventions for orthopedic and neurological conditions seen in companion animals. Collaboration between the veterinary and physical therapy professions will be emphasized to enhance the learning experience. Regulatory issues involved in this field of practice from the perspective of physical therapists and veterinarians will be discussed.

2 credits

### *PTHEG 1305 Hand Therapy*

This course is designed to facilitate additional didactic and laboratory experiences related to hand therapy practice. Students will be exposed to advanced concepts in pathology, imaging, examination, differential diagnosis, and intervention that will expand their knowledge and skills in this specialty area of practice. Content will be supported by current, best evidence, and students will apply concepts of evidence-based practice to areas of patient-client management. Lecture material will be supported by lab and case discussions.

1 credit

### *PTHEG 1306 Vestibular Rehabilitation*

This elective will expand on vestibular concepts covered in PTHEG 1541/1542 Neuromuscular Rehabilitation I & II. Topics will include assessment, differential diagnosis, and treatment approaches for vestibular disorders, including peripheral hypofunction, bilateral vestibular loss, benign paroxysmal positional vertigo, vestibular migraines, persistent postural perceptual dizziness, and Meniere's disease.

2 credits

### *PTHEG 1307 Interprofessional Collaborative Practice in Rehabilitation*

This elective course is designed to facilitate advancement of acute care skills and the development of interprofessional collaborative practice strategies in various care settings. Emphasis will be placed on interprofessional management of patients with complex medical conditions including collaborative practice surrounding examination, evaluation, treatment strategies and clinical decision making. Acute care topics including: pathology, pharmacology, lab values, medical/surgical equipment and environmental factors as well as patient handling techniques and reimbursement considerations will be applied and integrated into clinical decision making.

1 credit

### *PTHEG 1308 Applying the Modern Science of Pain to Practice*

In this course students will be exposed to advanced concepts in pain theory, pain mechanisms, psychologically-informed practice, and science-informed application of PT intervention that will expand their knowledge and skills in this area of practice. Content will include current, best evidence, and students will apply concepts of evidence-based practice to areas of patient-client management.

2 credits

### *PTHEG 1310 Independent Study*

This course is designed to facilitate additional didactic or clinical endeavors related to a specific component of physical therapy theory and/or practice. Course content, assignments and learning outcomes are developed in collaboration with the faculty mentor and the student. The Program Director must approve the plan. Course credit is variable depending on the scope of work to be accomplished.

1-6 credits

## STUDENT ACADEMIC POLICIES

### *Academic Progress*

The academic standing of a student is determined by the student's cumulative grade point average. To progress to the next quarter, a student must satisfactorily complete all didactic courses and academic requirements for the preceding quarter.

## FACULTY

**Patrice Ayala, PT, DPT, GCS**

A.T. Still University  
Assistant Director of Clinical Education and Assistant  
Professor

**Debbie Bierwas, PT, D.P.T., DHSc**

A.T. Still University  
Director of Clinical Education and Associate Professor

**Megan Eikenberry, PT, D.P.T., NCS**

Bellarmine University  
Assistant Professor

**Mia Erickson, PT, EdD, CHT, ATC**

West Virginia University  
Assistant Director and Professor

**Mallory Kargela, PT, DPT**

Grand Valley State University  
Assistant Professor

**Robert Nithman, PT, Ph.D., D.P.T., GCS**

Duquesne University  
Associate Professor

**Suzanne O'Neal, PT, D.P.T., NCS**

Northern Arizona University  
Assistant Professor

**Byron E. Russell, PT, Ph.D.**

Texas Woman's University  
Director and Associate Professor

**Kylie Scott, PT, DPT, OCS, CMPT**

Northern Arizona University  
Assistant Professor

**Judy Woehrle, PT, Ph.D., OCS**

St. Louis University  
Professor

# SPEECH-LANGUAGE PATHOLOGY PROGRAM

## MISSION

The Midwestern University Speech-Language Pathology Program's mission is to prepare compassionate students to be effective clinicians who are reflective, responsive, collaborative, and committed to being lifelong learners and critical consumers of evidence.

## VISION

The Midwestern University Speech-Language Pathology program works collaboratively in a health-oriented university to integrate academic teaching and diverse clinical experiences to develop effective clinicians through:

- Interprofessional practice
- Innovative technology experiences
- Clinical simulation opportunities
- Culturally and linguistically diverse clinical experiences
- Scholarly activity
- Individualized, intentional mentorship
- Comprehensive and dynamic instruction
- Clinical, academic, and community partnership

## ACCREDITATION

The Master of Science (M.S.) education program in Speech-Language Pathology (SLP) at Midwestern University (MWU) is accredited by the Council of Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071 or 301-296-5700.

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Speech-Language Pathology Program provides academic and clinical experiences that culminate in the Master of Science (M.S.) in Speech-Language Pathology degree. The curriculum is designed to prepare students for a professional role as a speech-language pathologist (SLP). Graduates of this

program will be poised to assume positions as entry-level clinicians as part of a healthcare or educational team. The Speech-Language Pathology degree program is a continuous, full-time program of study that spans seven quarters, or 21 months from admission to graduation. The maximum allotted time for completion of the program is 3 years.

The Speech-Language Pathology Program offers a balanced curriculum to prepare future SLPs to work with both children and adults with communication and swallowing disorders. Course elements are designed to imbue students with the knowledge base pertinent to the field, while simultaneously fostering the critical thinking, problem solving, and self-confidence that contributes to effective independent clinical practice. Students will develop empathy and compassion, which are hallmark traits of a master clinician.

The Speech-Language Pathology Program curriculum incorporates academic, research, and clinical experiences. The curriculum includes basic science and research coursework, in addition to courses that focus on specific communication disorders. Each student will explore the evidence base of speech-language pathology and related professions, and will apply knowledge gained to clinical practices. All students will learn about basic research methods within the discipline, and can elect to complete research that culminates in a master's thesis. Students may alternatively elect to pursue a capstone non-thesis track. Students will engage in clinical practica at the Midwestern University Speech-Language Institute, local schools and healthcare facilities. Each student will complete two advanced practica of at least 10 weeks duration. These involve full-time work in an educational facility, hospital or clinic. Students will gain clinical experiences with a wide variety of clients with communication and swallowing impairment.

The Speech-Language Pathology Program is designed to prepare entry-level speech-language pathologists. Graduates will be able to demonstrate evidence of all knowledge and skill requirements to begin a Clinical Fellowship Year (CFY). At the completion of the CFY, graduates will be eligible to apply for the Certificate of Clinical Competence from the American Speech-Language-Hearing Association. Students will also be eligible to apply for state licensure through the

Arizona Department of Health Services, Office of Special Licensing, or other state licensing agency.

### Program Objectives

The Master of Science in Speech-Language Pathology Program seeks to:

1. Foster a humanistic learning environment for students;
2. Foster a holistic and compassionate approach to patient care;
3. Graduate competent speech-language pathologists who possess the levels of clinical judgment, understanding, empathy, technical skills, and independence to begin professional practice;
4. Instill a philosophy of lifelong learning in speech-language pathology students;
5. Promote research and scholarly activity among the faculty and students;
6. Develop a clinical practice in the Midwestern University Speech-Language Institute that provides a broad range of evidence-based experiences for speech-language pathology students;
7. Contribute to the overall growth and academic excellence of Midwestern University by supporting its Mission and Vision.

## ADMISSIONS

The College of Health Sciences Speech-Language Pathology Program considers admission of those applicants who demonstrate academic and clinical aptitude coupled with professionalism. The program admits only full-time students. A competitive admissions framework is implemented to select program candidates. Each file is evaluated by a faculty committee using a specific program rubric that assesses academic ability, writing, pre-clinical experiences, and a variety of other factors.

The Midwestern University Speech-Language Pathology Program uses the Communication Sciences and Disorders Centralized Application Service (CSDCAS) for students applying to the program. Applicants should submit all materials by March 1 in order to be considered (<http://www.capsd.org/csdcas>). Please refer to the CSDCAS website for instructions on submission of application materials.

The Speech-Language Pathology Program operates on a rolling admissions cycle. Completed applications are reviewed throughout the cycle to determine applicant eligibility for interviews. Interviews are typically conducted during the winter and spring quarters. Admissions decisions are generally made within one month of the interview until the class is filled.

### Admission Requirements

Individuals applying for admission to the College of Health Sciences Speech-Language Pathology Program must submit documentation of the following minimum requirements before the academic year commences for the incoming class:

1. Completion of a baccalaureate degree from a regionally-accredited institution in Communication Sciences and Disorders, inclusive of the courses listed below, or
2. Completion of a baccalaureate degree from a regionally-accredited institution in an area other than Communication Sciences and Disorders with completion of prerequisite coursework in the following areas:

Prerequisites	Semester Hours	Quarter Hours
Anatomy and Physiology of Communication Mechanisms	3	4
Phonetics	3	4
Speech-Language Development	3	4
Speech and/or Hearing Science	3	4
Statistics	3	4
Biological Sciences	3	4
Physics or Chemistry	3	4
Social Sciences	3	4

3. Minimum undergraduate cumulative grade point average (CGPA) of 3.0 on a 4.0 scale; and minimum major grade point average (MGPA; all speech-language pathology coursework) of 3.0 on a 4.0 scale. Grades of C- are not acceptable for the prerequisite courses listed above.
4. Oral and written communication skills necessary to interact with patients and colleagues.
5. Scores on the general and writing sections of the Graduate Record Examination (GRE) using the Midwestern University institution code of 4160.
  - The test must have been taken within five years of planned enrollment year.
  - For more information about the GRE contact Educational Testing Services

- (ETS) at 866/473-4373 or visit [www.ets.org/gre](http://www.ets.org/gre)
6. Two letters of recommendation from individuals who can comment on academic, clinical, and professional experiences of the applicant.
  7. A completed CSDCAS application.
  8. An interview with faculty (invitation only).
  9. During the on-campus interview day, write an essay given a clinical writing prompt (for interview candidates only).
  10. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
  11. Passage of the Midwestern University criminal background check.

### **Application Process and Deadlines**

To be considered for admission to the Speech-Language Pathology Program, applicants must submit the following to the Office of Admissions:

1. **CSDCAS Application**  
Applicants are required to submit their applications to CSDCAS at <http://www.capsd.org/csdcas> by March 1. Please refer to the CSDCAS application instructions for specific details about completing the application, required documents, and processing time. Due to the large number of applications and the limited number of seats available, applicants are encouraged to complete their CSDCAS application early in the cycle. An advantage of a centralized application service is that students can monitor the status of their applications online.
2. **Letters of Recommendation**  
Applicants are required to submit a minimum of two letters of recommendation to CSDCAS(<http://www.capsd.org/csdcas>). The Office of Admissions will accept only letters of recommendation received via CSDCAS. Letters should be contributed from professors, speech-language pathologists, or other professionals with whom the applicant has interacted. They should address academic, clinical and professional qualities that will contribute to the applicant's readiness for graduate study. Please refer to the CSDCAS application instructions for specific guidelines and requirements for submitting letters of recommendation.
3. **GRE Scores**  
Applicants are required to submit official GRE general test and writing scores directly to Midwestern University. The MWU institutional code for submitting scores is 4160. Only scores earned within five years of the planned enrollment year, and sent directly from the Educational Testing Service (ETS), will be accepted.

### 4. **Completed Applications**

The Office of Admissions will send a letter verifying receipt of completed CSDCAS application to applicants who meet the minimum cumulative GPA requirement of 3.00. The letters will include instructions for checking the status of the required application materials online. Applicants are responsible for tracking the receipt of their application materials and ensuring the submission of all required documents. Only applicants who submit complete application packages will be considered for potential entrance into the Program.

*Please note:* Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or email address. All application withdrawal requests must be made in writing via e-mail, fax, or letter to:

Midwestern University  
Office of Admissions  
19555 N. 59th Ave.  
Glendale, AZ 85308  
Phone: 623/572-3275  
Fax: 623/572-3229  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

### **Interview and Selection Process**

When applicants are considered eligible for interviews after review of their completed files they will be notified of available interview dates and invited by the Office of Admissions to schedule an on-campus interview. A typical interview day involves participation in the following activities coordinated by the Office of Admissions: an interview with two program faculty, lunch with current Midwestern University students, a campus tour, and consultation with a counselor from the Office of Admissions.

During interview sessions, program faculty will engage students in conversation regarding topics relevant to educational or healthcare settings. Students will also be asked to provide a writing sample in response to a clinical prompt. Interview and writing sample responses will be evaluated using rubrics established for this purpose. Prospective student's application, interviews, and writing samples are evaluated using rubrics that were developed by the SLP Program. The Speech-Language Pathology Admissions Committee makes admission recommendations to the Program Director. The Dean, via the Office of Admissions, notifies each applicant in writing of the admission action/decision.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive and interpret nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt, completion of all responsibilities and the development of mature, sensitive, and effective relationships. Candidates must be able to tolerate physically, mentally, and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head/neck exams, including intra- and extra-oral examinations. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to certify that they understand and meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services

to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

Students who receive denial or end-of-cycle letters may reapply for the following year's admissions cycle. Before reapplying, however, individuals contemplating reapplication should seek the advice of an admissions counselor or the SLP Program Director. To initiate the reapplication process, prospective students must complete and submit a new application and proceed through the standard application process.

## **TRANSFER POLICY**

The Speech-Language Pathology Program does not accept students seeking to transfer credit from another speech-language pathology master's program. These students may apply for admission to the SLP Program, but will be required to complete all program requirements at Midwestern University.

## **EVALUATION OF STUDENT PERFORMANCE**

Students in the Speech-Language Pathology Program will be evaluated based upon academic and clinical performance at regular intervals during each quarter of study and throughout their program. Both formative and summative assessment techniques will be applied. Summative assessment will include traditional grades, written feedback for individual assignments, and final course grades at the end of a term or practicum experience. Formative assessment will include regular evaluation of student performance relative to learning objectives that reflect entry-level knowledge and skills as outlined by the Council for Clinical Certification in Audiology and Speech-Language Pathology (CFCC), an independent affiliate of the American Speech-Language-Hearing Association (ASHA). The use of both summative and formative assessments across academic and clinical curricula will ensure student learning and preparation to enter the field of speech-language pathology.

## GRADUATION REQUIREMENTS

To qualify for graduation with the Master of Science in Speech-Language Pathology degree (M.S.), students must:

1. Satisfactorily complete all courses with a minimum cumulative GPA of 3.0;
2. Satisfactorily complete the required minimum number of 111.5-112.5 credit hours in the curriculum;
3. Pass the Comprehensive Examination with a minimum score of 70%;
4. Receive a favorable recommendation for master's degree conferral from the Speech-Language Pathology Academic Review Committee and the CHS Student Promotion and Graduation Committee;
5. Receive a favorable recommendation for master's degree conferral from the University Faculty Senate;
6. Settle all financial accounts with the University; and
7. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## LICENSURE REQUIREMENTS

Speech-language pathologists must hold a master's or doctoral degree to be eligible for certification, licensure, and practice as a speech-language pathologist. National certification is obtained through the Council for Clinical Certification in Audiology and Speech-Language Pathology (CFCC) of the American Speech-Language Hearing Association (ASHA), which establishes the standards for certification. The CFCC awards the Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP), a nationally recognized professional credential.

Requirements for the CCC-SLP include earning a Master's degree from a program accredited by the Council on Academic Accreditation. In addition to coursework and practicum requirements, standards for the CCC-SLP include passing the Praxis II® Exam in Speech-Language Pathology and completing the equivalent of 36 weeks (full time) of professional experience (the "Clinical Fellowship") post graduation. The Praxis II® Exam is administered by the Educational Testing Service (ETS).

Midwestern University Master's Degree in Speech-Language Pathology is designed to meet the educational requirements to become a licensed speech language pathologist in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas,

Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

The MWU Glendale SLP program has not made a determination that its Master of Science Program curriculum meets the territorial educational requirements for licensure or certification in the following territories: Puerto Rico and U.S. Virgin Islands.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

Speech-language pathologists must be licensed to practice in Arizona pursuant to the requirements of the Arizona Practice Act, Chapter 17, Articles 1-4, Sections 36-1901 through 36-1940. Passing the Praxis II® Exam is a requirement for licensure in most states, including Arizona.

The Arizona Department of Education requires that speech-language pathologists working in the public schools obtain the Speech-Language Pathologist Pre-K through 12 Certificate. This credential is necessary to work in Arizona public schools. The requirements for this certification include a master's degree in SLP, at least 250 hours of supervised clinical practice by an SLP-CCC, and a passing score on the Praxis II® Exam in Speech-Language Pathology.

## CURRICULUM

The professional master's curriculum is composed of 51.5 to 52.5 required course credits (quarter hours) for the first academic year, 60 required course credits for the second academic year for a total of 111.5 to 112.5 quarter credits. Clinical practica are scheduled in the second, third, fourth, and fifth quarters of the curriculum. Advanced practica, or full-time placements in healthcare or educational settings, are secured for the last two quarters of the program.

The Midwestern University College of Health Sciences Speech-Language Pathology Program reserves the right to alter its curriculum. This catalog does not establish a contractual relationship between Midwestern University and individual students.

### First Professional Year

Total Credit Hours Required	51.5-52.5
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### Fall Quarter

COREG	1560M	Interprofessional Healthcare	0.5
SLPPG	501	Neurological Bases of Communication Disorders	3
SLPPG	502	Research Methods in Communication Sciences and Disorders	4



SLPPG	507	One Health for SLPs	1	SLPPG	631	Augmentative and Alternative Communication	3
SLPPG	508	Culture and Communication	1	SLPPG	633	Language, Literacy and Learning	4
SLPPG	520	Disorders of Articulation and Phonology	3	SLPPG	654	Clinical Practicum III	3
SLPPG	540	Diagnostic Assessment and Treatment Planning	4	SLPPG	606	Capstone II	1
<b>Total</b>			<b>16.5</b>			OR	
<b>Winter Quarter</b>				SLPPG	613	Thesis III	1
COREG	1570M	Interprofessional Healthcare	0.5	<b>Total</b>			<b>18</b>
SLPPG	511	Thesis I	2	<b>Fall Quarter</b>			
		Thesis track only		SLPPG	604	Professional Issues and Ethics in Speech-Language Pathology	2
SLPPG	503	Evidence-Based Practice in Communication Sciences and Disorders	2	SLPPG	610	Professional Practice in Healthcare Settings	1
SLPPG	521	Child Language Assessment	4	SLPPG	623	Communication Disorders in Autism	3
SLPPG	525	Dysphagia	4	SLPPG	630	Fluency Disorders	3
SLPPG	526	Aphasia	4	SLPPG	632	Advanced Practices in Dysphagia	4
SLPPG	550	Clinical Practicum I	3	SLPPG	656	Clinical Practicum IV	3
<b>Total</b>			<b>17.5 - 19.5</b>	SLPPG	607	Capstone III	1
<b>Spring Quarter</b>						OR	
COREG	1580M	Interprofessional Healthcare	0.5	SLPPG	614	Thesis IV	1
SLPPG	522	Child Language Intervention	4	<b>Total</b>			<b>17</b>
SLPPG	527	Neurological Disease and Injury	4	<b>Winter Quarter</b>			
SLPPG	529	Voice and Resonance Disorders	4	SLPPG	660	Advanced Practicum in Speech-Language Pathology: Education Setting	12
SLPPG	552	Clinical Practicum II	3			OR	
SLPPG	505	Capstone I	2	SLPPG	662	Advanced Practicum in Speech-Language Pathology: Medical/Healthcare Facility	12
		OR		SLPPG	699	Praxis II® Examination Review	1
SLPPG	512	Thesis II	1	<b>Total</b>			<b>13</b>
<b>Total</b>			<b>16.5 - 17.5</b>	<b>Spring Quarter</b>			
<b>Second Professional Year</b>				SLPPG	660	Advanced Practicum in Speech-Language Pathology: Education Setting	12
Total Credit Hours Required			60			OR	
<b>Summer Quarter</b>							
SLPPG	609	Professional Practice in School Settings	1				
SLPPG	624	Aural Rehabilitation	3				
SLPPG	628	Motor Speech Disorders	3				

SLPPG 662	Advanced Practicum in Speech-Language Pathology: Medical/Healthcare Facility	12
<b>Total</b>		<b>12</b>

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *COREG 1560M, 1570M, 1580M Interprofessional Healthcare*

The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated. Each course 0.5 credits

### *SLPPG 501 Neurological Bases of Communication Disorders*

This course covers the neurological and physiological bases of normal and disordered communication. Embryological development of the central nervous system, and neuroanatomy and neurophysiology of the motor and sensory systems, including vision and audition are covered. Brain dissection laboratory experiences enhance mastery of neurological concepts introduced in the course. The course integrates basic neuroanatomy with cognitive neuroscience through assigned readings, lectures, and laboratory experiences. 3 credits

### *SLPPG 502 Research Methods in Communication Sciences and Disorders*

This course introduces students to research methods, including basic research concepts, common research designs, and methods of data analysis commonly used in the field of speech-language pathology. Students will learn to critically read and evaluate research manuscripts. 4 credits

### *SLPPG 503 Evidence-Based Practice in Communication Sciences and Disorders*

In this course, students will gain experience critiquing professional literature relevant to clinical and/or research

practices. They will complete a literature review on a topic of interest and use it to inform evidence-based, clinical decisions. 2 credits

### *SLPPG 505 Capstone I*

This course is required for any student not electing the thesis track. It includes independent study with the guidance of a mentor, and 2-4 lecture hours that will support cohort-level needs across Capstone Projects. Students will critically appraise evidence-based practices that are clinically relevant to the scope of practice in speech-language pathology, identify an area of need, and develop methods to address the need. At final, students will have developed a proposal that summarizes their critical appraisals, identifies a project aim, and details proposed methods for accomplishing this aim. 2 credits

Prerequisites: SLPPG 502 Research Methods in Communication Sciences and Disorders; SLPPG 503 Evidence-Based Practice in Communication Sciences and Disorders

### *SLPPG 507 One Health for SLPs*

Today's healthcare practitioners' work together to evaluate and treat patients with complex disorders. This course will address the basics of interdisciplinary practice in educational and healthcare settings. Students will evaluate the efficacy of collaborative practice, and will explore the impact of interspecies research upon the treatment of people with communication and swallowing disorders. 1 credit

### *SLPPG 508 Culture and Communication*

Communication is shaped within a cultural context. Children understand and produce the language system to which they are exposed, and many learn multiple languages simultaneously. People routinely find themselves in the position of needing to learn a non-native language. This course will address the challenges of multilingualism or second language learning, and will review best practices in assessing and treating individuals who do not use English as their primary language. 1 credit

### *SLPPG 511 Thesis I*

This course is required by all students electing the thesis track. It involves one hour of class attendance in which thesis students will work together to develop their research questions and methods and one hour of independent study. Students will work with the Program Director to secure a Thesis Chair and two other faculty members to comprise their thesis committee. Students will meet with their Thesis Chair to devise an original research project, timeline, and budget. Completion of a literature review, rationale for

research, and research plan is expected this term.  
2 credits

Prerequisites: SLPPG 502 Research Methods in  
Communication Sciences and Disorders

#### *SLPPG 512 Thesis II*

This course is for all students on the thesis track. It involves two hours per week of independent study with the Thesis Chair. Students will submit a research proposal to the Internal Review Board at Midwestern University, begin data collection, set up a data management system, and report on their progress at the end of the quarter.

1 credit

Prerequisites: SLPPG 511 Thesis I

#### *SLPPG 520 Disorders of Articulation and Phonology*

This course covers speech disorders of developmental or linguistic origin. Students will learn to assess and treat articulation and phonological impairment. Highlights include collecting and analyzing comprehensive speech samples, administering standardized tests, and planning therapeutic interventions specific to individual cases.

3 credits

#### *SLPPG 521 Child Language Assessment*

This course provides students with the knowledge and skills to assess children with language disorders. These include, but are not limited to an overview of diagnostic models; formal and informal assessment procedures; interpretation of results; professional presentation of assessment findings to families or other professionals; and report writing.

4 credits

#### *SLPPG 522 Child Language Intervention*

This course provides students with the knowledge and skills to plan and execute treatment for children with language impairment. Types of child language disorders as well as intervention techniques, both theoretical and applied are covered. Emphasis on collaboration with families and other professionals is emphasized.

4 credits

Prerequisites: SLPPG 521 Child Language Assessment

#### *SLPPG 525 Dysphagia*

This course reviews the anatomy and physiology of swallowing, and disorders that impact this vital function in children and adults. Etiologies of swallowing disorders, as well as their evaluation and management will be addressed. Students will appreciate the concomitant conditions that typically accompany dysphagia and learn to prioritize treatment objectives. Ethical considerations in swallowing intervention will also be incorporated.

4 credits

Prerequisites: SLPPG 501 Neurological Bases of  
Communication Disorders

#### *SLPPG 526 Aphasia*

This course examines communication disorders that result from acquired conditions, such as left hemisphere strokes or other acquired brain pathologies resulting in aphasia. Etiologies of these conditions, including neurological correlates for presenting symptoms, will be reviewed. Assessment and intervention models will be discussed, with attention to the cognitive, linguistic, and social aspects of resulting communication disorders.

4 credits

Prerequisites: SLPPG 501 Neurological Bases of  
Communication Disorders

#### *SLPPG 527 Neurological Disease and Injury*

The course examines theoretical aspects and clinical management of cognitive and communicative impairments with emphasis on right hemisphere disorder, traumatic brain injury, dementia, and other degenerative neurological conditions. Etiologies of these conditions, including neurological correlates for presenting symptoms, will be reviewed. Assessment and intervention models will be discussed, with attention to the cognitive aspects of resulting communication disorders.

4 credits

Prerequisites: SLPPG 501 Neurological Bases of  
Communication Disorders; SLPPG 526 Aphasia

#### *SLPPG 529 Voice and Resonance Disorders*

This course teaches evaluative and therapeutic aspects of voice and resonance disorders. Students examine the anatomical and physiological correlates of phonation and oral/nasal resonance. Embryology of the vocal mechanism is reviewed, including nasal, oropharyngeal, laryngeal, and pulmonary regions. Assessment and intervention of a variety of common voice/resonance disorders will be covered, including cleft lip/palate, vocal fold hyperfunction, and therapies associated with a variety of neurogenic communication disorders.

4 credits

#### *SLPPG 540 Diagnostic Assessment and Treatment Planning*

This course prepares the student clinician to conduct diagnostic evaluations of patients with communication disorders and plan their care. Principles of clinical interviewing, formal and informal test selection and administration, interpretation of psychometric data and behavioral observations, and adaptations for cultural and linguistic differences will be addressed. Students will learn the basics of clinical writing, including preparation of diagnostic reports, treatment plans, and progress reports. The use of

electronic health records systems will be introduced.  
4 credits

*SLPPG 550 Clinical Practicum I*

This is the first supervised speech-language pathology practicum experience in the Speech-Language Institute or other community-based site. Working with a clinical educator who is a licensed speech-language pathologist, student clinicians will plan and conduct assessment and intervention sessions for clients with communication disorders. First clinical experiences are targeted toward assessment and treatment of individuals with articulation, phonology, or language disorders. Students also attend clinical forums to address issues relative to management of clinical cases.

3 credits

*SLPPG 552 Clinical Practicum II*

This is the second supervised speech-language pathology practicum experience at the Speech-Language Institute or other community-based site. Working with a faculty member who is a licensed speech-language pathologist, student clinicians will plan and conduct assessment and intervention sessions for clients with communication and/or swallowing disorders. Clinical experiences may include assessment and treatment of disorders of articulation, language, fluency, voice, cognition, or dysphagia. Students also attend clinical forums to address issues relative to management of clinical cases.

3 credits

Prerequisites: SLPPG 550 Clinical Practicum I

*SLPPG 604 Professional Issues and Ethics in Speech-Language Pathology*

This course focuses on the scope of practice for the speech-language pathology profession. Students will explore expectations for professional behavior based upon standards of practice and the ASHA Code of Ethics. Ethical dilemmas will be debated in preparation for a variety of clinical experiences. Procedures for obtaining the ASHA Certificate of Clinical Competence, state licensure, and school certification will be reviewed.

2 credits

*SLPPG 606 Capstone II*

This course is required all capstone-track students. Course credit hours are primarily comprised of independent study work, completed with the guidance of a capstone mentor, and are supplemented by 1-2 lecture hours that will emphasize support/troubleshooting for project execution. By the end of the term students will have completed the proposed project methods and presented these to an audience of their peers.

1 credit

Prerequisites: SLPPG 505 Capstone I OR Thesis I

*SLPPG 607 Capstone III*

This course is required for all capstone students. Coursework is primarily comprised of independent study and supplemented by 1-2 lecture hours during which students work collaboratively to develop and write their final manuscripts and plan dissemination of project outcomes. By the end of the term students will submit a final manuscript and disseminate project findings to a relevant audience.

1 credit

Prerequisites: SLPPG 505 Capstone I; SLPPG 606 Capstone II OR Thesis II

*SLPPG 609 Professional Practice in School Settings*

Over half of all speech-language pathologist practice in school settings. This course will review issues relative to school-based service delivery, including special education law, disability designations, and how students are referred for speech-language services. Development of individualized educational plans (IEPs) and treatment planning for children and adolescents with communication issues will be addressed, in addition to issues such as caseload size, scheduling, effective therapy models for the school setting, and Medicaid billing. Collaborative practice with school psychologists, teachers, special educators, and school healthcare workers will be discussed. Counseling for children and their families will also be covered.

1 credit

*SLPPG 610 Professional Practice in Healthcare Settings*

Nearly half all speech-language pathologists work in healthcare settings, including hospitals, skilled nursing facilities, and private clinics. This course will review issues relative to healthcare service delivery, including the basics of healthcare law, and healthcare delivery for patients with communication and swallowing impairment. Students will learn about common instrumentation and medical terminology. Coding, billing and reimbursement for services by Medicare and other third party payer sources will be reviewed. Counseling patients and their family members will also be addressed, in addition to tips for interprofessional practice.

1 credit

*SLPPG 613 Thesis III*

This course is for all students on the thesis track. It involves five hours of class attendance in which students will learn data management and data analysis techniques. One hour of independent study with the Thesis Chair is also incorporated into this thesis experience. Completion of data collection is expected this term. Additionally, students are expected to write a draft the third chapter of the manuscript.

1 credit

Prerequisites: SLPPG 512 Thesis II

*SLPPG 614 Thesis IV*

This course is required of all students completing a master's thesis. It involves one hour per week of independent study with the Thesis Chair. Completion of data analysis and a draft of the final two chapters of a five chapter manuscript is expected.

1 credit

Prerequisites: SLPPG 613 Thesis III

*SLPPG 623 Communication Disorders in Autism*

This course provides insight into the world of autism, including description of the various autism spectrum disorders and examination of etiological theories and controversies. Procedures used for differential diagnosis of autism spectrum disorders are covered, and a variety of intervention models will be discussed. The role of the SLP in working with educators and families will be addressed. Students will design comprehensive assessment and intervention plans for persons of all ages with autism.

3 credits

Prerequisites: SLPPG 521 Child Language Assessment; SLPPG 522 Child Language Intervention

*SLPPG 624 Aural Rehabilitation*

This course will teach basic methods for addressing the communication needs of individuals with hearing impairment and/or central auditory processing disorders. Students will learn how to read and interpret basic audiometric test results in order to recommend appropriate communication therapy. Communication modalities for individuals with hearing loss, and a variety of therapy methods to enhance language comprehension and production will be covered. Maintenance of amplification devices, collaboration with families and educators, and counseling for individuals with hearing loss will also be included.

3 credits

*SLPPG 628 Motor Speech Disorders*

This course covers assessment and treatment of neurogenic speech disorders, including the various types of dysarthria and apraxia. The complex process of differential diagnosis of these conditions will be addressed, along with numerous treatment approaches designed to target respiration, phonation, articulation, resonance and prosodic components of motor speech disorders.

3 credits

Prerequisites: SLPPG 501 Neurological Bases of Communication Disorders; SLPPG 520 Disorders of Articulation and Phonology; SLPPG 629 Voice and Resonance Disorders

*SLPPG 630 Fluency Disorders*

This course describes the nature and proposed etiologies of stuttering and associated disorders. Assessment and treatment of children and adults with fluency disorders will be addressed, including the need for counseling and ongoing management across the lifespan.

3 credits

*SLPPG 631 Augmentative and Alternative Communication*

This course will address the complex communication needs of individuals with severe communication, sensory and/or physical impairments which may necessitate the use of augmentative and alternative communication systems (AAC). Students will become familiar with various types of assistive technologies used for AAC. The course will cover cognitive, educational, physical, psychosocial, and linguistic aspects of human behavior that impact AAC selection and implementation. AAC assessment and intervention strategies will be addressed, including interdisciplinary contributions from physical and occupational therapists.

3 credits

*SLPPG 632 Advanced Practices in Dysphagia*

This course will require students to apply knowledge to clinical cases. Students will be expected to generate diagnostic reports and treatment plans targeting pediatric and adult dysphagia. Interpretation of videofluoroscopic and endoscopic swallowing assessments will assist students in profiling phase-specific sensory and motor swallowing abnormalities. Complex cases will be addressed, including both neurogenic and mechanical disorders of dysphagia (e.g., stroke, laryngectomy, tracheostomy and ventilator dependency).

4 credits

Prerequisites: SLPPG 525 Dysphagia

*SLPPG 633 Language, Literacy and Learning*

This course provides students with the theoretical models of language, literacy and learning. The interconnections between reading, writing, and speaking and listening will be explored. The patterns of child and adolescent reading and writing are emphasized.

4 credits

*SLPPG 654 Clinical Practicum III*

This is the third supervised speech-language pathology practicum experience at the Speech-Language Institute or other community-based site. Working with a faculty member who is a licensed speech-language pathologist, student clinicians will plan and conduct assessment and intervention sessions for clients with communication and/or swallowing disorders. Clinical experiences may include assessment and treatment of disorders of articulation, language, fluency, voice, cognition, dysphagia, or complex disorders. Students

also attend clinical forums to address issues relative to management of clinical cases.

3 credits

Prerequisites: SLPPG 550 Clinical Practicum I; SLPPG 552 Clinical Practicum II

#### *SLPPG 656 Clinical Practicum IV*

This is the fourth supervised speech-language pathology practicum experience at the Speech-Language Institute or other community-based site. Working with a faculty member who is a licensed speech-language pathologist, student clinicians will plan and conduct assessment and intervention sessions for clients with communication and/or swallowing disorders. Clinical experiences may include assessment and treatment of disorders of articulation, language, fluency, voice, cognition, dysphagia, or complex disorders. Students also attend clinical forums to address issues relative to management of clinical cases.

3 credits

Prerequisites: SLPPG 550 Clinical Practicum I; SLPPG 552 Clinical Practicum II; SLPPG 654 Clinical Practicum III

#### *SLPPG 660 Advanced Practicum in Speech-Language Pathology: Education Setting*

This is a supervised clinical experience in speech-language pathology in an educational setting. Students will acquire experience in individual and group therapy, assessment, and consultation. This course consists of a 12 week, full-time school site placement. May be taken before or after SLPPG 662 Advanced Practicum in Speech-Language Pathology: Medical/Healthcare Facility.

12 credits

#### *SLPPG 662 Advanced Practicum in Speech-Language Pathology: Medical/Healthcare Facility*

This is a supervised clinical experience in speech-language pathology in a healthcare setting. Students will acquire experience in individual and group therapy, assessment, consultation, and interdisciplinary staffing. It consists of a 12 week, full-time clinical site placement. Note: May be taken before or after SLPPG 660 Advanced Practicum in Speech-Language Pathology: Education Setting.

12 credits

#### *SLPPG 699 Praxis II® Examination Review*

This course reviews topics that will be covered on the Praxis Examination in Speech-Language Pathology. Students will complete practice quizzes and take a full-length practice exam.

1 credit

## ELECTIVE COURSE DESCRIPTIONS

#### *SLPPG 670, 671, 672, 673 Thesis Continuation I-IV*

These courses are reserved for SLP students needing additional time to complete and successfully defend their thesis project. Enrollment is necessary only when students have completed other program requirements, and will not be enrolled in other courses. This is considered an extension of the thesis and must be approved by the Program Director. A fee is assessed with enrollment in these courses.

Each course 0.5 credits

Prerequisites: SLPPG 614 Thesis IV

#### *SLPPG 800 Independent Study*

This course is designed to facilitate scholarly inquiry into a topic related to a specific component of speech-language pathology theory and practice. Course content, assignments and learning outcomes are developed in collaboration with the faculty mentor and the student, and the Program Director must approve the plan. Course credit is variable depending on the scope of work to be accomplished.

1-3 credits

Prerequisites: Permission of the Instructor

## FACULTY

#### **Teresa Brobeck, Ph.D., CCC-SLP**

University of Iowa

Clinical Associate Professor

#### **Jennifer Buckler, M.S., CCC-SLP**

Arizona State University

Clinical Assistant Professor

#### **Stephanie Christensen, Ph.D., CCC-SLP**

Arizona State University

Program Director and Assistant Professor

#### **Beatriz de Diego-Lázaro, Ph.D., CCC-SLP**

Arizona State University

Assistant Professor

#### **Schea Fissel, Ph.D., CCC-SLP**

Kent State University

Assistant Professor

#### **Arianna LaCroix, Ph.D., CCC-SLP**

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Assistant Professor

#### **Colin A. Macpherson, M.A., CCC-SLP**

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Director of Clinical Education and Assistant Professor

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Clinical Coordinator and Clinical Assistant Professor

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Clinical Assistant Professor

**Ethan Wash, M.S. CCC-SLP**

Northern Arizona University  
Clinical Instructor

**George Wolford, Ph.D., CCC-SLP**

Purdue University  
Clinical Instructor

**Laura Wolford, Ph.D., CCC-SLP**

Purdue University  
Assistant Professor

# COLLEGE OF GRADUATE STUDIES

## MISSION

Established in 2018, the College of Graduate Studies (CGS) offers degrees on both campuses and upholds academic excellence by pursuing the advancement of knowledge as part of the academic triad of education, research, and service. The College endeavors to share existing knowledge, to create new knowledge, and to apply knowledge that contributes to improving the health of humans, animals, and the environment through One Health principles and practice.

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

### Academic Monitoring

All students enrolled in CGS are expected to:

1. Maintain satisfactory academic progress in their course of study.
2. Understand and meet all established program/College academic and professional requirements and standards as described in course syllabi, program-related manuals, University Catalog, and Student Handbook.
3. Self-monitor their academic performance in all required courses.
4. Complete all course-related requirements in a timely and satisfactory manner.
5. Seek assistance if encountering academic difficulty.
6. Contact their Program Director and/or course coordinator/director when performance has been unsatisfactory.
7. Check University e-mail account daily for information. This is particularly important at the

end of the quarter and during quarter breaks when information concerning academic performance may be distributed.

### Academic Review and Progression

The academic progress of each student enrolled in the College is regularly monitored to determine whether the student is making satisfactory academic progress in his/her program of study based on criteria established by the program/College. The academic review process occurs at two levels: the Student Promotion and Graduation Committee, and the CGS Dean.

### CGS Student Promotion and Graduation Committee

The University Faculty Senate appoints this committee annually as one committee across campuses. The minimum membership consists of 2 faculty members from each CGS Program (2 AZ Biomedical Sciences, 2 IL Biomedical Sciences, 2 Master of Public Health, 2 Precision Medicine) with representation from each campus, and at least 1 basic science faculty member from each campus. The Dean of CGS (or designee), the Dean of Students (or designee), and the Registrar (or designee) are Ex Officio nonvoting members. Each campus has a subcommittee of at least 5 members from that campus. The CGS Dean appoints a co-chair (program director or faculty member) from each campus. The committee will review and act on the academic progress of students enrolled in a cross-campus program, and the subcommittee will review and act on the academic progress of students enrolled in a campus-specific program. The committee or subcommittee may request that a course director and/or faculty advisor attend the meeting to provide additional information about the student's case. When the academic status of a dual-degree student is under review, a representative from the respective primary healthcare professional degree program is invited as a nonvoting member.

At the end of each quarter and more often if necessary, this committee or subcommittee reviews and acts upon the academic progress of each student enrolled in the College as well as other factors such as professionalism. If satisfactory, the committee or subcommittee recommends progression of the student to the next quarter. If unsatisfactory, the committee or subcommittee decides whether a student is



placed on academic warning, academic probation, extended program, academic leave of absence, or is dismissed. These decisions are forwarded to the student and the Dean of CGS. Following notification, a student may appeal the Committee's decision to the Dean who will make a final determination but may, at their discretion, also form an ad hoc committee to review the appeal. The CGS Dean is responsible for reviewing all decisions for consistency with stated College academic policies and practices. The Dean makes the final decision on the appeals and action to be taken.

At the end of each academic year, the CGS Student Promotion and Graduation Committee or subcommittee reviews the academic and professional progress and performance of each student. For dual degree students, input from the primary healthcare professional degree program representative will be considered in determining actions, and academic progress in the primary healthcare professional degree program takes precedence over the secondary CGS degree program. If satisfactory, the committee or subcommittee recommends promotion of the student. In addition, the committee or subcommittee meets each spring,

or as needed, to recommend for graduation all students who have satisfactorily completed all degree requirements specified by their program. The committee's or subcommittee's recommendations are forwarded to the CGS Dean and the University Faculty Senate for approval. The co-chairs of the committee are responsible for submitting minutes of each meeting to the CGS Dean.

#### **Satisfactory Academic Progress**

To achieve satisfactory academic progress, a student enrolled in a CGS program must pass all courses and maintain the following minimum cumulative grade point average (GPA) as established for each CGS program:

- Master of Arts in Biomedical Sciences: 2.75 GPA or higher
- Master of Biomedical Sciences: 2.75 GPA or higher
- Master of Public Health: 2.5 GPA or higher
- Master of Science in Precision Medicine: 2.5 GPA or higher
- Post-Graduate Certificate in Precision Medicine: 2.5 GPA or higher

### Academic Progress

Outcome	Usual Action <sup>1</sup>	Transcript Notation
No course failures; and maintain minimal cumulative GPA <sup>2</sup>	Allowed to progress to the next quarter	---
No course failures; and one quarter of cumulative GPA less than minimum allowed <sup>2</sup>	Academic warning for the subsequent quarter of enrollment	Academic warning is not noted on the transcript.
One course failure <sup>3</sup> ; and/or two quarters of cumulative GPA less than minimum allowed <sup>2</sup>	Academic probation for the subsequent quarter or until all academic requirements are met. In addition, one or more of the following may apply:  a) Retake of the failed course if eligible and/or if the course is required  b) Academic leave of absence for up to one year until course is retaken or any requirements for re-entry established by the program have been met  c) Extended program  <i>Note:</i> Students on an extended program may be subject to academic LOA or dismissal after additional course failures or failure to maintain the required cumulative GPA.	"F" grade is listed on transcript and is counted toward GPA calculation and total number of accumulated failures. Following successful retake of the course, the original "F" remains on the transcript as an "F" but is no longer factored into the GPA.
Three or more quarters of cumulative GPA less than minimum allowed <sup>2</sup>	a) Academic probation for the subsequent quarter or until all academic requirements are met, or  b) Academic leave of absence <sup>4</sup> and academic probation, or  c) Extended program and academic probation, or  d) Dismissal	Academic probation and extended program are not noted on transcript. Academic leave of absence and dismissal are noted on transcript.
Two or more course failures <sup>3</sup>	a) Academic leave of absence <sup>4</sup> and academic probation, or  b) Extended program and academic probation, or  c) Dismissal  <i>Note:</i> Two or more course failures will typically result in dismissal.	Academic probation and extended program are not noted on transcript. Academic leave of absence and dismissal are noted on transcript.

<sup>1</sup>The CGS Student Promotion and Graduation Committee may decide from any of the options listed among the usual actions described for each academic situation under review.

<sup>2</sup>Minimum cumulative GPA for Master of Arts in Biomedical Sciences is 2.75; Minimum cumulative GPA for Master of Biomedical Sciences is 2.75; Minimum cumulative GPA for Master of Public Health is 2.50; Minimum cumulative GPA for Master of Science in Precision Medicine is 2.50; Minimum cumulative GPA for Post-Graduate Certificate in Precision Medicine is 2.50.

<sup>3</sup>WF may be considered as a course failure by CGS Student Promotion and Graduation Committee.

<sup>4</sup>May or may not be preceded by academic warning or probation.

### **Unsatisfactory Academic Progress**

If a student fails to make satisfactory progress in completing his/her prescribed course of study, the student is placed on academic warning, academic probation, extended program, academic leave of absence, or is dismissed. The CGS Student Promotion and Graduation Committee may recommend any of the options listed among the usual actions described for each academic situation under review.

Additionally, for CGS dual degree students, academic progress in their primary healthcare professional degree program takes precedence over the secondary degree program. Dual degree students not sustaining sufficient academic progress in their primary degree program may be placed on an academic leave of absence from the secondary CGS degree program until academic deficiencies in the primary degree program are corrected, and the student returns to good academic standing, as defined by the primary degree program. The Student Promotion and Graduation Committee for the primary degree program communicates student academic status updates to the CGS Student Promotion and Graduation Committee.

Students will be notified by the CGS Dean when they are placed on academic warning as a result of their failure to achieve the required minimum cumulative GPA established by their program. Any student with academic deficiencies to be addressed by the CGS Student Promotion and Graduation Committee shall be notified in writing by campus e-mail by the Chair of the CGS Student Promotion and Graduation Committee at least two business days in advance of the scheduled meeting in which the student's case will be heard. The student may request and shall be permitted to appear before the CGS Student Promotion and Graduation Committee (in person or via telephone) to present his/her case in matters that could result in academic probation, academic leave of absence, dismissal or any matter that could result in a permanent annotation on the student's transcript. In such instances, the student shall inform the Chair of the CGS Student Promotion and Graduation Committee in writing, of his/her desire to appear before the committee or his/her intent to waive this right. If the student chooses to appear before the committee, this prerogative extends to only the involved student and not to any other individuals. A student whose academic progress will be subject to review by the CGS Student Promotion and Graduation Committee and who wishes to appeal a course grade must do so in an expedited manner prior to the scheduled meeting of the Committee. Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Grade Appeals Policy.

Within two working days following the committee meeting, the chair of the CGS Student Promotion and Graduation Committee is responsible for providing notification via campus email to the involved student, informing him/her of

the committee's decision. In all instances, the chair of the CGS Student Promotion and Graduation Committee shall be responsible for informing the CGS Dean of each decision made by the committee. Following notification of the decision by the CGS Student Promotion and Graduation Committee, a student may appeal the decision to the CGS Dean (see Appeal Process). The Dean is responsible for reviewing all decisions for consistency with stated College academic policies and practices. The Chair of the CGS Student Promotion and Graduation Committee is responsible for providing written notification of the decision to all appropriate academic support offices (i.e., Registrar, Student Financial Services, etc.).

### ***Academic Warning***

Academic warning is a formal notification of substandard academic performance and cautions the student that continued performance at this level might result in academic probation. An academic warning is issued when a student earns a cumulative GPA below the minimum required by his/her respective program for one quarter and/or when the student fails to meet any other established program academic requirements. An academic warning is in effect for the subsequent quarter of enrollment. Academic warning is not noted on the student's transcript but is noted in the student's academic file that is kept in the program office. If the student achieves the minimum standard of academic performance required by the program during the quarter of academic warning, the student is returned to good academic standing. This is also noted in the student's file.

### ***Academic Probation***

Academic probation represents notice of unsatisfactory academic progress. Academic probation typically occurs when the student fails a class during his/her academic program and/or earns a cumulative GPA below the minimum required by his/her respective program for two quarters (which do not have to be consecutive) and/or when the student fails to meet any other established program academic requirements. A WF may be considered as a course failure by the CGS Student Promotion and Graduation Committee. Academic probation is not noted on the student's transcript but is noted in the student's academic file in the program office. The student remains on academic probation until the failure is successfully repeated and/or the cumulative GPA is at or above the program's required minimum and all deficiencies have been corrected. Subsequently, when the student is returned to good academic standing, this is also noted in the student's file.

### ***Extended Program***

When a student is not allowed to progress in the standard program curriculum due to course failure; failure to maintain the required cumulative GPA for two or more quarters; failure to meet any other established program academic requirement; or upon request due to extenuating personal

circumstances, the CGS Student Promotion and Graduation Committee may place the student on an extended program. While on an extended program, students may be permitted to take courses and/or to retake courses in which they have received a grade of "C" or less, as approved by their CGS program. Students will be able to resume the standard program curriculum upon successful completion of all programmatic requirements. Extended program is not noted on the student's transcript. Leave of absence will be noted on the transcript for periods of non-enrollment during the extended program period for stand-alone degree students. No notation will be made on transcripts of a dual degree student who is concurrently taking coursework in their primary healthcare professional degree program.

#### ***Academic Leave of Absence***

Academic leave of absence may occur when a student has failed one or more courses, has accumulated two or more quarters with a cumulative GPA less than required by his/her program, or has not met programmatic criteria required to proceed in the curriculum. Academic leave of absence may or may not be preceded by academic probation. This action results in the suspension of the student from all academic courses for a period of up to one year, or until all program requirements for re-entry have been fully met. A mandatory academic leave of absence is noted on the student's transcript.

The student who has been placed on a mandatory academic leave of absence does not have to re-apply for admission and is guaranteed reentry into his/her academic program upon successful completion of all failed required courses and/or when all programmatic requirements are met. Upon reentry to the academic program, the student is routinely placed on academic probation for the following quarter.

#### ***Academic Dismissal***

A student may be dismissed from the College for academic reasons upon the decision of the CGS Student Promotion and Graduation Committee. The dismissal is based on the determination that the student has not satisfactorily demonstrated that the student can successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program (see "Professional Conduct"). Students who accumulate two or more failures or three quarters below the minimum required grade point average may be dismissed. The course failures and/or the three-quarters with less than the required minimum cumulative GPA do not have to be consecutive.

#### ***Retake of a Failed Course***

If a student passes a repeated course, the original failure remains on the transcript as an "F" grade and is included in the total number of accumulated failures in the student's academic record. The grade from the original failed course is no longer used in the computation of the GPA following

repeat of the course. The grade from the repeated course will be factored into the overall GPA.

Under exceptional circumstances, such as academic probation or extended program, students may retake a Midwestern University course in which they have earned a "C". The Program Director and the CGS Dean must approve this retake option. Typically, a maximum of three courses with "C" grades can be retaken, and a course may only be retaken once. The original "C" grade will remain on the transcript but will not be used in the computation of the GPA following the completion of the repeated course. The new grade will be factored into the overall GPA. All repeated courses are subject to additional tuition. Students should consult with their financial aid advisor regarding the financial implications of repeated coursework.

With program approval, the CGS may allow students to take equivalent courses at another accredited university as a replacement for a failed course or for the purpose of raising their cumulative GPA to the program minimum. In order to qualify as replacement credits, such courses must be at the graduate level and must be approved by the CGS Program Education Committee and Program Director before the grades can be accepted for transfer. These courses and assigned grades will be recorded on the transcript along with the equivalent Midwestern University courses and assigned grades. The original "C" and "F" grades will remain on the transcript but only the new grades will be factored into the overall GPA.

#### ***Readmission After Dismissal for Poor Academic Performance***

It is at the discretion of the Program to readmit a student who has been dismissed for poor academic performance. To initiate the reapplication process, candidates must complete and submit a new application and proceed through the standard application process established by the program. Before reapplying, however, individuals should seek the advice of an admissions counselor. It is expected that the individual would have addressed documented deficiencies before reapplication and be able to demonstrate that they meet all admission requirements and technical standards of the program.

The program's Admissions Committee will review completed applications of candidates and submit recommendations to the Program Director for action. The CGS Dean, via the Office of Admissions, then notifies applicants in writing of admission decisions. No guarantee of readmission is implied, and questions related to advanced standing and similar issues will be addressed as they are for new applicants. Reapplications are allowed only within the first two years following dismissal and readmission will be granted only once.

### **Advanced Placement/Exemption from Coursework**

The CGS Program may allow for the transfer of credits from graduate-level coursework completed at other institutions prior to matriculation at Midwestern University. The Program decides upon all requests for advanced placement by newly admitted students on a course-by-course basis. To request such consideration, a student must submit a letter of request to the Program Director in which the student lists a course(s) previously taken which might be similar in content to the Midwestern University professional course(s) that the student is scheduled to take. The student must also provide an official course description(s) and a syllabus (syllabi) of the course(s) previously taken. The Program Director will share the submitted course materials with the appropriate course director to determine if the course(s) is an appropriate substitute. All requests must be submitted prior to matriculation. Typically, advanced placement will only be considered for coursework in which a minimum letter grade of "B" has been earned. A "C" letter grade is not acceptable for advanced placement consideration. If the Program denies the request for advanced placement, the student may appeal this decision to the CGS Dean.

If a course is accepted for credit, the equivalent Midwestern University course and the Advanced Placement (AP) notation will be recorded on the transcript along with the name of the institution at which the credit was earned. Any earned letter grade will not be included on the transcript or used in the GPA calculation. Further details may be found in the individual CGS program catalogs.

### **Coursework Completed in Midwestern University Professional Programs**

For CGS dual degree students enrolled in a Midwestern University healthcare professional degree program, coursework completed in the healthcare professional degree program may be applied towards the CGS degree. Further details may be found in the individual CGS program catalogs.

### **Appeal Process**

Following notification of a decision from the CGS Student Promotion and Graduation Committee, a student may appeal. The student has three working days to submit a formal written appeal of the Committee's decision to the Dean. The appeal must be submitted in writing and delivered to the Office of the Dean within this three-day period. A narrative explaining the basis for the appeal should accompany the request. An appeal must be based on one of the following documented premises:

1. Bias of one or more members of the CGS Student Promotion and Graduation Committee  
*Note: The student must present specific evidence that the committee member(s) demonstrated bias*

*against him/her in conducting the academic review process*

2. Material, documentable information not available to the committee at the time of its initial decision.  
*Note: The student must provide a detailed explanation of why the new information is relevant and why it was not made available to the committee members during the academic review process. The student should be prepared to produce pertinent documentation at the appeal meeting.*
3. Procedural error.  
*Note: The student must provide evidence that the committee did not correctly follow the procedures related to the conduct of the academic review process; for example, the student was not given notice of the meeting or committee recommendation in accordance with stated policies.*

Upon receipt of the student's appeal, the Dean will consider the appeal and may, at their discretion, form an *ad hoc* appeal committee. In all cases, the Dean must make a decision, typically within ten working days, and then notify the student, the Chair of the CGS Student Promotion and Graduation Committee, and all appropriate support offices via campus email. The decision of the Dean is final.

Students must attend all didactic courses in which they are registered until the appeal process is complete. Students who fail a required or prerequisite course should consult with the Program Director regarding attendance in courses in the subsequent quarter.

### **Auditing a Course for Remedial Purposes**

The CGS Student Promotion and Graduation Committee may determine that a student should be enrolled in a previously taken course on a temporary, audit basis. Under these circumstances, a student can attend classes and labs, receive course materials, and participate in exams to assess learning on an informal, non-graded basis. No course credits or grade may be earned for an audited course. Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Course Auditing Policy.

### **Faculty Advisor Program**

The CGS Program assigns a faculty advisor to students in each entering cohort. The responsibilities of the faculty advisor are as described below. In addition to these faculty advisors, the CGS Dean's Office and the Dean of Students are also available to assist students. It is the student's responsibility to initiate contact with the faculty advisor for assistance.

The responsibilities of CGS faculty advisors include:

1. Serving as the student's advisor and academic/professional counselor;

2. Overseeing and monitoring the academic progress and professional growth of the student;
3. Assisting the student in seeking academic and personal counseling services provided by the institution;
4. Serving as an advocate for the student;
5. Providing career counseling to the student.

## Grades

Students receive letter grades corresponding to the level of achievement in each course, based on the results of examinations, required course work, and, as applicable, other established criteria. The letter grades, percent ranges, and quality points per credit are as follows:

Grade	Percent (%)	Quality Points (per credit)	Comments
A	93-100	4.000	-
A-	90-92	3.670	-
B+	87-89	3.330	-
B	83-86	3.000	-
B-	80-82	2.670	-
C+	77-79	2.330	-
C	70-76	2.000	-
F	< 70	0.000	-
I	-	0.000	An Incomplete grade may be assigned by an instructor when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades will be resolved within 10 calendar days from the end of the final examinations for the quarter or they will automatically be converted to a grade of "F". In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade with a notice to the Registrar.
IP	-	0.000	An In-Progress grade may be assigned when extenuating circumstances make it necessary to extend the grade completion period past 10 calendar days (e.g. illness, family death). Authorization by the Dean is required, and the completion period should not typically exceed one quarter.
P	-	0.000	Pass (for a pass/fail course); designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of "P" is counted toward credit hour accruals for graduation but does not affect GPA calculations.
F	-	0.000	Fail (for a pass/fail course); designation indicates that the student has not made satisfactory progress or completed required coursework satisfactorily. Grade of "F" is counted toward credit hour accruals as attempted but not completed. Grade of "F" is calculated into the GPA (quality points are lowered due to unsuccessful course completion).
W	-	0.000	Withdrawal is given if the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation.
WF	-	0.000	Withdrawal Failing is given if the work completed up to the time of withdrawal is below the passing grade level for the program. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation. "WF" may be considered as a failure by the CGS Student Promotion and Graduation Committee. Multiple "F's" and "WF's" may be grounds for dismissal.
AU	-	0.000	This designation indicates an audited course in which a student is registered with the understanding that neither academic credit nor a grade is earned. The status of the course cannot be changed from audit to full credit after the start of the quarter.
AP			This designation indicates the decision of a college to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement is applied toward credit hour accruals, but is not counted in the GPA calculation.

### **Grade Point Average**

The grade point average (GPA) is determined by calculating the total number of quality points earned and dividing them by the total number of credits carried. The total quality points earned for each course is determined by multiplying the quality points earned per credit (corresponding to the letter grade) by the number of credits assigned to the course. The student's cumulative grade point average is computed and recorded by the Office of the Registrar. It is calculated initially at the end of the first quarter of enrollment and does not include any grades or credits for courses audited or accepted for advanced placement or for courses with a grade of withdrawal (W), withdrawal failing (WF), or pass (P). Additionally, failing (F) grades for courses that are successfully repeated are not included in the GPA. Under exceptional circumstances and with the approval of the Program Director and Dean, students may retake a course in which they received a grade of "C". In such cases, the original grades remain on the transcript but only the new grades are used in the computation of the GPA.

### **Criminal Background Checks**

CGS performs prematriculation criminal background checks as described in the Midwestern University policies.

### **Graduation**

The following degrees and certificate will be conferred upon candidates who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements: Master of Biomedical Sciences (M.B.S.) and Master of Arts in Biomedical Sciences (M.A.), Master of Public Health (M.P.H.), Master of Science in Precision Medicine (M.S.), and Post-Graduate Certificate in Precision Medicine (PGCert).

### **Immunization Policy**

Students enrolled in a program without a clinical component are required to follow the immunization policy, as outlined in the Student Handbook, but are not required to have titers.

### **Leave of Absence**

Please refer to the Midwestern University Catalog Academic Policies section for a complete description of the Leave of Absence Policy. Before voluntarily requesting a leave for personal reasons or after being placed on a mandatory leave for academic reasons, a student must make an appointment with the appropriate Program Director and representative from the Dean's Office to discuss the implications of the leave of absence and a revised program of study, if applicable. Typically, a single leave of absence will not exceed 12 months, and consecutive or multiple interrupted leaves of absence will not exceed 18 months. Periods of non-enrollment do not count towards the minimum allotted time for completion of academic programs.

### **Professional Conduct**

Students are expected to emulate the legal, moral, and ethical standards expected of professionals and display behavior that is consistent with these qualities. A Code of Responsibilities and Rights of the Students of Midwestern University is included in Appendix 1 of the MWU Student Handbook. This code clearly states the mode of behavior that is expected of students and covers both on-campus and off-campus activities. Students are expected to read and follow this code.

Unsatisfactory professional behavior, as defined in Appendices 2 and 4 of the MWU Student Handbook, is subject to disciplinary sanctions that may preclude a student's academic progress in their program of study. The Dean of Students investigates formal complaints concerning student misconduct and recommends disciplinary action to the CGS Dean. A student who is found to have engaged in improper conduct is subject to disciplinary action which includes, but is not limited to, disciplinary warning/probation, temporary suspension, or dismissal. Disciplinary warning and probation are not noted on the transcript but are kept in the student's disciplinary file. Suspension and dismissal as a result of disciplinary action are noted on the student's transcript. Disciplinary information may be shared with sites that are affiliated with Midwestern University educational programs.



# MASTER OF BIOMEDICAL SCIENCES DEGREE PROGRAM

## MISSION

The Midwestern University Master of Biomedical Sciences Program educates and prepares students in the biomedical sciences to be competitive applicants for careers in a wide range of health-related fields, as well as for additional academic and professional training.

## ACCREDITATION

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Master of Biomedical Sciences (MBS) Program is designed as a full-time, 21 month, graduate-level program that provides the student with a broad background in the biomedical sciences, laboratory experiences, and research skills. The curriculum is designed to help students improve their academic foundation in the biomedical sciences and augment their credentials for admission into medical school or other health professional program and prepare and graduate students who have extensive knowledge, technical skills, and expertise to function in a variety of biomedical professions. These include careers as technicians and supervisors in the biotechnology, biosafety, and pharmaceutical industry; research personnel in biomedical science laboratories; employees in governmental and regulatory agencies; and faculty for undergraduate teaching programs.

The 88.5-quarter-hour (minimum) master's degree curriculum is usually completed in 21-24 months. All students must complete the program within three years of matriculation, excepting approved leaves of absence. All students are required to complete a research project approved by the student's research committee. The required curriculum includes basic science courses in biochemistry; molecular and cellular biology; genetics; and physiology. Students must also complete at least one additional basic

science sequence: microbiology and immunology; pharmacology; or anatomy and histology. In addition to the basic science courses, the student must take a series of research courses that prepares them for a research project and thesis that is the culmination of the degree program. The research courses include: Research Topics and Methods, Research Design and Statistics, Good Laboratory Practice, Journal Club, Laboratory Rotations, Philosophical Foundations of Research, Research Literature Review, Research Protocol, Graduate Seminar Series, Laboratory Research, and Research Thesis. Finally, a series of electives and independent study courses are available. The electives allow the student to further specify an area of interest.

## ADMISSIONS

### Admission Requirements

To be considered for admission to the Master of Biomedical Sciences degree program, applicants must submit the following documented evidence:

1. Completion of a bachelor's degree (B.A. or B.S.) or higher, preferably with a major in the sciences, from a regionally accredited college or university.
2. A minimum cumulative grade point average (GPA) of 2.75 on a scale of 4.00 in all coursework completed.
3. One letter of recommendation (individual or committee letter from applicant's college or university).
4. Copies of transcripts from each college or university attended. Official transcripts must be submitted prior to matriculation.
5. Copies of test scores from one of the following: Graduate Record Examination (GRE), Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions test. Official test scores must be submitted prior to matriculation.

6. Completion of the typical prerequisite coursework for admission into medical, dental, optometry or pharmacy schools, such as: biology, general chemistry, organic chemistry, physics and mathematics are strongly recommended. Prospective students are responsible for determining the prerequisites for the health professional program and institution of their choice.
7. Passage of the Midwestern University criminal background check.
8. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

### Application Process and Deadlines

To be considered for admission to the Master of Biomedical Sciences program, applicants must submit their application:

Apply through the Post Baccalaureate Centralized Application Service (PostBacCAS); <https://postbaccas.liaisoncas.com/applicant-ux/#/login>. PostBacCAS allows students to learn about, compare, and apply to a number of post baccalaureate programs through one centralized application.

Requirements for application include:

1. One letter of recommendation (individual or committee letter). The Biomedical Science Program will accept signed and sealed letters from pre-health advisors or committees, science professors, and health professionals.
2. Copies of transcripts from each college or university attended. Official transcripts must be submitted prior to matriculation from every undergraduate, graduate, or professional school that they have attended or are currently attending. These transcripts must be signed and sealed by the registrar at each institution.
3. Copies of test scores submitted to the Office of Admissions from the Medical College Admission Tests (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions test. Official test scores must be submitted prior to matriculation.

The Biomedical Sciences Program uses a rolling admission process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. The Master of Biomedical Sciences Program begins in the Fall Quarter. Admission to the Biomedical Sciences Program is considered on a competitive basis for applicants who have submitted a completed application. Multiple criteria are used to select the most qualified candidates, including selection of those students the Admissions

Committee feels would benefit the most from the program. Selection decisions for the program are made by the Biomedical Sciences Program Admissions Committee with the approval of the Program Director and the Dean of the College of Graduate Studies until the class is filled. To maximize their competitiveness within our rolling admission process, candidates are advised to submit their completed applications early in the admission cycle. No applications will be accepted after July 15th.

### Selection Process

After receiving completed application packets, the Office of Admissions verifies the information provided to determine whether all admissions requirements have been completed or will be completed prior to matriculation and also to verify the cumulative GPAs for all completed courses. Completed applications are forwarded to the Biomedical Sciences Program Admissions Committee. Applicants will be notified either electronically (i.e. through their portal or by email) or by letter of admissions decisions.

*Please Note:* Applicants may track the receipt of their application materials and the status of their files on the University's website using instructions for accessing account information that will be sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their telephone number, mailing address or e-mail address. All requests for application withdrawals must be made in writing to the Office of Admissions:

Midwestern University  
Office of Admissions  
19555 N. 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. Observation: The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. Communication: The candidate must be able to communicate in English, proficiently and

- sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
  4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
  5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidate must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Transfer Process**

Transfer of a limited number of graduate level credits from other institutions may be allowed: 6 semester (9 quarter) hours for the Masters of Biomedical Sciences. This does not remove the requirement to enroll in a minimum of 12 credit hours per quarter. The Program Director will review any request for transfer credit upon recommendation of course director and MBS degree coordinator. The student should contact the MBS Coordinator for more information on the process.

## **GRADUATION REQUIREMENTS**

To qualify for the degree Master of Biomedical Sciences (MBS), students must:

1. Follow an approved course of study acceptable to the Biomedical Sciences Program Education Committee.
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 for the Master in Biomedical Sciences degree.
3. Satisfactorily complete the required minimum of 88.5 quarter hour credits for the Master of Biomedical Sciences degree program.
4. Satisfactorily defend a Master's level research thesis project.
5. Receive a favorable recommendation for Master's degree conferral from the Student Promotion and Graduation Committee.
6. Receive a favorable recommendation for Master's degree conferral from the University Faculty Senate.
7. Settle all financial accounts with the University.
8. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## CURRICULUM

MWU/CGS Biomedical Sciences Program reserves the right to alter its curriculum however and whenever it deems appropriate. This catalog does not establish a contractual relationship between MWU and the student.

**Total Quarter Credits for Completion of the Program: 88.5**

### First Year Curriculum

Sample curriculum, course credits, and sequencing. Not all electives are offered every year.

First year elective courses are also available to second year students.

#### Fall Quarter

Total Minimum Quarter Credit Hours Required 12

#### Core Requirements

ANATG 504	Human Anatomy with Laboratory	4
BMMSG 504	Graduate Seminar Series	1
BMMSG 510	Research Topics and Methods	2
BMMSG 519	Laboratory Rotation	1.5
BMMSG 550	Biochemistry	3
BMMSG 554	Molecular Cell Biology	3
PHYSG 1572	Human Physiology I	4
<b>Total</b>		<b>14.5-18.5</b>

#### Elective Course Options

BMMSG 870	Drug Literature Evaluation	1.5
BMMSG 871	Medicinal Chemistry I	1.5

#### Winter Quarter

Total Minimum Quarter Credit Hours Required 12

#### Core Requirements

BMMSG 505	Graduate Seminar Series	1
BMMSG 512	Research Literature Review	2
BMMSG 524	Immunology	2
BMMSG 525	Microbiology I	2
BMMSG 574	Pharmacology I	3
BMMSG 580	Laboratory Research	1
HISTG 503	Histology	2
PHYSG 1583	Human Physiology II	4

**Total 12-17**

#### Elective Course Options

BMMSG 816	Introduction to Medical Ethics	2
BMMSG 872	Medicinal Chemistry II	1.5
BMMSG 876	Pharmacognosy	2

#### Spring Quarter

Total Minimum Quarter Credit Hours Required 12

#### Core Requirements

BMMSG 506	Graduate Seminar Series	1
BMMSG 515	Research Protocol	2
BMMSG 526	Microbiology II	4
BMMSG 541	Genetics	3
BMMSG 575	Pharmacology II	4
BMMSG 581	Laboratory Research	1-5

**Total 12-19**

#### Elective Course Options

BMMSG 822	Molecular Virology	2
BMMSG 834	Embryology	3
BMMSG 850	Dangerous Plants and Animals	1.5
BMMSG 863	Neuroscience	3
BMMSG 873	Medicinal Chemistry III	1.5

### Second Year Curriculum

Sample curriculum, course credits, and sequencing. Not all electives are offered every year.

First year elective courses are also available to second year students.

In addition to core requirements listed, students must complete a minimum of 24 credit hours in Laboratory Research and 4 credit hours in Research Thesis. Students must take a combination of additional electives, Laboratory Research, or Research Thesis credit hours to reach the minimum 88.5 credit hours required for graduation.

#### Summer Quarter

Total Minimum Quarter Credit Hours Required 12

#### Core Requirements

BMMSG 607	Journal Club	1
BMMSG 611	Research Design and Statistics	3
BMMSG 612	Good Laboratory Practice	1

BMMSG 617	Philosophical Foundations of Research	2.5
BMMSG 680	Laboratory Research	1-10
BMMSG 690	Research Thesis	1-2
<b>Total</b>		<b>12-16</b>
<b>Fall Quarter</b>		
Total Minimum Quarter Credit Hours Required		12
<b>Core Requirements</b>		
BMMSG 608	Graduate Seminar Series	1
BMMSG 681	Laboratory Research	1-10
BMMSG 691	Research Thesis	1-2
<b>Total</b>		<b>12-13</b>
<b>Elective Course Options</b>		
BMMSG 814	Advanced Research Data Analysis	3
<b>Winter Quarter</b>		
Total Minimum Quarter Credit Hours Required		12
<b>Core Requirements</b>		
BMMSG 609	Graduate Seminar Series	1
BMMSG 682	Laboratory Research	1-10
BMMSG 692	Research Thesis	1-4
<b>Total</b>		<b>12-15</b>
<b>Spring Quarter</b>		
Total Minimum Quarter Credit Hours Required		12
<b>Core Requirements</b>		
BMMSG 610	Graduate Seminar Series	1
BMMSG 683	Laboratory Research	1-10
BMMSG 693	Research Thesis	1-4
<b>Total</b>		<b>12-15</b>
Elective courses with quarters to be determined		
<b>Elective Courses</b>		
BMMSG 865	Pathophysiology	2
BMMSG 891	Advanced Topics I	1-3
BMMSG 892	Advanced Topics II	1-3
BMMSG 893	Special Topics	1-3
<b>Total</b>		<b>-</b>

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *ANATG 504 Human Anatomy with Laboratory*

This course provides a lecture and lab-based survey of human anatomy. Students will develop three-dimensional anatomical knowledge that is required for biomedical and allied health training. Case studies will be used to foster familiarity with typical clinical presentations, and to learn how to approach diagnoses from a basic anatomical perspective. Lab sessions include the study of human cadaveric prosections, and a regional dissection of a portion of the human body. Student progress is evaluated through written and practical examinations. (Core Sequence 1)  
4 credits

### *BMMSG 504, 505, 506, 608, 609, 610 Graduate Seminar Series*

These courses provide graduate students with the opportunity to learn and fine-tune their skills in oral scientific presentation in front of an audience (faculty, research staff and peers), provide exposure to other research areas and disciplines and promote interprofessional collaborations on Midwestern University campus. The topic for oral presentations will be chosen by the graduate student in consultation with their research supervisor(s).  
Each course 1 credit

### *BMMSG 510 Research Topics and Methods*

The course explores a variety of research and professional issues pertinent to the basic scientist such as current policy, bioethical issues, and funding issues and different disciplines in the biomedical research field. The format of the class includes both lecture and small group discussion. The course is intended to provide the student with a broad understanding of scientific research topics, scientific literature, ethical issues in biomedical sciences, with a view toward developing the topic of the Master's research project.  
2 credits

### *BMMSG 512 Research Literature Review*

This course is an independent study course designed to give master's students the opportunity to perform the literature research necessary for completion of the Master of Biomedical Sciences degree.  
2 credits

*BMMMSG 515 Research Protocol*

This course is an independent study course designed to give master's students the opportunity to develop a specific, comprehensive research protocol that will be implemented during completion of the Master of Biomedical Sciences Degree.

2 credits

*BMMMSG 519 Laboratory Rotation*

Rotations are designed to introduce students to laboratory research in a practical setting. They also assist the student in choosing a laboratory for thesis work. The quarter will be divided into three, 3-week sections. In each section, students will perform a 20-hour rotation in a research laboratory under the supervision of a faculty preceptor. During rotations, students will learn laboratory safety, notebook keeping, and basic laboratory techniques.

1.5 credits

*BMMMSG 524 Immunology*

This is a basic immunology course focusing on the concepts and components of the human immune system, with clinical examples presented when appropriate for enhancing comprehension of the material. The course will discuss established paradigms, experimental approaches, and biotechnological applications of immunology. Instruction and assessment will focus on acquisition and application of basic knowledge, as well as creative and critical thinking skills. (Core Sequence 2)

2 credits

*BMMMSG 525 Microbiology I*

Graduate level introduction to central microbiological concepts orients students to current ideas and directions in the field. The course covers the basic biology of the major groups of microbiota; the relationships between microbes and their environment, between microbes, and between microbes and their hosts; genetics and evolution of microbes through the mechanisms of genome plasticity; and the relationship between microbial evolution and disease. (Core Sequence 2)

2 credits

*BMMMSG 526 Microbiology II*

This course uses the transcendent concepts from Microbiology I to study viruses, fungi, eukaryotic parasites and prions. Mechanisms of virulence, specific infectious diseases, and treatment options are addressed. The course includes guest lectures from prominent experts in infectious disease and public health, and special topics. (Core Sequence 2)

4 credits

*BMMMSG 541 Genetics*

This course will introduce the student to classical, population, quantitative, and molecular genetics. In general, the course will be taught from a medical perspective, while keeping in mind the evolutionary significance of pathological alleles. Topics included are: the human genome, core DNA technologies, genetic variation, mendelian transmission of traits, genetic basis of diseases, epigenetics, cancer genetics, genetic approaches to treating disease, risk assessment, genetic counseling, and ethical issues in clinical genetics.

3 credits

*BMMMSG 550 Biochemistry*

This course covers the structures, functions and metabolism of proteins, nucleic acids, carbohydrates and lipids within the context of medical biochemistry. The regulation and integration of metabolism at the cellular and tissue levels during the fed and fasting states will be emphasized. Correlations to disease processes and the biochemical basis of common clinical laboratory tests are used to illustrate clinical applications of biochemical concepts. Critical thinking and problem solving skills are developed using weekly problem sessions.

3 credits

*BMMMSG 554 Molecular Cell Biology*

This course is designed to provide students with a comprehensive overview of the function of eukaryotic cells at the molecular level. Topics covered include cell structure, DNA replication, gene transcription, translation, regulation of gene expression, protein trafficking, protein turnover, cell signaling, regulation of cell growth and differentiation. This course assesses critical thinking and problem solving skills, and prepares students for professional level courses.

3 credits

*BMMMSG 574 Pharmacology I*

This course begins with principles of pharmacodynamics and pharmacokinetics as related to humans. The underlying physiology and pathology of disease is discussed as students learn about common drugs affecting major organ systems of the body, in particular the autonomic nervous system. (Core Sequence 3)

3 credits

*BMMMSG 575 Pharmacology II*

This course continues on the material presented in BMMMSG 574, covering pathophysiology and drugs of the cardiovascular and renal systems, the central nervous system, hemostasis, the autocooids, the respiratory system, the gastrointestinal system, the endocrine system, and chemotherapy. (Core Sequence 3)

4 credits

*BMMSG 580-581, 680-689 Laboratory Research*

The program culminates in a laboratory (or clinical research) project. It is the student's responsibility to identify a research advisor/mentor and laboratory (or clinical setting) in which to conduct their research. The student is required to take one or more credits of Laboratory Research each quarter beginning winter of the first year. Credits taken each quarter will depend on the research project, elective courses, and credits needed to retain full time status. A minimum of 24 credit hours is required for the degree. There is no limit to the number of research credits that can be taken.

BMMSG 580 1 credit; BMMSG 581 1-5 credits; BMMSG 680-689 1-10 credits

*BMMSG 607 Journal Club*

This course consists of weekly meetings for in-depth discussions of current research articles. This class will greatly enhance the opportunities for students to develop their critical thinking skills.

1 credit

*BMMSG 611 Research Design and Statistics*

This course introduces the student to the basic principles of statistical analysis, followed by specific statistical tests. The foundation will be laid by means of descriptive statistics, probability, probability distributions, normality testing and data transformations, sampling and research designs, and the principles of statistical hypothesis testing and power analysis. Specific statistical tests will include the t-test, linear regression and the chi-square test.

3 credits

*BMMSG 612 Good Laboratory Practice*

This course is offered through the Collaborative Institutional Training Initiative (CITI) Online Program and provides a working knowledge of Good Laboratory Practice (GLP) for anyone involved in nonclinical laboratory studies within industry, academia or government facilities. The GLP course provides an overview of how nonclinical laboratory studies should be planned, performed, monitored, recorded and archived according to requirements and regulations of the Food and Drug Administration (FDA) and other regulatory agencies.

1 credit

*BMMSG 617 Philosophical Foundations of Research*

This course provides an introduction to the foundational philosophical concepts that underpin and justify research in the biomedical sciences, including epistemology (theories of knowledge), ontology (theories of being) and ethics (theories of responsible conduct). The course aims to develop critical thinking and writing skills and to familiarize students with factors that both legitimize and establish the limits of

scientific inquiry as well as guide its everyday practice.

2.5 credits

*BMMSG 690-697 Research Thesis*

The thesis is the culmination of the program. It describes the objective, research question, and design of the project; data analysis; and conclusions based on the information gathered. The student's Research Committee approves the proposal, oversees the research project, and approves the final research thesis and oral defense. Credits taken each quarter will depend on the research project, laboratory research, elective courses, and credits needed to retain full time status. A minimum of 4 credit hours is required for the degree.

BMMSG 690,691 1-2 credits; BMMSG 692-697 1-4 credits

*HISTG 503 Histology*

The purpose of histology is to acquire a basic foundation in the structure of cells, tissues, and selected organ systems. This knowledge assists the healthcare professional in interpreting laboratory test results and in assessing normal versus pathologic structure. The histology terminology taught is the vocabulary for continuing medical education used throughout the healthcare professional's career. (Core Sequence 1)

2 credits

*PHYSG 1572, 1583 Human Physiology I, II*

In this two-quarter series, students are introduced to the basic physiological principles that underlie normal function of various organs and organ systems. Emphasis is given to developing an understanding of health in physiological terms and appreciating the diverse regulatory processes that maintain the homeostasis of the human body. Topics presented include a general study of cell function; properties of excitable cells; and the function of the neuromuscular, cardiovascular, renal, respiratory, digestive, endocrine, and reproductive systems.

Each course 4 credits

## ELECTIVES

**Not all electives are offered every year.**

*BMMSG 802 Health Career Planning*

The purpose of this course is to help students understand the admissions process for postbaccalaureate programs in medicine, dentistry, pharmacy, and other health professional programs. This is accomplished by discussing the variety of healthcare professions available and assisting the student in the skills necessary to be a successful candidate (interviewing skills, writing a personal statement, creating a resume, and selecting an appropriate professional school).

1 credit

*BMMSG 814 Advanced Research Data Analysis*

This elective course is designed to give the student training in the use of statistics or other computational/analytical techniques specific for analysis of their research data that was not covered in BMMSG 611. The student will be encouraged to analyze their own data and to present the results and discussion as a paper.

3 credits

*BMMSG 816 Introduction to Medical Ethics*

The objectives of this course are to improve critical thinking skills, introduce argumentation and argumentative writing, and to familiarize the student with some of the prominent ethical dilemmas in contemporary clinical medicine.

2 credits

*BMMSG 822 Molecular Virology*

This course focuses on the molecular and biological aspects of human viruses. Emphasis will be placed on the viral genetics, viral life-cycle, and diseases caused by members of the major virus families. Additionally, the historical significance of specific viruses will be highlighted along with current outbreaks around the globe.

2 credits

*BMMSG 834 Embryology*

This course is designed to introduce students to the formation of the human body. In addition to learning about the normal development, students will learn about numerous types of birth defects.

3 credits

*BMMSG 850 Dangerous Plants and Animals*

This course focuses on the recognition and identification of dangerous plants and animals found primarily, but not exclusively, in Arizona. The student will learn to assess poisonous situations and recommend management scenarios. Lectures and workshops involving case studies and field trips will be utilized.

1.5 credits

*BMMSG 863 Neuroscience*

This course is an introductory survey intended to provide the student with a basic understanding of the nervous system at the cellular level. Topics of focus include basic neuronal function, development of the nervous system, sensory perception, and prevalent neurologic and psychiatric diseases. This is an interdisciplinary course that will integrate basic concepts in cellular biology, pharmacology and physiology as well as provide insight to the most recent advances in our understanding of neuropathology.

3 credits

*BMMSG 865 Pathophysiology*

This course will introduce the student to current literature relating to pathophysiology and how it is presented to clinicians. Students will read recent review articles relating to new findings about selected diseases. From the review articles, several research articles will be selected to read and discuss in depth. The purpose of the course is to expose the student to the latest developments in pathophysiology and how they relate to courses taken in the Biomedical Sciences program.

2 credits

*BMMSG 870 Drug Literature Evaluation*

This course introduces, discusses and applies primary, secondary and tertiary references commonly encountered in medical/ pharmaceutical education.

1.5 credits

*BMMSG 871, 872, 873 Medicinal Chemistry I, II, III*

These courses discuss the chemistry of therapeutic agents – drugs. BMMSG 871 focuses on functional chemical groups and drug metabolism. BMMSG 872 and BMMSG 873 are coupled to the two pharmacology core courses by integrating the importance of chemical structure-activity relationships on a topic-by-topic basis.

Each course 1.5 credits

*BMMSG 876 Pharmacognosy*

Pharmacognosy is the discipline involved with the discovery, processing and formulation of drugs from natural sources. This course will cover the major classes of natural drugs including the glycosides, terpenoids, alkaloids, proteins, antibiotics and vaccines. In addition, newer sources of natural drugs such as the dynamic marine pharmacognosy and pharmacobiotechnology will be introduced.

2 credits

*BMMSG 891, 892 Advanced Topics I, II*

The Advanced Topics series is an opportunity for students to receive individualized or small group instruction on advanced topics in the biomedical sciences as well as topics related to broader aspects of biomedicine, such as public health, social aspects of clinical practice, and research in basic and applied sciences. Course formats may include lecture, discussion, laboratory, workshop or other forms.

1-3 credits



*BMMMSG 893 Special Topics*

This independent study-style course is intended to allow students to explore topics of interest not otherwise covered in the curriculum. Students must identify a faculty member to oversee and approve the independent study and meet with faculty to discuss the topic and formulate a plan of study. Students will present their findings at the end of the course. Usually, the course will involve an academic review of pertinent literature and the writing of a review paper.  
1-3 credits

# MASTER OF ARTS IN BIOMEDICAL SCIENCES DEGREE PROGRAM

## MISSION

The Midwestern University Master of Arts in Biomedical Sciences Program educates and prepares students in the biomedical sciences to be competitive applicants for professional programs or careers in healthcare.

## ACCREDITATION

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Master of Arts in Biomedical Sciences (MA) degree is a full-time, three-quarter, graduate level, coursework only program. This program is designed to help students with a bachelor's degree, preferably with a major in the sciences, improve their academic foundation in the biomedical sciences and augment their credentials for admission into medical school or other health professional program. All students take a minimum of 45 quarter hour credits in the basic sciences, medical ethics and capstone courses. Courses include: biochemistry, molecular cell biology, genetics, histology, human anatomy (with lab), human physiology, microbiology, immunology, pharmacology, and the capstone project. The capstone project includes preparation of a scholarly, literature-based portfolio on a topic chosen by the student, (usually a disease condition) and a presentation of the chosen topic in a poster format. In addition, students are required to take elective credits if needed to bring the total quarter credits to 15 or more credits. The elective credits, offered in a variety of disciplines, include other biomedical science, ethics or professional preparation courses.

## ADMISSIONS

### Admission Requirements

To be considered for admission to the Master of Arts in Biomedical Sciences degree program, applicants must submit the following documented evidence:

1. Completion of a bachelor's degree (B.A. or B.S.) or higher, preferably with a major in the sciences, from a regionally accredited college or university.
2. A minimum cumulative grade point average (GPA) of 2.75 on a scale of 4.00 in all coursework completed.
3. One letter of recommendation (individual or committee letter from the applicant's college or university).
4. Copies of transcripts from each college or university attended. Official transcripts must be submitted prior to matriculation.
5. Copies of test scores from one of the following: Graduate Record Examination (GRE), Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions test. Official test scores must be submitted prior to matriculation.
6. Completion of the typical prerequisite coursework for admission into medical, dental, optometry or pharmacy schools, including biology, general chemistry, organic chemistry, physics, and mathematics. Prospective students are responsible for determining the prerequisites for the health professional program and institution of their choice.
7. Completion of the prerequisite courses with grades of C or better (grades of C- are not acceptable).
8. Passage of the Midwestern University criminal background check.
9. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

### Prerequisite Courses

Course	Sem. Hrs.	Qtr. Hrs.
Biology with laboratory	8	12
General Chemistry with laboratory	8	12
Organic Chemistry with laboratory	8	12
Physics	4	6
Mathematics	3	4

### Application Process and Deadlines

To be considered for admission to the Master of Arts in Biomedical Sciences program, applicants must submit their application:

Apply through the Post Baccalaureate Centralized Application Service (PostBacCAS); <https://postbaccas.liaisoncas.com/applicant-ux/#/login>. PostBacCAS allows students to learn about, compare, and apply to a number of post baccalaureate programs through one centralized application.

Requirements for application include:

1. One letter of recommendation (individual or committee letter). The Biomedical Science Program will accept signed and sealed letters from pre-health advisors or committees, science professors, and health professionals.
2. Copies of transcripts from each college or university attended. Official transcripts must be submitted prior to matriculation from every undergraduate, graduate, or professional school that they have attended or are currently attending. These transcripts must be signed and sealed by the registrar at each institution.
3. Copies of test scores submitted to the Office of Admissions from the Medical College Admission Tests (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions test. Official test scores must be submitted prior to matriculation.

The Biomedical Sciences Program uses a rolling admission process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. The Master of Arts in Biomedical Sciences Program begins in the Fall Quarter. Admission to the Biomedical Sciences Program is considered on a competitive basis for applicants who have completed the required prerequisites. Multiple criteria are used to select the most qualified candidates, including selection of those students the Admissions Committee feels would benefit the most from the

program. Selection decisions for the program are made by the Biomedical Sciences Program Admissions Committee with the approval of the Program Director and the Dean of the College of Graduate Studies until the class is filled. To maximize competitiveness within the rolling admission process, candidates are advised to submit their completed applications early in the admission cycle. No applications will be accepted after July 15th.

### Selection Process

After receiving completed application packets, the Office of Admissions verifies the information provided to determine whether all admissions requirements have been completed or will be completed prior to matriculation and also to verify the cumulative GPAs for all completed courses. Completed applications are forwarded to the Biomedical Sciences Program Admissions Committee. Applicants will be notified either electronically (i.e. through their portal or by email) or by letter of admissions decisions.

*Please note:* Applicants may track the receipt of their application materials and the status of their files on the University's website with the instructions for accessing their account information that will be sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their telephone number, mailing address or e-mail address.

All requests for application withdrawal must be made in writing to the Office of Admissions:

Midwestern University  
Office of Admissions  
19555 N. 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. Observation: The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. Communication: The candidate must be able to communicate in English, proficiently and

- sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
  4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
  5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidate must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Transfer Process**

Transfer of a limited number of graduate level credits from other institutions may be allowed: 6 semester (9 quarter) hours for the Masters of Arts in Biomedical Sciences. This does not remove the requirement to enroll in a minimum of 15 credit hours per quarter. The Program Director will review any request for transfer credit upon recommendation of course director and MA degree coordinator. The student should contact the MA Coordinator for more information on the process.

## **GRADUATION REQUIREMENTS**

To qualify for the degree Master of Arts in Biomedical Sciences (MA), students must:

1. Follow an approved course of study acceptable to the Biomedical Sciences Program Education Committee.
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 for the Master of Arts in Biomedical Sciences degree.
3. Satisfactorily complete the required minimum of 45 quarter hour credits for the Master of Arts in Biomedical Sciences degree program.
4. Receive a favorable recommendation for Master's degree conferral from the Student Promotion and Graduation Committee.
5. Receive a favorable recommendation for Master's degree conferral from the University Faculty Senate.
6. Settle all financial accounts with the University.
7. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

## CURRICULUM

Sample curriculum, course credits, and sequencing.  
Not all electives are offered every year.

MWU/CGS Biomedical Sciences Program reserves the right to alter its curriculum, however and whenever it deems appropriate. This catalog does not establish a contractual relationship between MWU and the student.

### Total Quarter Credits for Completion of the Program: 45

Total Minimum Quarter Credit Hours Required 15

#### Fall Quarter Required Courses

ANATG	503	Human Anatomy with Laboratory	4
BMMAG	500	Introduction to Capstone Course	1
BMMAG	550	Biochemistry	3
BMMAG	554	Molecular Cell Biology	3
PHYSG	1571	Human Physiology I	4
<b>Total</b>			<b>15</b>

#### Elective Course Options

BMMAG	870	Drug Literature Evaluation	1.5
BMMAG	871	Medicinal Chemistry I	1.5

Total Minimum Quarter Credit Hours Required 15

#### Winter Quarter Required Courses

BMMAG	516	Introduction to Medical Ethics	2
BMMAG	524	Immunology	2
BMMAG	525	Microbiology I	2
BMMAG	574	Pharmacology I	3
HISTG	502	Histology	2
PHYSG	1582	Human Physiology II	4
<b>Total</b>			<b>15</b>

#### Elective Course Options

BMMAG	802	Health Career Planning	1
BMMAG	872	Medicinal Chemistry II	1.5
BMMAG	876	Pharmacognosy	2

Total Minimum Quarter Credit Hours Required 15

#### Spring Quarter Required Courses

BMMAG	526	Microbiology II	4
BMMAG	541	Genetics	3
BMMAG	575	Pharmacology II	4
BMMAG	590	Capstone Course	2
<b>Total</b>			<b>13</b>

#### Elective Course Options: 2 Elective Credits Required

BMMAG	822	Molecular Virology	2
BMMAG	834	Embryology	3
BMMAG	850	Dangerous Plants and Animals	1.5
BMMAG	863	Neuroscience	3
BMMAG	873	Medicinal Chemistry III	1.5
Elective courses with quarters to be determined			

#### Elective Courses

BMMAG	865	Pathophysiology	2
BMMAG	891, 892	Advanced Topics	1-3
BMMAG	893	Special Topics	1-3

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *ANATG 503 Human Anatomy with Laboratory*

This course provides a lecture and lab-based survey of human anatomy. Students will develop three-dimensional anatomical knowledge that is required for biomedical and allied health training. Case studies will be used to foster familiarity with typical clinical presentations, and to learn how to approach diagnoses from a basic anatomical perspective. Lab sessions include the study of human cadaveric prosections, and a regional dissection of a portion of the human body. Student progress is evaluated through written and practical examinations.  
4 credits

### *BMMAG 500 Introduction to Capstone Course*

This course helps the student begin the necessary preparation for the Capstone Project; an integrative summation of learning on a selected topic presented in a poster and manuscript format in the spring quarter. The course will focus on critical review of pre-clinical and clinical literature,

research topic selection, and the requirements for the Capstone project. Successful completion of the course requires selecting research team members, identifying a healthcare topic with a biomedical focus, and completion of critical thinking assignments.

1 credit

#### *BMMAG 516 Introduction to Medical Ethics*

The objectives of this course are to improve critical thinking skills, introduce argumentation and argumentative writing, and to familiarize the student with some of the prominent ethical dilemmas in contemporary clinical medicine.

2 credits

#### *BMMAG 524 Immunology*

This is a basic immunology course focusing on the concepts and components of the human immune system, with clinical examples presented when appropriate for enhancing comprehension of the material. The course will discuss established paradigms, experimental approaches, and biotechnological applications of immunology. Instruction and assessment will focus on acquisition and application of basic knowledge, as well as creative and critical thinking skills.

2 credits

#### *BMMAG 525 Microbiology I*

Graduate level introduction to central microbiological concepts orients students to current ideas and directions in the field. The course covers the basic biology of the major groups of microbiota; the relationships between microbes and their environment, between microbes, and between microbes and their hosts; genetics and evolution of microbes through the mechanisms of genome plasticity; and the relationship between microbial evolution and disease.

2 credits

#### *BMMAG 526 Microbiology II*

This course uses the transcendent concepts from Microbiology I to study viruses, fungi, eukaryotic parasites and prions. Mechanisms of virulence, specific infectious diseases, and treatment options are addressed. The course includes guest lectures from prominent experts in infectious disease and public health, and special topics.

4 credits

#### *BMMAG 541 Genetics*

This course will introduce the student to classical, population, quantitative, and molecular genetics. In general, the course will be taught from a medical perspective, while keeping in mind the evolutionary significance of pathological alleles. Topics included are: the human genome, core DNA technologies, genetic variation, mendelian transmission of traits, genetic basis of diseases, epigenetics, cancer genetics,

genetic approaches to treating disease, risk assessment, genetic counseling, and ethical issues in clinical genetics.

3 credits

#### *BMMAG 550 Biochemistry*

This course covers the structures, functions and metabolism of proteins, nucleic acids, carbohydrates and lipids within the context of medical biochemistry. The regulation and integration of metabolism at the cellular and tissue levels during the fed and fasting states will be emphasized. Correlations to disease processes and the biochemical basis of common clinical laboratory tests are used to illustrate clinical applications of biochemical concepts. Critical thinking and problem solving skills are developed using weekly problem sessions.

3 credits

#### *BMMAG 554 Molecular Cell Biology*

This course is designed to provide students with a comprehensive overview of the function of eukaryotic cells at the molecular level. Topics covered include cell structure, DNA replication, gene transcription, translation, regulation of gene expression, protein trafficking, protein turnover, cell signaling, regulation of cell growth and differentiation. This course assesses critical thinking and problem solving skills, and prepares students for professional level courses.

3 credits

#### *BMMAG 574 Pharmacology I*

This course begins with principles of pharmacodynamics and pharmacokinetics as related to humans. The underlying physiology and pathology of disease is discussed as students learn about common drugs affecting major organ systems of the body, in particular the autonomic nervous system.

3 credits

#### *BMMAG 575 Pharmacology II*

This course continues on the material presented in BMMAG 574, covering pathophysiology and drugs of the cardiovascular and renal systems, the central nervous system, hemostasis, the autocooids, the respiratory system, the gastrointestinal system, the endocrine system, and chemotherapy.

4 credits

#### *BMMAG 590 Capstone Course*

This course represents the integrative summation of the required coursework in the Master's curriculum. Successful completion of the course requires the preparation of a scholarly, literature-based manuscript on a topic of the student's choice and presentation of the topic in a research poster format. Throughout the course, the student is required to show progression on their topic through submission of outlines and drafts of their manuscript and poster. This

course will be initiated during the winter quarter and will be completed during the spring quarter.

2 credits

Prerequisite: BMMAG 500 Introduction to Capstone

### *HISTG 502 Histology*

The purpose of histology is to acquire a basic foundation in the structure of cells, tissues, and selected organ systems. This knowledge assists the healthcare professional in interpreting laboratory test results and in assessing normal versus pathologic structure. The histology terminology taught is the vocabulary for continuing medical education used throughout the healthcare professional's career.

2 credits

### *PHYSG 1571, 1582 Human Physiology I, II*

In this two-quarter series, students are introduced to the basic physiological principles that underlie normal function of various organs and organ systems. Emphasis is given to developing an understanding of health in physiological terms and appreciating the diverse regulatory processes that maintain the homeostasis of the human body. Topics presented include a general study of cell function; properties of excitable cells; and the function of the neuromuscular, cardiovascular, renal, respiratory, digestive, endocrine, and reproductive systems.

Each course 4 credits

## ELECTIVES

**Not all electives are offered every year.**

### *BMMAG 802 Health Career Planning*

The purpose of this course is to help students understand the admissions process for postbaccalaureate programs in medicine, dentistry, pharmacy, and other health professional programs. This is accomplished by discussing the variety of healthcare professions available and assisting the student in the skills necessary to be a successful candidate (interviewing skills, writing a personal statement, creating a resume, and selecting an appropriate professional school).

1 credit

### *BMMAG 822 Molecular Virology*

This course focuses on the molecular and biological aspects of human viruses. Emphasis will be placed on the viral genetics, viral life-cycle, and diseases caused by members of the major virus families. Additionally, the historical significance of specific viruses will be highlighted along with current outbreaks around the globe.

2 credits

### *BMMAG 834 Embryology*

This course is designed to introduce students to the formation of the human body. In addition to learning about

normal development, students will learn about numerous types of birth defects.

3 credits

### *BMMAG 850 Dangerous Plants and Animals*

This course focuses on the recognition and identification of dangerous plants and animals found primarily, but not exclusively, in Arizona. The student will learn to assess poisoning situations and recommend management scenarios. Lectures and workshops involving case studies and field trips will be utilized.

1.5 credits

### *BMMAG 863 Neuroscience*

This course is an introductory survey intended to provide the student with a basic understanding of the nervous system at the cellular level. Topics of focus include basic neuronal function, development of the nervous system, sensory perception, and prevalent neurologic and psychiatric diseases. This is an interdisciplinary course that will integrate basic concepts in cellular biology, pharmacology and physiology as well as provide insight to the most recent advances in our understanding of neuropathology.

3 credits

### *BMMAG 865 Pathophysiology*

This course will introduce the student to current literature relating to pathophysiology and how it is presented to clinicians. Students will read recent review articles relating to new findings about selected diseases. From the review articles, several research articles will be selected to read and discuss in depth. The purpose of the course is to expose the student to the latest developments in pathophysiology and how they relate to courses taken in the Biomedical Sciences program.

2 credits

### *BMMAG 870 Drug Literature Evaluation*

This course introduces, discusses and applies primary, secondary and tertiary references commonly encountered in medical/ pharmaceutical education.

1.5 credits

### *BMMAG 871, 872, 873 Medicinal Chemistry I, II, III*

These courses discuss the chemistry of therapeutic agents – drugs. BMMAG 871 focuses on functional chemical groups and drug metabolism. BMMAG 872 and BMMAG 873 are coupled to the two pharmacology core courses by integrating the importance of chemical structure-activity relationships on a topic-by-topic basis.

Each course 1.5 credits

### *BMMAG 876 Pharmacognosy*

Pharmacognosy is the discipline involved with the discovery, processing and formulation of drugs from natural sources.

This course will cover the major classes of natural drugs including the glycosides, terpenoids, alkaloids, proteins, antibiotics and vaccines. In addition, newer sources of natural drugs such as the dynamic marine pharmacognosy and pharmacobiotechnology will be introduced.

2 credits

*BMMAG 891, 892 Advanced Topics*

The Advanced Topics series is an opportunity for students to receive individualized or small group instruction on advanced topics in the biomedical sciences as well as topics related to broader aspects of biomedicine, such as public health, social aspects of clinical practice, and research in basic and applied sciences. Course formats may include lecture, discussion, laboratory, workshop or other forms.

1-3 credits

*BMMAG 893 Special Topics*

This independent study-style course is intended to allow students to explore topics of interest not otherwise covered in the curriculum. Students must identify a faculty member to oversee and approve the independent study and meet with faculty to discuss the topic and formulate a plan of study. Students will present their findings at the end of the course. Usually, the course will involve an academic review of pertinent literature and the writing of a review paper.

1-3 credits

## FACULTY

**Leonard B. Bell, Ph.D.**

Medical College of Wisconsin  
Director and Professor

**Lori M. Buhlman, Ph.D.**

University of Arizona  
College of Graduate Interdisciplinary Programs  
Associate Professor

**Pedro I. Chavez, Ph.D.**

University of Texas  
Graduate School  
Professor

**Kimbal E. Cooper, Ph.D.**

University of Illinois  
College of Liberal Arts and Sciences  
Professor Emeritus

**Delrae M. Eckman, Ph.D.**

University of Nevada, Reno  
School of Medicine  
Associate Professor

**Mitra Esfandiarei, Ph.D.**

University of British Columbia  
Faculty of Medicine  
Department of Pathology & Laboratory Medicine  
Associate Professor

**Sudhindra Gadagkar, Ph.D.**

Dalhousie University  
Associate Professor

**Elizabeth E. Hull, Ph.D.**

Rockefeller University  
Professor

**Nafisa Jadavji, Ph.D.**

McGill University  
Assistant Professor

**Nathan W. Johnson, Ph.D.**

Arizona State University  
College of Liberal Arts & Sciences  
Associate Professor

**Carleton B. Jones, Ph.D.**

Washington State University  
College of Pharmacy  
Associate Professor

**Scott D. Soby, Ph.D.**

University of California, Davis  
College of Agricultural and Environmental Science  
Associate Program Director and Professor

**Brian P. Wellensiek, Ph.D.**

University of Arizona  
College of Medicine  
Associate Professor



# MASTER OF PUBLIC HEALTH

## MISSION

The Midwestern University Master of Public Health program is an interdisciplinary professional degree in public health. The Global One Health-focused curriculum emphasizes the interconnectedness of health among human, animal, and environmental systems and prepares students to address complex health challenges in a broad range of clinical and public health settings. A student enrolled as a dual-degree candidate in any of Midwestern University's health professional degree programs particularly enhances their medical knowledge, public health skills, and career options upon completion of this program.

## ACCREDITATION

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Master of Public Health (M.P.H.) program may be completed either as a dual-degree option in conjunction with a health professional degree, such as Doctor of Osteopathic Medicine, Doctor of Veterinary Medicine, Doctor of Optometry, or Doctor of Dental Medicine over a four-year period or as a stand-alone master's degree (beginning in academic year 2022-23) in a full-time, 24-month program. The maximum time allowed for completion of the degree is six years.

Graduates are prepared to directly enter the field as public health professionals or leverage their public health training to expand healthcare career options in clinical, research, community health, and regulatory medicine settings. The predominantly online, 56-quarter-credit Master's degree curriculum is designed to dovetail with Midwestern's healthcare professional programs, allowing dual-degree students to complete most requirements during the didactic years of their professional programs.

The program includes required and elective coursework; a planned, supervised, and evaluated public health practicum; and a culminating project. Core courses are based on the five foundational public health knowledge domains of epidemiology, biostatistics, environmental health science,

social and behavioral science, and health policy and management. Students also complete courses in a Global One Health concentration, with electives focused on each of the One Health domains of human, animal or pathogen, and environment.

The public health practicum, a required component of the M.P.H. degree program, involves participation in approximately three full-time weeks of work at a field practice site, such as a county or state health department or government agency. For dual-degree students, the practicum may be scheduled to coincide with the applicable health professional degree program's rotation schedule, with approval of the respective Dean.

The M.P.H. program also includes a culminating project. This requirement may be completed in conjunction with the student's practicum or as an independent study. Topics may include, but are not limited to: developing or evaluating a public health-related program, conducting a community needs assessment, or conducting traditional hypothesis-driven research of a public health nature. Students will produce a formal written report and deliver an oral presentation of their findings to an appropriate audience as defined by the program.

## ADMISSIONS

### Admission Requirements

To be considered for admission to the M.P.H. degree program, applicants must submit the following documented evidence:

1. Completion of a baccalaureate or higher degree, preferably with a major in the sciences, from a regionally accredited institution. Coursework must include at least one course in college-level introductory biology and one course in college-level algebra or more advanced math.
2. Minimum cumulative grade point average (GPA) of 2.75 on a 4.0 scale.
3. Graduate Record Examination general test (GRE) using the institutional code for Midwestern University of 1769. Applicants holding advanced degrees or who are enrolled in one of Midwestern's

healthcare professional degree programs are exempt from the GRE requirement.

4. Official transcripts of course work from each college or university attended.
5. Two letters of recommendation from individuals able to comment on the applicant's academic or professional experiences.
6. A completed Midwestern University application.
7. Personal Statement.
8. Resume or Curriculum Vita.
9. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
10. Passage of the Midwestern University criminal background check.

### **Application Process and Deadlines**

To be considered for admission to the M.P.H. degree program, applicants must submit their applications online through the Midwestern University direct application. A student accepted to or currently enrolled in any of Midwestern's health professional degree programs may apply to the M.P.H. program as a dual-degree student by submitting an abbreviated online application through the Student Portal and releasing their Midwestern University application package to the M.P.H. program for admissions consideration. No additional application fee is required. A stand-alone degree option for completing the M.P.H. degree will be offered beginning in 2022.

The M.P.H. degree program uses a rolling admissions process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. The program begins in the Summer Quarter. After receiving completed application packets, the Midwestern University Office of Admissions verifies the information provided to determine whether all prerequisites have been completed satisfactorily, or they will be completed prior to potential matriculation and also to verify the cumulative GPAs for all completed courses. Admission to the M.P.H. degree program is considered on a competitive basis for applicants submitting completed applications. To maximize their competitiveness within this rolling admission process, candidates are advised to submit their completed applications early in the admission cycle. The deadline for applications is April 1 or the first business day thereafter.

### **Selection Process**

Multiple criteria are used to select the most qualified candidates, including selection of those students the M.P.H. Admissions Committee determines would benefit the most from the program. Selection decisions for the program are made by the M.P.H. Admissions Committee, whose membership includes three faculty members and the M.P.H. Program Director, with the approval of the Dean of the College of Graduate Studies. Applicants are notified either

electronically (i.e., through their admissions portal or by e-mail) or by letter of admissions decisions.

*Please Note:* Applicants may track the receipt of their application materials and the status of their files on the University's website using instructions for accessing account information that will be sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their telephone number, mailing address or e-mail address. All requests for application withdrawals must be made in writing to the Office of Admissions:

Midwestern University  
Office of Admissions  
19555 N. 59th Avenue  
Glendale, AZ 85308  
888/247-9277 or 623/572-3215  
admissaz@midwestern.edu

Midwestern University  
Office of Admissions  
555 31st Street  
Downers Grove, IL 60515  
630/515-6171 or 800/458-6253  
admissil@midwestern.edu

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must have abilities and skills in five areas: 1) observation; 2) communication; 3) motor; 4) intellectual, conceptual, integrative, and quantitative; and 5) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but candidates should be able to perform in a reasonably independent manner.

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.

4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

#### **Transfer Credit from Other Institutions**

The M.P.H. program allows for the transfer of up to 10 quarter-credits from equivalent graduate-level coursework completed at other institutions (within the past 10 years) prior to matriculation at Northwestern University. Generally, transfer credit will only be given to students who satisfactorily completed coursework in another CEPH-accredited M.P.H. or an accredited professional healthcare degree program with a minimum letter grade of "B." Students must submit a letter

of request to the Program Director, who will evaluate the submitted course materials with the appropriate course director to determine whether the course(s) is an appropriate substitute. If the M.P.H. Program Director denies the request for transfer credit, the student may appeal this decision to the CGS Dean. If a course is accepted for credit, the equivalent Northwestern University course and the Transfer Credit notation will be recorded on transcripts along with the name of the institution at which the credit was earned. Any earned letter grade will not be included on transcripts or used in GPA calculations.

#### **Coursework Completed in other Northwestern University Professional Programs**

Dual-degree students enrolled in the M.P.H. program and a health professional degree program at Northwestern University, or recent (within the past 10 years) Northwestern University alumnus of one of these programs may be awarded up to 18 quarter-credit hours towards the M.P.H. degree for approved courses taken in their professional programs. These courses are preapproved by the M.P.H. Program Director with input from the respective health professional degree program Dean, and courses are identified in the course Catalog to indicate eligibility for elective credit in the M.P.H. program. Dual-degree students enroll in the course designated for their primary professional degree program and are awarded credit for both programs upon successful completion of the course. Transcripts for the M.P.H. program reflect the transfer credit from the primary professional degree program. Typically, dual credit in the M.P.H. program is only considered for coursework in which a minimum letter grade of "B" has been earned. A letter grade lower than "B" is not acceptable for dual-credit consideration.

#### **Northwestern College of Osteopathic Medicine Courses Eligible for M.P.H. Elective Credit**

<b>Course Number</b>	<b>Course Name</b>	<b>Credit Hours</b>
COREG 1560A, 1570A, 1580A	Interprofessional Healthcare	1.5
FMEDG 1531	Public Health, Jurisprudence, and Medical Ethics	2
CLMDG 1650A, 1650B	Health Outreach through Medicine and Interprofessional Education	0.5
MICRG 1531	Immunology Spring	2.5
ICMDG 1614, 1625, and 1630	Introduction to Clinical Medicine IV, V, and VI	1.5

MICRG 1615, 1625 Microbiology I and II 8

CLMDG 1452 Public Health/Preventive Medicine Journal Club (elective) 1

IPECG 1401A, 1402A Improving Patient Safety I and II (elective, online) 3

IPECG 1404A Leadership in Healthcare Teams (online) 1.5

IPECG 1410A Safe Opioid Practices (online) 1.5

**Arizona College of Optometry Courses Eligible for M.P.H. Elective Credit**

**Course Number Course Name Credit Hours**

BASIG 1511, 1512 Basic Science Integrated Sequence II and III 4

COREG 1560J, 1570J, 1580J Interprofessional Healthcare 1.5

CLMDG 1354J Being a Leader and the Effective Exercise of Leadership 2

OPTOG 1511 Contemporary Issues in Healthcare and Ethics 0.5

OPTOG 1670 Research Design and Biostatistics 1

OPTOG 1672 Capstone Project: Lit Search and Study Design 1

OPTOG 1745 Epidemiology, Public Health, and the Optometric Profession 2

OPTOG 1760 Capstone Project: Data Collection and Analysis 1

OPTOG 1761 Capstone Project: Poster Session 3

OPTOG 1790 Clinical Case Analysis: Evidence-based Medicine 1.5

ONEHG 1301J One Health Grand Rounds (elective) 2

**College of Dental Medicine-Arizona Courses Eligible for M.P.H. Elective Credit**

**Course Number Course Name Credit Hours**

BASIG 1502, 1503 Basic Science Integrated Sequence II and III 4

COREG 1560I, 1570I, 1580I Interprofessional Healthcare 1.5

DENTG 1510, 1520 Preventive Dental Medicine I, II 2.0

DENTG 1523 Healthcare Ethics 0.5

DENTG 1612, 1623, 1634 Dental Community Service I, II, II 1.5

DENTG 1635 Multicultural Healthcare 0.5

DENTG 1852 Clinical Service Learning (2-week rotation) 2.0

IPECG 1401, 1402 Improving Patient Safety I, II (online) 3.0

IPECG 1404 Leadership in Healthcare Teams (online) 1.5

IPECG 1410 Safe Opioid Practices (online) 1.5

IPECG 1420 Antibiotic Stewardship (online) 1.5

**College of Veterinary Medicine Courses Eligible for M.P.H. Elective Credit**

**Course Number Course Name Credit Hours**

COREG 1560L, 1570L, 1580L Interprofessional Healthcare 1.5

MICRG 1522 Veterinary Immunology 3

MICRG 1673 Veterinary Parasitology 3

VMEDG 1510 Understanding Scientific Literature 2

VMEDG 1591, 1592 One Health I, II 5

VMEDG 1593	Public Health, Epidemiology, & Zoonotic Disease	4
VMEDG 1648	Clinical Toxicology	2
VMEDG 1766, 1767	Food Animal Medicine I, II	2.5
VMEDG 1316	Shelter Medicine (elective)	2
VMEDG 1322	Foreign Animal Diseases (elective)	2

**Chicago College of Osteopathic Medicine Courses Eligible for M.P.H. Elective Credit**

Course Number	Course Name	Credit Hours
CORED 1599	Interprofessional Healthcare	1
CLIND 1430	Research Design, Methods, and Approaches	1
CLIND 1500	Healthcare Communications	1
MICRD 1652, 1653	Infectious Disease, Etiologic Agents, and the Immune Response I, II	13
CLIND 1502	Foundations of Osteopathic Clinical Practice	1
CLIND 1407	Career Development (elective)	1
CLIND 1480	Leadership for Physicians (elective)	1

**Chicago College of Optometry Courses Eligible for M.P.H. Elective Credit**

Course Number	Course Name	Credit Hours
CORED 1599K, 1500K, 1699K	Interprofessional Education I; Healthcare Communication; Interprofessional Education II	3
MICRD 1582	Microbiology	1.5
MICRD 1590	Immunology	2
OPTOD 1511	Contemporary Issues in Healthcare and Ethics	1

OPTOD 1680	Capstone Project: Research Design, Biostatistics, and Literature Search	1
OPTOD 1681	Capstone Project: Study Design	1
OPTOD 1745	Epidemiology, Public Health, and the Optometric Profession	2
OPTOD 1778	Capstone Project: Data Collection and Analysis	1
OPTOD 1779	Capstone Project: Dissemination of Results	2
OPTOD 1701	Behavioral Medicine	1
OPTOD 1790	Clinical Case Analysis: Evidence-based Medicine	2

**College of Dental Medicine - Illinois Courses Eligible for M.P.H. Elective Credit**

Course Number	Course Name	Credit Hours
CORED 1599J	Interprofessional Education	1
CORED 1500J	Interprofessional Healthcare Communication	1
DENTD 1547	Healthcare Ethics	0.5
DENTD 1524, 1534	Preventive Dental Medicine I, II	2
DENTD 1546, 1723	Introduction to Human Behavior I, II	2
DENTD 1626, 1636, 1646	Dental Community Service I, II, III	1.5
DENTD 1637	Dental Ethics and Professionalism	0.5
DENTD 1725	Dental Ethics Grand Rounds	0.5
DENTD 1880	Clinical Service Learning	2
DENTD 1825	Practice Management Selectives (Military Forces, Public Health, Prison Systems)	0.5
DENTD 1827	Dental Ethics Capstone	0.5

IBSSD 1522	Blood, Lymphoid Tissue, and Immunology	2
IBSSD 1530	Introduction to Infectious Diseases and Integument, Soft Tissue and Lymphoreticular Systems	3.5

### Faculty Mentor Program for Dual Degree Students

The M.P.H. program assigns a faculty advisor to students in each matriculating cohort to assist with academic concerns. For dual-degree students, faculty mentors or co-mentors are jointly appointed to the College of Graduate Studies (CGS) from their primary degree programs and assist students with the unique challenges of simultaneously managing two programs of study. In addition to faculty mentors, the Program Director, CGS Dean, Associate Deans, and the Dean of Students are also available to assist students. It is the student's responsibility to initiate contact with the faculty mentor for assistance. CGS faculty mentors act as liaisons between the faculty and students. Their responsibilities include:

1. Serving as the student's advisor and academic/professional counselor.
2. Overseeing and monitoring the academic progress and professional growth of the student.
3. Assisting the student in seeking academic and personal counseling services provided by the institution.
4. Serving as an advocate for the student.
5. Counseling the student during their selection of a career path within the profession.

### Satisfactory Academic Progress

A student enrolled as a dual degree student in the M.P.H. program and in one of Midwestern's health professional degree programs is required to pass all required M.P.H. courses with a grade of "C" or higher and maintain a cumulative GPA of 2.50 or higher in the M.P.H. program. Regardless of satisfactory academic progress in the M.P.H. program, the CGS Student Promotion and Graduation Committee may determine that a dual degree student who experiences academic difficulty in the primary degree take a leave of absence from the M.P.H. program until satisfactory academic progress in the primary program is achieved. Separate criteria for achieving satisfactory academic progress in the primary degree program are listed in the catalog under the respective degree program.

## GRADUATION REQUIREMENTS

To qualify for the M.P.H. degree, students must:

1. Complete satisfactorily all courses with a minimum cumulative grade point average of 2.50.
2. Complete satisfactorily the required minimum number of 56 quarter-credits in the curriculum.
3. Receive a favorable recommendation for Master's degree conferral from the CGS Student Promotion and Graduation Committee.
4. Receive a favorable recommendation for Master's degree conferral from the University Faculty Senate.
5. Settle all financial accounts with the University.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

Master of Public Health degrees earned as part of the dual-degree option are awarded at the commencement for the primary health professional degree program. All other Master of Public Health degrees are awarded at the CGS commencement.

## CURRICULUM

The M.P.H. Program reserves the right to alter its curriculum however and whenever it deems appropriate. This Catalog does not establish a contractual relationship between Midwestern University and students. Total quarter credits required for program completion is 56.

### DUAL-DEGREE OPTION

Sample sequencing of courses and course credits. Students may elect to take fewer credit hours during the Summer Quarter. Not all electives are offered every quarter.

Total Credit Hours for Sample Curriculum: 56

Total	32.5
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### Summer Quarter (Year 1)

PUBHG 510	Introduction to Public Health	1
PUBHG 511	Introduction to M.P.H. Project and Practicum	1
PUBHG 514	Health Policy and Management	3
PUBHG 515	Introduction to Environmental & Occupational Health	3
PUBHG 516	Behavioral and Social Aspects of Public Health	3
PUBHG 520	Epidemiology I	2
PUBHG 530	Biostatistics I	2
<b>Total</b>		<b>15</b>

<b>Fall, Winter, and/or Spring Quarters (Year 1)</b>			
	Elective credits transferred from primary health professional degree program	18	
<b>Total</b>		<b>18</b>	
<b>Summer Quarter (Year 2)</b>			
PUBHG 512	Design of M.P.H. Project	0.5	
PUBHG 521	Epidemiology II	2	
PUBHG 531	Biostatistics II	2	
PUBHG 610	Globalization and Impacts to Health	2	
PUBHG 630	One Health Application and Practice	2	
PUBHG 650	Climate Change, Ecosystem Stability and Public Health	2	
	Electives in Global One Health Concentration area	3	
<b>Total</b>		<b>13.5</b>	
<b>Fall, Winter, and/or Spring Quarters (Years 3-4)</b>			
	Electives in Global One Health Concentration area	2	
PUBHG 513	Implementation of M.P.H. Project	0.5	
PUBHG 710	Public Health Practicum	3	
PUBHG 720	Culminating Project	4	
<b>Total</b>		<b>9.5</b>	

## COURSE DESCRIPTIONS

### *PUBHG 510 Introduction to Public Health*

In this course, students examine the field of public health, including the history of public health and preventive medicine, its relationship to healthcare systems, applications of public health, and the legal and ethical issues associated with public health. The objective is to provide students with a variety of educational backgrounds or enrolled in various healthcare programs with a common background and foundation in these topics for the remainder of the program.  
1 credit

### *PUBHG 511 Introduction to M.P.H. Project and Practicum*

In PUBHG 511, guest speakers from various organizations offer potential project and practicum opportunities. The course integrates goal setting, timelines, and curriculum planning for successful completion of the degree program.

1 credit

Prerequisites: Course Director Approval

### *PUBHG 512 Design of M.P.H. Project*

In PUBHG 512, students are guided in developing a preproposal and final proposal for their culminating projects. Students develop a study plan to address their research question and demonstrate compliance with the process of institutional review and approval for student research by submitting all required University forms and supporting documents prior to study implementation.

0.5 credits

Prerequisites: Course Director Approval

### *PUBHG 513 Implementation of M.P.H. Project*

In PUBHG 513, students are guided in preparing abstracts, posters, written reports, or oral presentation slides related to public health practice or research.

0.5 credits

Prerequisites: Course Director Approval

### *PUBHG 514 Health Policy and Management*

The main objective of this course is to provide an overview of healthcare management principles, including strategic and health systems planning, leadership, and resource and information management. Students are introduced to the organization and function of healthcare systems in the US and examine concepts and techniques of health policy development and the role of interest groups in the policy process. Current policy issues with respect to the organization of health services are also discussed.

3 credits

### *PUBHG 515 Introduction to Environmental & Occupational Health*

This course provides students with a broad exposure to basic environmental health topics including: toxicology; indoor and outdoor air quality; food service sanitation; insects and rodents as vectors of disease; environmental noise; energy; drinking water treatment; wastewater treatment; solid waste disposal; injury control; the workplace environment, risk assessment; risk communication; and environmental regulations. Students engage in online discussions covering the specific, general, and global issues associated with these topics.

3 credits

### *PUBHG 516 Behavioral and Social Aspects of Public Health*

In this course, students examine how the behavioral and social sciences can be used to: (1) understand human health-related behavior and (2) guide the application of behavioral theory to modify behavior in order to prevent, reduce, or eliminate public health problems. Students are provided with an overview of behavior-oriented perspectives based on health

promotion/education, psychology, and health communication. The overall objective is that students are able to apply health behavior theory to primary and secondary disease prevention.

3 credits

#### *PUBHG 520 Epidemiology I*

In this introductory course, students learn basic epidemiological principles. Topics focus on the dynamics of disease transmission, descriptive epidemiological measures of disease, and then transitions to instruction on basic principles of study design. The main objective of this course is to provide students with a foundation in epidemiological concepts that prepares them to apply these concepts to study design and data analysis in PUBHG 521, Epidemiology II.

2 credits

#### *PUBHG 521 Epidemiology II*

This course expands upon the basic concepts of epidemiology presented in PUBHG 520 Epidemiology I. Students learn advanced principles of study design and discuss methodological issues including sampling, measurement error, bias, and confounding, and they are introduced to the basics of data analysis. The overall objective of this course is to prepare students to apply epidemiological methods to the breadth of settings in clinical and public health practice.

2 credits

Prerequisites: PUBHG 520 Epidemiology I, PUBHG 530 Biostatistics I

#### *PUBHG 530 Biostatistics I*

In this introductory course, students learn the application of elementary statistical procedures commonly used in biomedical and public health research. Topics include techniques of exploratory data analysis, probability, discrete and continuous statistical distributions, sampling procedures, confidence intervals, hypothesis testing, and sample size determination for experiments and observational studies.

Upon completion, students achieve an elemental understanding of biostatistics and are prepared for the second course in the Biostatistics sequence.

2 credits

#### *PUBHG 531 Biostatistics II*

This course expands the basic concepts presented in PUBHG 530, Biostatistics I. Students learn advanced statistical procedures commonly used in biomedical and public health research, including techniques for the analysis of frequency data, non-parametric methods, simple linear regression and correlation, analysis of variance, multiple regression, logistic regression, and analysis of survival data. Upon completion of this course, students are able to apply statistical tests used in biomedical and public health research and practice.

2 credits

Prerequisites: PUBHG 530 Biostatistics I

#### *PUBHG 710 Public Health Practicum*

Students participate in experiential training in public health within healthcare settings and government-sponsored organizations in the local geographic area and other more distant sites. Students enhance their didactic learning experiences by practical application, and they acquire a broad public health perspective to specific health-related problem solving. Students receive a total of 3 credits for the practicum experience, which may span one or more quarters.

3 credits

Prerequisites: All 500-level required core courses

#### *PUBHG 720 Culminating Project*

To meet graduation requirements, students must demonstrate their knowledge, skill, and practice application competence via a culminating experience that includes the conduct of a culminating project. Students are encouraged to complete the culminating project as part of their practicum experience, but they may also complete this course as an independent study. The products of the culminating project include a project proposal, an oral presentation, and a final written report.

4 credits

Prerequisites: All required core and concentration courses

## CONCENTRATION COURSE DESCRIPTIONS

#### *PUBHG 610 Globalization and Impacts to Health*

In this course students explore the effects of globalization and its social and scientific consequences in public health with the objective of developing systems thinking to address global health concerns. Topics include the interplay between global stressors such as population, war, economics, urbanization, and environment and their effects on the health of populations, the spread of infectious and chronic diseases, nutrition and the food supply, and environmental health.

2 credits

#### *PUBHG 630 One Health Application and Practice*

The overall objective of this course is to teach students to develop strategies to engage stakeholders across multiple disciplines, geographic locations, and cultural perspectives to address public health challenges using One Health approaches. Students learn how the principles of One Health are applicable to current issues that threaten human, animal, and environmental health. Case studies are used to analyze practices and to propose One Health strategies to address challenging public health problems.

2 credits



*PUBHG 650 Climate Change, Ecosystem Stability and Public Health*

This course presents a public health perspective on climate change and ecosystem health. Students explore topics such as how climate change is defined and assessed; its environmental causes and effects; and its effects on populations. Public health initiatives, public education, and policy options to reduce climate change, minimize its effects, and heighten resilience are discussed. The overall objective is for students to articulate how global policies related to energy and agriculture impact human, animal, and ecosystem health.  
2 credits

## ELECTIVE COURSE DESCRIPTIONS

### *One Health Domains*

Students complete additional elective courses in a concentration area of Global One Health. Students are required to select at least one course from each of the three One Health domains: Human, Animal/Pathogen, and Environment.

#### **Human Domain**

*PUBHG 810 Epidemiology of Emerging Infectious Diseases*

Students address recently emerging infectious diseases and explore emergence factors and impacts on public health from a One Health perspective. Epidemiologic concepts such as natural reservoirs, modes of transmission, in-apparent versus apparent infections, and herd immunity are discussed. The objective is for students to learn and apply strategies for prevention and control of zoonotic and other emerging infections. Case studies are used to illustrate and apply concepts.  
2 credits

*PUBHG 812 Occupational Health and Epidemiology*

In this course students learn to apply epidemiologic methods/tools used in assessing occupational and environmental risk factors. Lectures, case studies, and exercises are integrated with the overall objective to teach various methodologic and analytic approaches to studying the relationship between occupational and environmental exposures and health outcomes.  
2 credits

*PUBHG 814 Food Matters: Nutrition in Health Care*

Students examine the role of food in specific health conditions and its function in health promotion and disease prevention. Epidemiological studies on nutrition and health are used to illustrate key points. The overall objective is for students to apply these principles in self-care and interdisciplinary patient care planning.  
1 credit

*PUBHG 815 Public Health Policy Development*

In this course students learn to apply concepts and techniques for developing and influencing public health policy on behalf of organizations, the community, and the health services industry. The overall objective is to equip students with the knowledge and skills to design population-based policies and programs.  
1 credit

*PUBHG 817 Research Methods in the Health Sciences*

In this course students learn advanced applications of the basic concepts of epidemiology and biostatistics covered in core courses. Using examples from published scientific studies, methodological issues, including sampling, measurement error, bias, confounding, and study design, are discussed and critiqued. Upon completion, students are able to apply effective research methods to investigate health-related questions and critically assess methods used in published research studies.  
2 credits  
Prerequisites: PUBHG 520 Epidemiology I, PUBHG 521 Epidemiology II, PUBHG 530 Biostatistics I, PUBHG 531 Biostatistics II

#### **Animal/Pathogen Domain**

*PUBHG 830 Food Microbiology and Biotechnology*

In the first part of this course, students explore the range of food-borne pathogens and toxins, the ecology of microorganisms in food, and their implications for food safety. In the second part of the course, students examine biotechnology as a major issue impacting modern food production and food safety. Legislation and social issues related to biotechnology in food are explored. The overall objective is for students to gain an understanding of how changing technology impacts food safety.  
2 credits

*PUBHG 832 Antimicrobial Resistance - Science and Policy*

Students examine the complex issue of antimicrobial resistance from both scientific and policy standpoints. The overall objective is to gain an understanding of the contributions of and impacts of antimicrobial resistance on human and veterinary medicine, as well as One Health strategies proposed to address this global problem.  
1 credit

*PUBHG 833 Molecular Epidemiology of Infectious Disease*

In this course, students are introduced to the field of molecular epidemiology. Topics discussed include principles and application of molecular techniques, population and evolutionary genetics of pathogenic organisms, and the application of these data to the control of public health diseases in populations. The objective is for students to appreciate the use of molecular approaches to understanding

the etiology, transmission, and control of infectious diseases important to public health.

2 credits

*PUBHG 834 Disease Surveillance Methods and Applications*

Students explore the role of public health surveillance at the local, regional/state, Federal, and global levels.

Considerations in planning, sources, and methods for data collection, analysis, and interpretation, and evaluation of surveillance systems are also covered. Upon completion, students are able to describe appropriate methods and data sources that integrate human, animal, and environmental health information to investigate and control global health problems.

2 credits

*PUBHG 835 U.S. and Global Food Systems*

Students receive an overview of food governance, policy, and regulation in the United States and globally. The roles of public and private sectors at the local, state, national, and international levels are reviewed with the objective of giving students a perspective on the complexity of food policy through legislation, government regulations, and private sector agreements that ultimately impact global health.

Students choose a relevant topic with the objective of critically analyzing the current food regulatory system in the U.S. based on these factors.

2 credits

**Environment Domain**

*PUBHG 850 Public Health Emergency Preparedness and Disaster Response*

Students learn about the National Response Framework and how the US government responds to domestic disasters. The phases of disaster response and the roles and responsibilities of local, state, and Federal agencies are discussed. The objective of the course is for students to understand the factors that enable them, as medical and public health leaders and responders to comprehensively assess these crises and effectively participate in their management and response.

1 credit

*PUBHG 852 Energy Policy and Public Health*

Students explore the connection between US and global energy policies and public health in this course. The historical impact on human health related to fossil fuel energy sources is discussed. Students read relevant policy statements on the topic from the American Public Health Association and other sources, and they discuss holistic approaches to current energy policy with the objective of articulating the impact of these policies on protecting and improving human, animal, and ecosystem health.

1 credit

*PUBHG 853 Environmental Monitoring for Health*

In this survey course, students are introduced to environmental monitoring methods used for health risk assessment or health surveillance procedures. Sampling methods for the evaluation of air, soil, water, chemical, radiation, and physical hazards are discussed. Unique challenges associated with quantifying exposures to environmental hazards, the role of sentinel animals, and environmental quality factors used to detect hazards are also addressed.

2 credits

*PUBHG 854 Principles of Toxicology*

In this course, students focus on general principles of toxicology including but not limited to: toxicity, dose-response, absorption, distribution, metabolism, and excretion, mechanisms of cellular toxicity; variations in toxic responses; and manifestations of toxicity from cellular to organ to organism levels. The overall objective is that students learn to apply these principles to human, animal, and environmental health. Previous exposure to biology and organic or biochemistry is desirable.

2 credits

Prerequisites: Course Director Approval

*PUBHG 858 Principles of Risk Communication*

Students learn key concepts of risk communication theory as well as their practical application to the collection and sharing of information in support of individual and community decision-making about public health issues. The objective is that through practical exercises, students develop elemental risk communication skills to discuss public health issues of concern.

1 credit

*PUBHG 859 Medical Entomology for the Public Health Professional*

In this course students focus on arthropod-borne disease and its impact on global health. Students learn about the biology of important insect and tick vectors that relate to their ability to transmit viral, bacterial, protozoan, and filarial diseases to humans. The overall objective is for students to articulate exposure risks and apply prevention and control strategies.

1 credit

## FACULTY

**Alice Chapman, D.V.M., M.P.H., DACVPM**

North Carolina State University, College of Veterinary  
Medicine  
Program Director  
Assistant Professor

**Lawrence Sands, D.O., M.P.H.**

Midwestern University, Chicago College of Osteopathic  
Medicine  
Associate Professor

**Amy Stein, Ph.D.**

Baylor University  
Manager of BioClinical Statistics and Adjunct Assistant  
Professor

**Felicia Trembath, M.P.H., Ph.D.**

Purdue University  
Assistant Professor

**Andrew Yorgason, D.O., M.P.H.**

Midwestern University, Arizona College of Osteopathic  
Medicine  
Assistant Professor

**Mariah Zeigler, D.V.M., M.P.H., DACVPM**

Virginia Maryland Regional College of Veterinary Medicine  
Assistant Professor

# MASTER OF SCIENCE IN PRECISION MEDICINE

## MISSION

The Midwestern University College of Graduate Studies Master of Science in Precision Medicine is designed as an interdisciplinary professional dual degree in applied genomic sciences that aims to prepare healthcare professional students to utilize genomic information in the prediction, diagnosis, prognosis, prevention, and treatment of disease.

Upon program completion, students in the M.S. in Precision Medicine Program will have the foundational knowledge needed to:

1. Comprehend genomic and other 'omic data, describe how it is created and applied, and demonstrate basic analytical methods;
2. Determine what those data mean in practical terms for a patient's physical and mental health; and,
3. Utilize their knowledge to determine how that data can best be used to meet the medical needs of individual patients or populations.

The Program both complements and expands the mission of Midwestern University to meet the educational needs of the healthcare community by preparing students for the new era of genomic medicine. Students enrolled as dual-degree candidates in Midwestern University's healthcare professional programs will expand their medical knowledge, understand genetic and genomic applications, and enhance their career options upon completion of this Program.

## ACCREDITATION

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The Master of Science (M.S.) in Precision Medicine Program is completed as a dual degree in conjunction with a healthcare professional degree, such as Doctor of Osteopathic Medicine, Doctor of Veterinary Medicine, Doctor of Dental Medicine, or Doctor of Optometry. Students completing other professional degrees at Midwestern University should contact the Precision Medicine Program Director prior to

preparing an application. In some cases, the Post-Graduate Certificate in Precision Medicine may integrate more appropriately with the primary programs that are not listed above. The course work can be completed in as little as two years and is optimally completed within the timeframe of the primary degree program. The maximum time allowed for completion of the degree is six years.

Graduates are prepared to directly enter their chosen healthcare profession with the background to understand and apply genetic or genomic information in the overall care of their patients. The predominantly online, 46-quarter-credit hour Master's degree curriculum is designed to dovetail with select Midwestern healthcare professional programs, which allows dual-degree students to complete most requirements during the didactic years of their programs.

The Master's degree program includes 28 quarter-credit hours of required and elective coursework in Precision Medicine, including an applied genomic Capstone Project. Students must also complete relevant courses in their primary didactic programs, which upon satisfactory completion, will be applied as credit toward their secondary degree in Precision Medicine. Up to 18 hours of dual credit will be awarded from their primary degree programs for a total of 46 quarter-credit hours.

The Master of Science in Precision Medicine Program requires a culminating experience that includes a Genomics Laboratory and Capstone Project whereby students are provided an introduction to the analytical methods needed for a genomic evaluation of an anonymized human genome provided by the course instructors. Veterinary Medicine students may have the option of analyzing a companion animal's genome for this course. The genome sequence will be used to complete the Capstone Project, which will culminate in a written report of the findings and a formal presentation. Upon successful completion of the Capstone Project and other aspects of the Program, students will be awarded the Master of Science in Precision Medicine degree.

## ADMISSIONS

### Admission Requirements

To be considered for admission to the Master of Science in Precision Medicine degree program, applicants must submit the following documented evidence:

1. Acceptance to a Midwestern University primary degree program.
2. Bachelor's degree or higher, preferably in the sciences (minimum cumulative GPA of 2.75).
3. Official transcripts of all undergraduate course work as well as graduate course work if any was completed.
4. A completed Midwestern University application for the Precision Medicine Program.
5. For current Midwestern University students whose primary degree program has already started, a letter of support must be provided from the Dean for their primary degree.
6. Passage of the Midwestern University criminal background check.

### Application Process and Deadlines

To be considered for admission to the M.S. in Precision Medicine degree program, applicants must submit their applications online through the Midwestern University direct application process.

The M.S. in Precision Medicine degree program uses a rolling admission process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. The Program begins in the Summer Quarter. Admission to the Program is considered on a competitive basis for applicants submitting completed applications. Multiple criteria are used to select the most qualified candidates, including selection of those students the Admissions Committee determines would benefit the most from the Program based on their planned programs of study and professional goals.

Due to the nature of the Precision Medicine curriculum, students with prior graduate or undergraduate courses in Biochemistry, Molecular Biology, Genetics, and Genomics will receive preference for admission to the Program.

Selection decisions for the Program are determined by the CGS Precision Medicine Admissions Committee, whose membership includes four faculty members and the Precision Medicine Program Director, with the approval of the Dean of the College of Graduate Studies. To maximize their competitiveness within this rolling admission process, candidates are advised to submit their completed applications early in the admission cycle. The deadline for applications is April 1 or the first business day thereafter.

### Selection Process

After receiving completed application packets, the Midwestern University Office of Admissions verifies the information provided to determine whether all admissions requirements have been completed satisfactorily or will be completed prior to potential matriculation, and to verify the cumulative GPAs for all completed courses. Applicants are notified either electronically (i.e., through their admissions portal or by e-mail) or by letter of admissions decisions. Please note that applicants may track the receipt of their application materials and the status of their files on the University's website using instructions for accessing account information sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their telephone number, mailing address, or e-mail address. All requests for application withdrawals must be made in writing to the Office of Admissions:

Midwestern University Office of Admissions, 19555 N. 59th Avenue Glendale, AZ 85308; [admissaz@midwestern.edu](mailto:admissaz@midwestern.edu); 888/247-9277 or 623/572-3215.

Midwestern University Office of Admissions, 555 31st Street Downers Grove, IL 60515; [admissil@midwestern.edu](mailto:admissil@midwestern.edu); 630/515-6171 or 800/458-6253.

### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College.

Candidates must be able to perform the following abilities and skills:

1. Observation: The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. Communication: The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. Motor: Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control, and eye-to-hand coordination to perform profession-specific skills and tasks.
4. Intellectual, Conceptual, Integrative and Quantitative Abilities: The candidate must be able to problem solve, measure, calculate, reason, analyze, record, and synthesize large amounts of

information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.

5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive, and effective relationships. Candidate must be able to tolerate physically, mentally, and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet the Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Satisfactory Academic Progress**

Students must pass all required M.S. courses with a grade of "C" or higher and maintain a cumulative GPA of 2.50 or higher in the M.S. program. Regardless of satisfactory academic progress in the M.S. program, the CGS Student Promotion and Graduation Committee may determine that a dual degree student who experiences academic difficulty in the primary degree take a leave of absence from the M.S. program until satisfactory academic progress in the primary program is achieved. Separate criteria for achieving satisfactory academic progress in the primary degree program are listed in the catalog under the respective degree program.

## **GRADUATION REQUIREMENTS**

To qualify for the M.S. in Precision Medicine degree, students must:

1. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.5.
2. Satisfactorily complete the required minimum number of 46 credit hours in the curriculum (including documented dual-degree credits).
3. Receive a favorable recommendation for Master's degree conferral from the CGS Student Promotion and Graduation Committee.
4. Receive a favorable recommendation for Master's degree conferral from the University Faculty Senate.
5. Settle all financial accounts with the University.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

### **Graduation**

Master of Science degrees will be conferred upon candidates who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements for the degree. Degrees will be awarded at the commencement for the primary degree program if all requirements have been met at that time.

### **Timeframe for Completion of Curriculum**

The curriculum can be completed in as little as two years. It is expected that most students will complete their dual-degree Master of Science in Precision Medicine within the timeframe of their primary degree program, which is typically 3 to 4 years. Students may exceed this timeframe if necessary, but must satisfactorily complete the full curriculum within six years of the starting date of their Precision Medicine Program in order to be awarded the degree.

### **Advanced Placement**

The Master of Science in Precision Medicine Program allows the transfer of up to six quarter-credits (applicable only to core program courses) from recent (within the last five years) equivalent graduate-level coursework completed at other institutions prior to matriculation at Midwestern University. Generally, transfer credits would only be given to students who satisfactorily completed coursework with a minimum of a B grade from an accredited graduate degree program. Prior to matriculation, students must submit a letter of request and relevant course materials, including syllabi, to the Program Director. The Program Director will consult with the appropriate course director to evaluate the submitted course materials and determine whether the course is an appropriate substitute for one of the core Precision Medicine Program courses. If the request for transfer credits is denied, students may appeal this decision to the CGS Dean. If a course is accepted for credit, the equivalent Midwestern University course and the Advanced Placement notation will be recorded on the transcript along with the name of the

institution at which the credit was earned. Any earned letter grade will not be included on the transcript or used in the GPA calculation.

## CURRICULUM

The Midwestern University College of Graduate Studies M.S. in Precision Medicine degree program reserves the right to alter its curriculum however and whenever it deems appropriate. This Catalog does not establish a contractual relationship between Midwestern University and students. Total quarter-credit hours required for Program completion is 46.

A typical curriculum, course credits, and course sequencing is shown below. Not all electives are offered every quarter. PMMSG 501-503 are typically completed in the first summer quarter of the program and PMMSG 601-605 are typically completed in the second Summer quarter. The remaining courses will primarily be completed in the fall through spring quarters.

### Year 1

PMMSG 501	Introduction to Genetics and Genomics	2
PMMSG 502	Genetics of Monogenic and Complex Diseases	3
PMMSG 503	Introduction to Bioinformatics, Statistics, and Data Interpretation	3
PMMSG 504	'Omics and Biomarkers	3
	Electives - See list below	2
<b>Total</b>		<b>13</b>

### Year 2

PMMSG 601	Molecular Pathology of Cancer: Screening, Diagnosis, Prognosis, and Treatment	3
PMMSG 602	Pharmacogenomics	2
PMMSG 603	Microbial Genetics, Infectious Diseases, and the Human Microbiome	3
PMMSG 604	Ethical, Legal, and Social Issues of Precision Medicine	1
PMMSG 605	Counseling and Communication Skills for Precision Medicine	1
PMMSG 606	Introduction to Personal Genomic Analysis, Genomics Laboratory, Part 1	1

PMMSG 607	Capstone Project, Genomics Laboratory Part 2	2
	Electives - See list below	2

**Total** **15**

Students complete four elective courses. Not all electives may be offered in every academic quarter.

### Electives

PMMSG 801	Application of Precision Medicine to Inflammatory and Autoimmune Disease	1
PMMSG 802	Molecular Pathology of Neurological Diseases: Screening, Prognosis, Diagnosis, and Treatment	1
PMMSG 803	Application of Precision Medicine to Cardiovascular Diseases	1
PMMSG 804	Advanced Topics in Pharmacogenomics	1
PMMSG 805	A One Health Approach to Genomics and Precision Medicine	1
PMMSG 806	Epigenomics, Gene Regulatory Networks, and Functional Genomics in Health and Disease	1
PMMSG 807	Genetic Technologies for the Treatment of Disease	1
PMMSG 808	Precision Medicine Journal Club	1
PMMSG 809	Understanding and Interpreting Direct-to-Consumer Genetic Testing	1

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

## REQUIRED CORE COURSES

**(Total 24.0 quarter-credit hours: 21 core quarter-credit hours and 3.0 Genomics Laboratory/Capstone quarter-credit hours)**

### *PMMSG 501 Introduction to Genetics and Genomics*

This introductory course presents basic aspects of genetics, genomics, and molecular biology, including DNA variation and mutation. It also covers a range of common analytical techniques for nucleic acids and proteins. Important elements of chromosomal structure are explored as well as concepts related to genetic testing and gene therapy. Upon successful completion of this course, students will have the foundational knowledge necessary for understanding genomic and other 'omics concepts relevant to completing the remaining required core and elective courses.

2 credits

### *PMMSG 502 Genetics of Monogenic and Complex Diseases*

This course explores the genetic underpinnings of both monogenic and complex diseases. Dominant versus recessive autosomal diseases as well as X-linked, mitochondrial, and cytogenetic diseases are covered. Evolutionary and population genetics are discussed, and methods for studying complex diseases are introduced. Students completing this course will demonstrate a working knowledge of the genetics of monogenic and complex diseases, and an understanding of the relevant analytical methods.

3 credits

Prerequisite: PMMSG 501

### *PMMSG 503 Introduction to Bioinformatics, Statistics, and Data Interpretation*

Obtaining patient 'omics data is a first step in precision medicine. Subsequent computational and analytical methods are required to decipher these data. This course focuses on the analysis of 'omics data sets using bioinformatics and statistical tools. Students are introduced to the use of open access software to analyze provided data sets and learn to interpret the results. The objective of this course is to provide students with the basic skills needed to work with and derive valuable information from complex data sets produced by 'omics analyses.

3 credits

Prerequisites: PMMSG 501, 502

### *PMMSG 504 'Omics and Biomarkers*

This course builds on the use of genomics in medicine by extending knowledge into areas that complement genomics, such as transcriptomics, proteomics and metabolomics. Students explore how these 'omics fields can be used in biomarker discovery and health management. Upon successful completion of this course, students will be able to explain broadly what is meant by 'omics analyses, describe the technologies involved, and display a specific comprehension of the source and uses of the various biomarkers in medicine.

3 credits

Prerequisites: PMMSG 501, 502

### *PMMSG 601 Molecular Pathology of Cancer: Screening, Diagnosis, Prognosis, and Treatment*

This course explores genetic and other molecular mechanisms involved in cancer development and progression, including assessment of the genomes and transcriptomes of tumor cells as well as the patient's normal cells. Students examine how this knowledge translates into precision technologies for cancer screening, as well as diagnosing and treating cancer patients. Upon successful completion of this course, students will demonstrate an understanding of the genetic origins and development of cancer, the methods of assessing what is occurring in cancerous cells, and a basic understanding of how knowledge gained from analyses can be used to benefit patients.

3 credits

Prerequisites: PMMSG 501, 502

### *PMMSG 602 Pharmacogenomics*

This course discusses the ways in which genomic information can be used to ensure that patients receive the greatest possible benefit from therapeutics while mitigating risk of adverse events. Students explore how genetic variation may alter drug metabolism, disposition, and action, and they discuss how doses may need to be tailored, or drugs altered to account for certain polymorphic differences. Students successfully completing this course will demonstrate a working knowledge of the interaction between a patient's genetic structure and the safety and efficacy of therapeutic drugs.

2 credits

Prerequisites: PMMSG 501, 502

### *PMMSG 603 Microbial Genetics, Infectious Diseases, and the Human Microbiome*

This course provides information on basic features of microbial genetics that are relevant to health. It covers what is known about the effects of an individual's microbiome on their health, the consequences of dysbiosis, and the effects of the microbiome on patient treatment, including metabolism of therapeutics. Methods for studying and assessing an



individual's microbiome, or microbiome features of various subject groups are discussed. This course also explores the role of 'omics information from both patients and infecting microbes in the identification, targeted treatment, and control of infectious diseases in individuals and on a population basis. After successful completion of this course, students will be able to demonstrate a basic knowledge of health-relevant microbial genetics, will be able to describe the role of the microbiome in health, and will comprehend the usefulness of 'omics technologies in the management of infectious diseases.

3 credits

Prerequisites: PMMSG 501, 502

*PMMSG 604 Ethical, Legal, and Social Issues of Precision Medicine*

This course examines the ethical and legal issues surrounding the use of precision medicine technology, and particularly the potential misuse of genomic information, privacy, ownership of genetic information, open versus informed consent, and accessibility. It also addresses social issues that have developed or may develop in the future as a result of these types of genomic knowledge. Upon successful completion of this course, students will be able to describe existing and potential future ethical, legal, and social issues surrounding the use of precision medicine technologies.

1 credit

Prerequisites: PMMSG 501, 502

*PMMSG 605 Counseling and Communication Skills for Precision Medicine*

This course considers how to effectively communicate genomic or other 'omics information to patients. Students learn how to tailor complex genomic discussions to a lay audience, become aware of how the information provided may be viewed by patients or their families, and consider how to counsel them about this information to enable patient-centric, optimal health decisions. Upon successful completion of this course, students will demonstrate familiarity with both the sensitive issues that arise when using precision medicine technologies and with methods that can be used for effectively communicating that information to patients and their families.

1 credit

Prerequisites: PMMSG 501, 502

## REQUIRED GENOMICS LABORATORY/CAPSTONE COURSE DESCRIPTIONS

(Total 3.0 quarter-credit hours)

*PMMSG 606 Introduction to Personal Genomic Analysis, Genomics Laboratory, Part 1*

This course introduces students to the analytical methods needed for a genetic evaluation of an anonymized human genome provided by the instructors. This genome analysis knowledge is ultimately used to complete a Capstone Project (PMMSG 607). The objective of this course is for students to become familiar with the format in which a sequenced genome is provided and demonstrate the ability to use publicly available software to manipulate that genome sequence and search for the presence of health-related genetic variants.

1 credit

Prerequisites: PMMSG 501, 502, and 503

*PMMSG 607 Capstone Project, Genomics Laboratory Part 2*

In this course, students use the knowledge and skills acquired in previous required courses, particularly in PMMSG 606, to make a health-focused assessment of an anonymized human genome provided to them by the instructors. Students concentrate on identifying gene variants associated directly with genetic diseases or with increased risk for diseases, and evaluating the consequences of those gene variants. This course culminates in a written report of the findings and a formal presentation. The objective of this course is for students to demonstrate competence in basic genome analysis and assessment of genetic risk alleles.

2 credits

Prerequisite: PMMSG 606

## ELECTIVE COURSE DESCRIPTIONS

**Elective Courses (4.0 quarter-credit hours required) Each elective course is 1.0 credit. Not all electives are offered every quarter.**

### *PMMSG 801 Application of Precision Medicine to Inflammatory and Autoimmune Disease*

This course explores genetic/genomic influences on the development of autoimmune diseases and other diseases with inflammatory components. Students discuss the use of biomarker studies for both increasing the accuracy of diagnosis and for identifying proteins and metabolites that may provide insight into the causes of these disorders. Students successfully completing this course will be able to demonstrate an understanding of the genetic underpinnings of inflammatory and autoimmune diseases and be able to explain how biomarker studies can be used to improve patient outcomes.

1 credit

Prerequisites: PMMSG 501, 502

### *PMMSG 802 Molecular Pathology of Neurological Diseases: Screening, Prognosis, Diagnosis, and Treatment*

This course examines the genetic underpinnings of common neurological disorders, neurogenetic disorders, and neurodegenerative diseases. Students study how genomics can be used to identify genes that are directly involved in neurological disorders or that confer significant risk of developing a disorder. Students discuss how that information is used for diagnosis, prognosis, and development of novel therapeutics. Upon successful completion of the course, students will be able to explain the role that gene variants and mutations play in the development of neurological diseases and describe how that information can be used to support effective patient treatment and care.

1 credit

Prerequisites: PMMSG 501, 502

### *PMMSG 803 Application of Precision Medicine to Cardiovascular Diseases*

This course covers polymorphisms related to cardiovascular disease, including genes that contribute to the development of heart disease, atherosclerosis, and stroke. Students review how these genetic risk factors were identified and linked to cardiovascular disease. They also learn about the interplay of lifestyle factors with genetic risk factors in the development of cardiovascular disease. Students completing this course will demonstrate an understanding of gene variants involved in increasing the risk of cardiovascular disease and be able to describe the role that lifestyle choices play in development of cardiovascular disease.

1 credit

Prerequisites: PMMSG 501, 502

### *PMMSG 804 Advanced Topics in Pharmacogenomics*

This advanced topics course provides an in-depth knowledge of the clinical applications of pharmacogenomics. Students deepen their understanding of how genetic differences impact drug therapy. Students view recorded lectures presented by experts on disease-specific topics and also read assigned papers relevant to those topics. Assessment is based on completion of worksheets. Upon successful completion of this course, students will demonstrate a broad understanding of the current and potential clinical applications of pharmacogenomics.

1 credit

Prerequisites: PMMSG 501, 502; PMMSG 602

### *PMMSG 805 A One Health Approach to Genomics and Precision Medicine*

This course focuses on how knowledge of the genomics, health, and environment of one species can be used to effectively develop targeted treatments for other species. It addresses the global interrelatedness of the health of all species and how One Health-based studies can help to develop solutions for human and animal health issues and inform public policy. Students successfully completing this course will be able to describe the uses and practicality of the One Health approach to supporting animal and human health, as well as the health of the environment.

1 credit

Prerequisites: PMMSG 501, 502

### *PMMSG 806 Epigenomics, Gene Regulatory Networks, and Functional Genomics in Health and Disease*

This course examines the importance of gene expression changes on the health of individuals and populations. Topics include how DNA variation can alter gene expression changes, the role of epigenetic changes on gene expression levels, and how these changes contribute to complex disease. Students also examine the potential for future genomic and epigenomic technologies to improve health. Upon successful completion of this course, students will be able to demonstrate knowledge of the role that gene expression changes play in health and disease, as well as being able to describe the factors that influence gene expression.

1 credit

Prerequisites: PMMSG 501, 502

### *PMMSG 807 Genetic Technologies for the Treatment of Disease*

This course explores methods available for manipulation of genomes to treat genetic diseases or to prevent the development of diseases. It addresses the various techniques for conducting gene therapy and editing, and the mechanisms by which they work. Students examine the health risks and ethical issues associated with these technologies. Upon successful completion of this course,

students will demonstrate knowledge of the current technologies used for modifications of the genome, and be able to describe both the benefits and the intended and unintended consequences of these technologies.

1 credit

Prerequisites: PMMSG 501, 502

#### *PMMSG 808 Precision Medicine Journal Club*

This course engages students in surveys and in-depth evaluations of the precision medicine scientific literature. Seminal papers in the development of 'omic and precision medicine technologies, as well as recent publications, are critically reviewed. The objective of this course is to provide students with an understanding of how the various 'omics fields developed and to assist them with learning to evaluate and properly understand scientific literature.

1 credit

Prerequisites: PMMSG 501, 502

#### *PMMSG 809 Understanding and Interpreting Direct-to-Consumer Genetic Testing*

Direct-to-consumer genetic testing is in widespread use for both tracing ancestry and for identification of disease risk alleles. The purpose of this course is to help students understand the various types of tests available and recognize what types of information they provide. Students will learn how to assist their patients in interpreting and applying the results of risk allele testing to achieve better health outcomes. Upon successful completion of this course, students will understand the various formats in which direct-to-consumer genetic testing results are provided, will be able to describe how to appropriately evaluate the information provided, and will be able to help the patient make decisions or find resources that will help them make the best use of the genetic information they receive.

1 credit

Prerequisites: PMMSG 501, 502

## **DUAL CREDIT COURSES FROM PROFESSIONAL PROGRAMS**

**(up to 18 dual credits allowed)**

Students enrolled in a dual-degree program at Midwestern University may be awarded up to 18 quarter-credit hours towards the M.S. degree for approved courses completed satisfactorily in their professional primary degree programs. These courses are preapproved by the Precision Medicine Program Director with input from respective professional program advisors, and courses are identified in the University Catalog as eligible for dual credit in the M.S. in Precision Medicine Program. The following are examples of courses from primary degree programs (e.g., Doctor of Osteopathic Medicine) that are eligible for full or partial dual credit for the purposes of the dual degree M.S. in Precision Medicine.

A credit amount followed by \* indicates the amount of partial dual credit allowed for the course. The awarding of only partial credit is due to the presence of some content within the course that is not closely related to Precision Medicine topics, or which substantially duplicates Precision Medicine coursework.

### **CHICAGO COLLEGE OF OSTEOPATHIC MEDICINE**

BIOCD 1501 Biochemistry I

5.0 credits

BIOCD 1502 Biochemistry II

3.0 credits\*

PHYSD 1501 Physiology I

4.0 credits

PHYSD 1502 Physiology II

5.5 credits

MICRD 1652 Infectious Disease, Etiologic Agents, and the Immune Response I

8.0 credits

MICRD 1653 Infectious Disease, Etiologic Agents, and the Immune Response II

5.0 credits

PATHD 1601 Pathology I

5.0 credits

PATHD 1602 Pathology II

6.0 credits

PATHD 1603 Pathology III

4.5 credits

PHARD 1670 Pharmacology I

5.0 credits

PHARD 1671 Pharmacology II

3.0 credits

PHARD 1672 Pharmacology III

2.0 credits

### **ARIZONA COLLEGE OF OSTEOPATHIC MEDICINE**

BIOCG 1511 Biochemistry I

5.0 credits\*

BIOCG 1522 Biochemistry II

2.0 credits\*

PHYSG 1521 Physiology I

5.0 credits

PHYSG 1532 Physiology II

4.5 credits

MICRG 1531 Immunology

2.5 credits

MICRG 1615 Microbiology I

4.0 credits

MICRG 1625 Microbiology II

4.0 credits

PATHG 1611 Pathology I

5.0 credits

PATHG 1622 Pathology II

5.0 credits

PATHG 1633 Pathology III

5.0 credits

PHARG 1610 Pharmacology I

3.5 credits

PHARG 1620 Pharmacology II

3.5 credits

PHARG 1630 Pharmacology III

3.0 credits

### **COLLEGE OF VETERINARY MEDICINE**

MICRG 1522 Veterinary Immunology

3.0 credits

MICRG 1671 Veterinary Microbiology I

4.0 credits

MICRG 1672 Veterinary Microbiology II

3.0 credits

MICRG 1673 Veterinary Parasitology

3.0 credits

PHARG 1660 Veterinary Pharmacology I

3.0 credits

PHARG 1661 Veterinary Pharmacology II

3.0 credits

PHYSG 1512 Veterinary Physiology I

3.0 credits

PHYSG 1522 Veterinary Physiology II

2.0 credits

PHYSG 1533 Veterinary Physiology III

4.0 credits

VMEDG 1641 Veterinary Pathology I

5.0 credits

VMEDG 1642 Veterinary Pathology II

5.0 credits

VMEDG 1645 Clinical Pathology

4.0 credits

### **ARIZONA COLLEGE OF DENTAL MEDICINE**

BASIG 1501 Basic Science Integrated Sequence I

4.0 credits

BASIG 1502 Basic Science Integrated Sequence II

3.0 credit\*

BASIG 1503 Basic Science Integrated Sequence III

4.5 credits

BASIG 1505 Basic Science Integrated Sequence V

4.5 credits

BASIG 1506 Basic Science Integrated Sequence VI

2.5 credits\*

PHARG 1601 General Pharmacology I

2.0 credits

PHARG 1621 General Pharmacology II

3.0 credits

### **ILLINOIS COLLEGE OF DENTAL MEDICINE**

IBSSD 1520 Molecular, Cellular and Tissue Structure and Function

5.0 credits

IBSSD 1521 Clinical Neuroscience for Dental Students

2.5 credits\*

IBSSD 1522 Blood, Lymphoid Tissue and Immunology

4.0 credits

IBSSD 1530 Essential of Infectious Disease, Integument and Lymphoreticular Systems

3.0 credits

IBSSD 1534 Cardiovascular and Respiratory Systems

3.0 credits\*

IBSSD 1535 Gastrointestinal System

2.0 credits\*

PHARD 1620 General Pharmacology I

2.0 credits

PHARD 1630 General Pharmacology II

3.0 credits

### **ARIZONA COLLEGE OF OPTOMETRY**

BASIG 1510 Basic Science Integrated Sequence I

4.0 credits

BASIG 1511 Basic Science Integrated Sequence II

3.0 credits\*

BASIG 1512 Basic Science Integrated Sequence III

4.5 credits

BASIG 1514 Basic Science Integrated sequence V

4.5 credits

BASIG 1515 Basic Science Integrated Sequence VI

2.5 credits\*

PHARG 1602 General Pharmacology I

2.0 credits

PHARC 1623 General Pharmacology II

3.0 credits

### **ILLINOIS COLLEGE OF OPTOMETRY**

PATHD 1501 Pathology/Histology I

2.0 credits

PHYSD 1530 Human Physiology I

3.5 credits

MICRD 1590 Immunology

2.0 credits

PHYSD 1531 Human Physiology II

3.5 credits

BIOCD 1590 Biochemistry for Optometry

1.5 credits

MICRD 1582 Microbiology

1.5 credits

PATHD 1502 Pathology/Histology II

2.5 credits

PHARD 1641 Pharmacology I

3.0 credits

PHARD 1642 Pharmacology II

2.0 credits

## **FACULTY**

### **Garilyn Jentarra, Ph.D., Program Director**

Arizona State University

Program Director, Precision Medicine Program

Associate Professor

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Duke University

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### **Jose Hernandez, Ph.D.**

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Professor and Department Chair

### **Samuel Katzif, Ph.D.**

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### **Lisa Kronstad, Ph.D.**

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### **Luigi Strizzi, M.D., Ph.D.**

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**Mark Swanson, Ph.D.**

SUNY, Stony Brook  
Associate Professor

**Martin Szul, Ph.D.**

University of Tennessee  
Instructor

**Tony Tulloh, M.D.**

Medical College of Georgia  
Professor and Department Chair

# POST-GRADUATE CERTIFICATE IN PRECISION MEDICINE

## MISSION

The Midwestern University College of Graduate Studies Post-Graduate Certificate (PGCert) in Precision Medicine Program is designed as an interdisciplinary professional degree in applied genomic sciences that aims to prepare healthcare professional students and practicing healthcare professionals to utilize genomic information in the prediction, diagnosis, prognosis, prevention, and treatment of disease.

Upon completion, students in the Post-Graduate Certificate in Precision Medicine Program will have the foundational knowledge needed to:

1. Comprehend genomic and other 'omic data, describe how it is created and applied, and demonstrate basic analytical methods;
2. Determine what those data mean in practical terms for a patient's physical and mental health, and;
3. Utilize their knowledge to determine how that data can best be used to meet the medical needs of individual patients or populations.

The Program both complements and expands the mission of Midwestern University to meet the educational needs of the healthcare community by preparing students for the new era of applied genomics in medicine. The Post-Graduate Certificate can be pursued as a dual degree (starting June 2021) or stand-alone option (starting June 2022). Dual track Post-Graduate Certificate candidates will complete their degree in conjunction with another Midwestern University healthcare professional program.

The stand-alone Post-Graduate Certificate option may be attractive to applicants who have already successfully completed a graduate healthcare professional program and desire to be further trained in the latest applied genomic sciences. Students enrolled in the dual degree or stand-alone option of the Post-Graduate Certificate in Precision Medicine Program will enhance their medical knowledge,

understand genetic and genomic applications, and expand their career options upon completion of the Program.

## ACCREDITATION

Midwestern University is accredited by The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

The PGCert in Precision Medicine Program may be completed either as a dual degree or stand-alone option. Dual degrees are completed in conjunction with healthcare professional degrees such as Doctor of Osteopathic Medicine, Doctor of Veterinary Medicine, Doctor of Dental Medicine, Doctor of Optometry, or Doctor of Pharmacy. Dual degree students completing professional degrees at Midwestern University other than those listed above, including Podiatric Medicine, may apply for this dual degree program with the approval of their Dean. The stand-alone Post-Graduate Certificate option is suitable for students already possessing a graduate healthcare degree and not currently enrolled in other Midwestern University degree programs.

Graduates are prepared to directly enter their chosen healthcare profession with the background to understand and apply genetic or genomic information in the overall care of their patients. This online, 22 quarter-credit hour curriculum (19 credits of required core courses and 3 elective credits) is taught at a graduate level and designed to complement select healthcare professional programs and careers.

The coursework can be completed in as little as two years and, for dual degree students, is optimally completed within the timeframe of the primary program. The maximum time allowed for completion of either the dual degree or stand-alone certificate is six years.

The 22 quarter-credit hour PGCert in Precision Medicine Program includes required and elective coursework. Some dual degree students may desire to transfer from this Program

to the Master of Science in Precision Medicine degree program. Interested students should contact the Precision Medicine Program Director. Additional coursework and completion of the Genomics Laboratory and Capstone Project will be required (see Master of Science in Precision Medicine Program).

## ADMISSIONS

### Admission Requirements

To be considered for admission to the PGCert in Precision Medicine Program as a dual degree or stand-alone option, applicants must submit the following documented evidence:

1. For dual degree students: Bachelor's degree or higher, preferably in the sciences (minimum cumulative GPA of 2.75), and acceptance to a Midwestern University primary degree program.
2. For stand-alone students: Completion of a Midwestern University primary degree program or completion of a graduate healthcare professional degree program from a comparable accredited college or university (minimum cumulative GPA of 2.75).
3. A completed Midwestern University application for the Precision Medicine Program.
4. For current Midwestern University students whose primary degree program has already started, a letter of support must be provided from the Dean for their primary degree.
5. Passage of the Midwestern University criminal background check.

### Application Process and Deadlines

To be considered for admission to the PGCert in Precision Medicine Program, applicants must submit their applications online through the Midwestern University direct application process.

The PGCert in Precision Medicine degree program uses a rolling admission process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. The Program begins in the summer quarter. Admission to the Program is considered on a competitive basis for applicants submitting completed applications. Multiple criteria are used to select the most qualified candidates, including selection of those students the Admissions Committee determines would benefit the most from the Program based on their planned programs of study (if dual degree) and professional goals.

Due to the nature of the Precision Medicine curriculum, students with prior graduate or undergraduate courses in Biochemistry, Molecular Biology, Genetics, and Genomics will receive preference for admission to the Program.

Selection decisions for the Program are determined by the CGS Precision Medicine Admissions Committee, whose membership includes four faculty members and the Precision Medicine Program Director, with the approval of the Dean of the College of Graduate Studies. To maximize their competitiveness within this rolling admission process, candidates are advised to submit their completed applications early in the admission cycle. The deadline for applications is April 1 or the first business day thereafter.

### Selection Process

After receiving completed application packets, the Midwestern University Office of Admissions verifies the information provided to determine whether all admissions requirements have been completed satisfactorily or will be completed prior to potential matriculation and to verify the cumulative GPAs for all completed courses. Applicants are notified either electronically (i.e., through their admissions portal or by e-mail) or by letter of admissions decisions. Please note that applicants may track the receipt of their application materials and the status of their files on the University's website using instructions for accessing account information sent by the Office of Admissions after receipt of their applications. Applicants are responsible for notifying the Office of Admissions of any changes in their telephone number, mailing address, or e-mail address. All requests for application withdrawals must be made in writing to the Office of Admissions:

Midwestern University Office of Admissions, 19555 N. 59th Avenue Glendale, AZ 85308; [admissaz@midwestern.edu](mailto:admissaz@midwestern.edu); 888/247-9277 or 623/572-3215.

Midwestern University Office of Admissions, 555 31st Street Downers Grove, IL 60515; [admissil@midwestern.edu](mailto:admissil@midwestern.edu); 630/515-6171 or 800/458-6253.

### Technical Standards

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College.

Candidates must be able to perform the following abilities and skills:

1. Observation: The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. Communication: The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.



3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control, and eye-to-hand coordination to perform profession-specific skills and tasks.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record, and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive, and effective relationships. Candidates must be able to tolerate physically, mentally, and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Satisfactory Academic Progress**

Students must pass all required Certificate courses with a grade of "C" or higher and maintain a cumulative GPA of 2.50 or higher in the Certificate program. For dual degree students, regardless of satisfactory academic progress in the Certificate program, the CGS Student Promotion and Graduation Committee may determine that a dual degree student who experiences academic difficulty in the primary degree take a leave of absence from the Certificate program until satisfactory academic progress in the primary program is achieved. Separate criteria for achieving satisfactory academic progress in the primary degree program are listed in the catalog under the respective degree program.

## **GRADUATION REQUIREMENTS**

To qualify for the PGCert in Precision Medicine degree, students must:

1. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.5.
2. Satisfactorily complete the required minimum number of 22 credit hours in the curriculum.
3. Receive a favorable recommendation for Post-Graduate Certificate conferral from the CGS Student Promotion and Graduation Committee.
4. Receive a favorable recommendation for Post-Graduate Certificate conferral from the University Faculty Senate.
5. Settle all financial accounts with the University.
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

Post-Graduate Certificates will be conferred upon candidates who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements for the relevant Post-Graduate Certificate Program.

Post-Graduate Certificates earned through the dual-degree program will be awarded at the commencement for the primary degree program. Post-Graduate Certificates earned through the stand-alone option will be awarded at the CGS commencement.

### **Timeframe for Completion of Curriculum**

The curriculum can be completed in as little as two years. Both dual degree students and students enrolled in the stand-alone Post-Graduate Certificate Program must satisfactorily complete the full curriculum within six years of the starting date of their Precision Medicine Program in order to be awarded the Certificate.

### **Advanced Placement**

The Post-Graduate Certificate in Precision Medicine Program allows the transfer of up to six quarter-credits (applicable only to core program courses) from recent (within

the last five years) equivalent graduate-level coursework completed at other institutions prior to matriculation at Northwestern University. Generally, transfer credits would only be given to students who satisfactorily completed course-work with a minimum of a B grade from an accredited graduate degree program. Prior to matriculation, students must submit a letter of request and relevant course materials, including syllabi, to the Program Director. The Program Director will consult with the appropriate course director to evaluate the submitted course materials and determine whether the course is an appropriate substitute for one of the core Precision Medicine Program courses. If the request for transfer credits is denied, students may appeal this decision to the CGS Dean. If a course is accepted for credit, the equivalent Northwestern University course and the Advanced Placement notation will be recorded on the transcript along with the name of the institution at which the credit was earned. Any earned letter grade will not be included on the transcript or used in the GPA calculation.

## CURRICULUM

The Northwestern University College of Graduate Studies PGCert in Precision Medicine Program reserves the right to alter its curriculum however and whenever it deems appropriate. This Catalog does not establish a contractual relationship between Northwestern University and students. Total quarter-credit hours required for Program completion is 22.

A typical curriculum, course credits, and course sequencing is shown below. Not all electives are offered every quarter.

### Year 1

PMGCG 501	Introduction to Genetics and Genomics	2
PMGCG 502	Genetics of Monogenic and Complex Diseases	3
PMGCG 503	Introduction to Bioinformatics, Statistics, and Data Interpretation	2
PMGCG 504	'Omics and Biomarkers	3
<b>Total</b>		<b>10</b>

### Year 2

PMGCG 601	Molecular Pathology of Cancer: Screening, Diagnosis, Prognosis, and Treatment	3
PMGCG 602	Pharmacogenomics	2
PMGCG 603	Microbial Genetics, Infectious Diseases, and the Human Microbiome	2

PMGCG 604	Ethical, Legal and Social Issues of Precision Medicine	1
PMGCG 605	Counseling and Communication Skills for Precision Medicine	1
	Electives - See list below	3
<b>Total</b>		<b>12</b>

Students complete three elective courses. Not all electives may be offered in every academic quarter.

### Electives

PMGCG 801	Application of Precision Medicine to Inflammatory and Autoimmune Disease	1
PMGCG 802	Molecular Pathology of Neurological Diseases: Screening, Prognosis, Diagnosis, and Treatment	1
PMGCG 803	Application of Precision Medicine to Cardiovascular Diseases	1
PMGCG 804	Advanced Topics in Pharmacogenomics	1
PMGCG 805	A One Health Approach to Genomics and Precision Medicine	1
PMGCG 806	Epigenomics, Gene Regulatory Networks, and Functional Genomics in Health and Disease	1
PMGCG 807	Genetic Technologies for the Treatment of Disease	1
PMGCG 808	Precision Medicine Journal Club	1
PMGCG 809	Understanding and Interpreting Direct-to-Consumer Genetic Testing	1
<b>Total</b>		<b>9</b>

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

## REQUIRED CORE COURSES

**(Total 22.0 quarter-credit hours: 19 core quarter-credit hours and 3.0 Elective quarter-credit hours)**

### *PMGCG 501 Introduction to Genetics and Genomics*

This introductory course presents basic aspects of genetics, genomics, and molecular biology, including DNA variation and mutation. It also covers a range of common analytical techniques for nucleic acids and proteins. Important elements of chromosomal structure are explored as well as concepts related to genetic testing and gene therapy. Upon successful completion of this course, students will have the foundational knowledge necessary for understanding genomic and other ‘omics concepts relevant to completing the remaining required core and elective courses.

2.0 credits

### *PMGCG 502 Genetics of Monogenic and Complex Diseases*

This course explores the genetic underpinnings of both monogenic and complex diseases. Dominant versus recessive autosomal diseases as well as X-linked, mitochondrial and cytogenetic diseases are covered. Evolutionary and population genetics are discussed, and methods for studying complex diseases are introduced. Students completing this course will demonstrate a working knowledge of the genetics of monogenic and complex diseases, and an understanding of the relevant analytical methods.

Prerequisite: PMGCG 501

3.0 credits

### *PMGCG 503 Introduction to Bioinformatics, Statistics, and Data Interpretation*

Obtaining patient ‘omics data is a first step in precision medicine. Subsequent computational and analytical methods are required to decipher these data. This course focuses on the analysis of ‘omics data sets using bioinformatics and statistical tools. Students are introduced to the use of open access software to analyze provided data sets and learn to interpret the results. The objective of this course is to provide students with the basic skills needed to work with and derive valuable information from complex data sets produced by ‘omics analyses.

Prerequisites: PMGCG 501, 502

2.0 credits

### *PMGCG 504 ‘Omics and Biomarkers*

This course builds on the use of genomics in medicine by extending knowledge into areas that complement genomics,

such as transcriptomics, proteomics and metabolomics. Students explore how these ‘omics fields can be used in biomarker discovery and health management. Upon successful completion of this course, students will be able to explain broadly what is meant by ‘omics analyses, describe the technologies involved, and display a specific comprehension of the source and uses of the various biomarkers in medicine.

Prerequisites: PMGCG 501, 502

3.0 credits

### *PMGCG 601 Molecular Pathology of Cancer: Screening, Diagnosis, Prognosis, and Treatment*

This course explores genetic and other molecular mechanisms involved in cancer development and progression, including assessment of the genomes and transcriptomes of tumor cells as well as the patient’s normal cells. Students examine how this knowledge translates into precision technologies for cancer screening, as well as diagnosing and treating cancer patients. Upon successful completion of this course, students will demonstrate an understanding of the genetic origins and development of cancer, the methods of assessing what is occurring in cancerous cells, and a basic understanding of how knowledge gained from analyses can be used to benefit patients.

Prerequisites: PMGCG 501, 502

3.0 credits

### *PMGCG 602 Pharmacogenomics*

This course discusses the ways in which genomic information can be used to ensure that patients receive the greatest possible benefit from therapeutics while mitigating risk of adverse events. Students explore how genetic variation may alter drug metabolism, disposition, and action, and they discuss how doses may need to be tailored, or drugs altered to account for certain polymorphic differences. Students successfully completing this course will demonstrate a working knowledge of the interaction between a patient’s genetic structure and the safety and efficacy of therapeutic drugs.

Prerequisites: PMGCG 501, 502

2.0 credits

### *PMGCG 603 Microbial Genetics, Infectious Diseases, and the Human the Microbiome*

This course provides information on basic features of microbial genetics that are relevant to health. It covers what is known about the effects of an individual’s microbiome on their health, the consequences of dysbiosis, and the effects of the microbiome on patient treatment, including metabolism of therapeutics. Methods for studying and assessing an individual’s microbiome, or microbiome features of various subject groups are discussed. This course also explores the

role of ‘omics information from both patients and infecting microbes in the identification, targeted treatment, and control of infectious diseases in individuals and on a population basis. After successful completion of this course, students will be able to demonstrate a basic knowledge of health-relevant microbial genetics, will be able to describe the role of the microbiome in health, and will comprehend the usefulness of ‘omics technologies in the management of infectious diseases.

Prerequisites: PMGCG 501, 502

2.0 credits

#### *PMGCG 604 Ethical, Legal and Social Issues of Precision Medicine*

This course examines the ethical and legal issues surrounding the use of precision medicine technology, and particularly the potential misuse of genomic information, privacy, ownership of genetic information, open versus informed consent, and accessibility. It also addresses social issues that have developed or may develop in the future as a result of these types of genomic knowledge. Upon successful completion of this course, students will be able to describe existing and potential future ethical, legal, and social issues surrounding the use of precision medicine technologies.

Prerequisites: PMGCG 501, 502

1.0 credit

#### *PMGCG 605 Counseling and Communication skills for Genomic/Precision Medicine*

This course considers how to effectively communicate genomic or other ‘omics information to patients. Students learn how to tailor complex genomic discussions to a lay audience, become aware of how the information provided may be viewed by patients or their families, and consider how to counsel them about this information to enable patient-centric, optimal health decisions. Upon successful completion of this course, students will demonstrate familiarity with both the sensitive issues that arise when using precision medicine technologies and with methods that can be used for effectively communicating that information to patients and their families.

Prerequisites: PMGCG 501, 502

1.0 credit

## **ELECTIVE COURSES**

### **Elective Courses (3.0 quarter-credit hours required)**

Each elective course is 1.0 credit. Not all electives are offered every quarter.

#### *PMGCG 801 Application of Precision Medicine to Inflammatory and Autoimmune Disease*

This course explores genetic/genomic influences on the development of autoimmune diseases and other diseases with inflammatory components. Students discuss the use of biomarker studies for both increasing the accuracy of diagnosis and for identifying proteins and metabolites that may provide insight into the causes of these disorders. Students successfully completing this course will be able to demonstrate an understanding of the genetic underpinnings of inflammatory and autoimmune diseases and be able to explain how biomarker studies can be used to improve patient outcomes.

Prerequisites: PMGCG 501, 502

#### *PMGCG 802 Molecular Pathology of Neurological Diseases: Screening, Prognosis, Diagnosis, and Treatment*

This course examines the genetic underpinnings of common neurological disorders, neurogenetic disorders, and neurodegenerative diseases. Students study how genomics can be used to identify genes that are directly involved in neurological disorders or that confer significant risk of developing a disorder. Students discuss how that information is used for diagnosis, prognosis, and development of novel therapeutics. Upon successful completion of the course, students will be able to explain the role that gene variants and mutations play in the development of neurological diseases and describe how that information can be used to support effective patient treatment and care.

Prerequisites: PMGCG 501, 502

#### *PMGCG 803 Application of Precision Medicine to Cardiovascular Diseases*

This course covers polymorphisms related to cardiovascular disease, including genes that contribute to the development of heart disease, atherosclerosis, and stroke. Students review how these genetic risk factors were identified and linked to cardiovascular disease. They also learn about the interplay of lifestyle factors with genetic risk factors in the development of cardiovascular disease. Students completing this course will demonstrate an understanding of gene variants involved in increasing the risk of cardiovascular disease and be able to describe the role that lifestyle choices play in development of cardiovascular disease.

Prerequisites: PMGCG 501, 502

#### *PMGCG 804 Advanced Topics in Pharmacogenomics*

This advanced topics course provides an in-depth knowledge of the clinical applications of pharmacogenomics. Students deepen their understanding of how genetic differences impact drug therapy. Students view recorded lectures presented by experts on disease-specific topics and also read assigned papers relevant to those topics. Assessment is based on completion of worksheets. Upon successful completion of

this course, students will demonstrate a broad understanding of the current and potential clinical applications of pharmacogenomics.

Prerequisites: PMGCG 501, 502; PMGCG 602

*PMGCG 805 A One Health Approach to Genomics and Precision Medicine*

This course focuses on how knowledge of the genomics, health, and environment of one species can be used to effectively develop targeted treatments for other species. It addresses the global interrelatedness of the health of all species and how One Health-based studies can help to develop solutions for human and animal health issues and inform public policy. Students successfully completing this course will be able to describe the uses and practicality of the One Health approach to supporting animal and human health, as well as the health of the environment.

Prerequisites: PMGCG 501, 502

*PMGCG 806 Epigenomics, Gene Regulatory Networks, and Functional Genomics in Health and Disease*

This course examines the importance of gene expression changes on the health of individuals and populations. Topics include how DNA variation can alter gene expression changes, the role of epigenetic changes on gene expression levels, and how these changes contribute to complex disease. Students also examine the potential for future genomic and epigenomic technologies to improve health. Upon successful completion of this course, students will be able to demonstrate knowledge of the role that gene expression changes play in health and disease, as well as being able to describe the factors that influence gene expression.

Prerequisites: PMGCG 501, 502

*PMGCG 807 Genetic Technologies for the Treatment of Disease*

This course explores methods available for manipulation of genomes to treat genetic diseases or to prevent the development of diseases. It addresses the various techniques for conducting gene therapy and editing, and the mechanisms by which they work. Students examine the health risks and ethical issues associated with these technologies. Upon successful completion of this course, students will demonstrate knowledge of the current technologies used for modifications of the genome, and be able to describe both the benefits and the intended and unintended consequences of these technologies.

Prerequisites: PMGCG 501, 502

*PMGCG 808 Precision Medicine Journal Club*

This course engages students in surveys and in-depth evaluations of the precision medicine scientific literature. Seminal papers in the development of ‘omic and precision medicine technologies, as well as recent publications, are

critically reviewed. The objective of this course is to provide students with an understanding of how the various ‘omics fields developed and to assist them with learning to evaluate and properly understand scientific literature.

Prerequisites: PMGCG 501, 502

*PMGCG 809 Understanding and Interpreting Direct-to-Consumer Genetic Testing*

Direct-to-consumer genetic testing is in widespread use for both tracing ancestry and for identification of disease risk alleles. The purpose of this course is to help students understand the various types of tests available and recognize what types of information they provide. Students will learn how to assist their patients in interpreting and applying the results of risk allele testing to achieve better health outcomes. Upon successful completion of this course, students will understand the various formats in which direct-to-consumer genetic testing results are provided, will be able to describe how to appropriately evaluate the information provided, and will be able to help the patient make decisions or find resources that will help them make the best use of the genetic information they receive.

Prerequisites: PMGCG 501, 502

## FACULTY

**Garilyn Jentarra, Ph.D., Program Director**

Arizona State University  
Program Director, Precision Medicine Program  
Associate Professor

**Kolla Kristjansdottir, Ph.D.**

Duke University  
Associate Program Director, Precision Medicine Program  
Associate Professor

**Hilal Arnouk, M.D., Ph.D.**

The State University of New York at Buffalo  
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**Nancy Bae, Ph.D.**

University of Maryland at College Park/National Institutes of Health  
Associate Professor

**Bryan Bjork, Ph.D.**

University of Iowa  
Associate Professor

**Thomas Bodenshteyn, Ph.D.**

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Assistant Professor

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Associate Professor

**Jose Hernandez, Ph.D.**

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Professor and Department Chair

**Samuel Katzif, Ph.D.**

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**Lisa Kronstad, Ph.D.**

University of California  
Assistant Professor

**Luigi Strizzi, M.D., Ph.D.**

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Associate Professor

**Mark Swanson, Ph.D.**

SUNY, Stony Brook  
Associate Professor

**Martin Szul, Ph.D.**

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Instructor

**Tony Tullo, M.D.**

Medical College of Georgia  
Professor and Department Chair

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Chief Academic Officer of the College of Graduate Studies  
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Professor

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Dean, College of Graduate Studies  
Professor

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**Aryeh Grossman, Ph.D.**

Stony Brook University  
Professor

**Margaret Hall, Ph.D.**

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Professor

**Christopher Heesy, Ph.D.**

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**Bucky Jones, Ph.D.**

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Arizona College of Osteopathic Medicine  
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**Kimbal E. Cooper, Ph.D.**

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**Chongwoo Kim, Ph.D.**

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Associate Professor

# COLLEGE OF DENTAL MEDICINE-ARIZONA

## MISSION

The mission of the Midwestern University College of Dental Medicine-Arizona is to graduate well-qualified general dentists and to improve oral health through research, scholarly activity, and service to the public.

## VISION

The Vision of ONE: Everyone involved with CDMA, working as ONE team, should have that ONE singular purpose of developing competent and confident clinicians in mind as they approach each day.

The following themes guide the CDMA in pursuit of the Vision of ONE.

- Remembering ONE purpose of developing *competent* and *confident* clinicians
- Inspiring the desire for growth and development in everyone
- Modeling the concept of ONE team from Admissions to Graduation
- Teaching the teachers and leading the leaders
- Standardizing the CDMA faculty to uniform instruction
- Empowering students to be partners in their education
- Empowering staff to be partners in the education of the students
- Developing leadership skills that bring out the best in the students
- Utilizing patient centered care to foster empathy by precept, example, and service
- Leading others to act for the betterment of the larger whole - group, class, school, profession, and community
- Empowering students to believe in themselves
- Teaching students the importance of lifelong learning
- Instilling in students the importance of balance and humility in life
- Helping students to develop good habits that will last a lifetime
- Developing a culture of opportunity

- Developing a culture of optimism
- Developing a culture of exceptionalism with humility

## ACCREDITATION

The Midwestern University College of Dental Medicine-Arizona is accredited by the Commission on Dental Accreditation. The Commission is a specialized accrediting body recognized by the United States Department of Education. The Commission can be contacted at 312/440-4653 or at 211 East Chicago Avenue, Chicago, IL 60611. The Commission's web address is:  
<http://www.ada.org/en/coda>.

Midwestern University is accredited by The Higher Learning Commission (HLC), 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413.

## DEGREE DESCRIPTION

Upon graduation from the College of Dental Medicine-Arizona, the Doctor of Dental Medicine (D.M.D.) degree is granted. The usual length of the course of study is four academic years. The curriculum consists of two years of primarily didactic and preclinical instruction with clinical introductory experiences followed by two years of primarily clinical experiences and rotations including applicable didactic material. Upon graduation with the D.M.D. degree, the graduate is eligible to take licensure examinations to enter dental practice in the United States or Canada or participate in residency training in advanced fields of dentistry.

## ADMISSIONS

The Midwestern University College of Dental Medicine-Arizona considers for admission those students who possess the academic, professional, and personal qualities necessary for development as exemplary dental professionals. To select these students, the College uses a rolling admissions process within a competitive admissions framework.

### Admission Requirements

To be competitive, an applicant should have earned a bachelor's degree from an accredited college or university and possess both a science (biology, chemistry, and physics) and total GPA of 3.00 or more on a 4.00 scale.

**Prerequisite courses:**

Biology with lab	8 Semester/12 Quarter hours
General Chemistry with lab	8 Semester/12 Quarter hours
Organic Chemistry with lab	4 Semester/6 Quarter hours
Anatomy	3 Semester/4 Quarter hours
Microbiology	3 Semester/4 Quarter hours
Physics	8 Semester/12 Quarter hours
Physiology	3 Semester/4 Quarter hours
Biochemistry	3 Semester/4 Quarter hours
English Composition/Technical Writing	6 Semester/9 Quarter hours
Bachelors Degree Required	

Complete above prerequisite courses. In order to be considered for admissions, an applicant must:

- Complete above prerequisite courses.
- Submit competitive scores on the Dental Admission Test (DAT).
  - A total DAT score (summative scores less total Science and Academic Average) should be 110 and above to be competitive
  - Scores in the area of 18 or higher will be expected for the Academic Average, Reading Comprehension, Perceptual Ability and Total Science sections
  - The DAT test must have been taken no more than 3 years prior to anticipated matriculation
  - Note: The Canadian DAT can be substituted for the U.S. DAT.*
- Submit two letters of recommendation.
  - One must be from either a pre dental advisory committee or a science professor
  - The other preferentially should be from either someone with a D.O./M.D. or D.D.S./D.M.D. degree and/or someone who can testify to the integrity and ethical standards of the applicant
  - Letters written by immediate family members will not be accepted
  - All letters of evaluation must be submitted directly from the evaluators. The Office of

Admissions will not accept letters submitted by students.

- Demonstrate a sincere understanding of, and interest in, the humanitarian ethos of health care and particularly dental medicine.
- Reflect a service orientation through community service or extracurricular activities.
- Reflect proper motivation for and commitment to health care as demonstrated by previous salaried work, volunteer work, or other life experiences.
- Possess the oral and written communication skills necessary to interact with patients and colleagues.
- Agree to abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.
- Passing the Midwestern University finger printing and criminal background check.

**Competitive Admissions**

Within the competitive admissions framework, the College uses multiple criteria to select the most qualified, diverse group of candidates from an applicant pool that greatly exceeds the number of seats available. Applicants are evaluated on academic coursework, performance on the Dental Admission Test (DAT), their application (AADSAS) essays, letters of evaluation, and interviews. Demonstrated community service through volunteerism or service-oriented employment is preferred.

**Rolling Admissions**

Midwestern University College of Dental Medicine-Arizona uses a rolling admissions process. Applications are reviewed and decisions to interview individual candidates are made at regular intervals during the admissions cycle. Interviews are conducted and the selection process of each candidate for College admission is made until the class is filled. Applicants are notified of their selection status as soon as possible after their interview date, but not prior to December 1 of the year preceding matriculation which is the earliest date the U.S. and Canadian dental schools have agreed to extend a position in the class.

**Application Process**

To initiate the application process, prospective students must apply directly to AADSAS electronically:

1400 K Street NW  
Suite 1100  
Washington, DC 20005;  
Phone: 202/289-7201;  
Fax: 202/289-7204

- Students may apply online at <http://portal.aadsasweb.org>. Students may access an AADSAS application in mid-May of the academic year preceding the year in which they plan to matriculate.

2. After receiving an applicant's processed information from AADSAS, the Office of Admissions creates the applicant file. Concurrently, the office sends a supplemental application to applicants meeting the minimum science and total GPA requirement of 3.00 on a 4.00 scale. The Applicant must complete and return the supplemental application as soon as possible; additionally, he/she must request three letters of evaluation. All letters of evaluation must be submitted by the evaluators directly to AADSAS or to MWU - the Office of Admissions will not accept evaluations submitted by students.

*Please note:* Status of the application can be tracked on the MWU website. Instructions for accessing accounts are available from the Office of Admissions. Please send notification of any changes in your mailing address and e-mail address. All requests for withdrawal an application must be done in writing; contact the Office of Admissions via e-mail at [admissaz@midwestern.edu](mailto:admissaz@midwestern.edu).

### **Application Deadline**

The official Associated American Dental Schools Application Service (AADSAS) application deadline is January 1st; however, to be competitive within the rolling admissions process, prospective students should submit their AADSAS applications as early as possible after June 1 of the year prior to their desired matriculation. Even though the AADSAS deadline is January 1 of the matriculation year, typically 75 percent of all admissions offers will be made by the end of December of the year prior to matriculation. The Midwestern University College of Dental Medicine-Arizona completion deadline (meaning all necessary parts of the application including DAT test scores and MWU-CDMA supplemental application form are received by the Office of Admissions prior to this date) is March 1 of the expected matriculation year.

### **Interview and Selection Process**

To be considered for interviews, applicants must meet the admissions requirements listed previously. They must also submit all of the materials necessary to complete their files, e.g., AADSAS applications, supplemental MWU applications, DAT scores, and two letters of recommendation written by a pre-dental advisory committee, a faculty member, a dentist or physician, and by someone who knows the applicant very well.

After the Office of Admissions receives these materials, applicant files are reviewed to determine whether applicants merit interviews based on established criteria of the Admissions Committee. Applicants who receive invitations to interview must respond within four weeks. The Chair of the Admissions Committee, with the approval of the Dean, may also place a large number of students on an interview "wait

list" pending possible interview openings toward the end of the interview cycle.

When applicants accept interviews, they join several other interviewees to meet with members of an interview panel, which is selected from a volunteer group of dental faculty. Team members and students question applicants about their academic and healthcare preparedness for dental school, and they rate the applicants on a standardized evaluation form relative to each of these variables. At the conclusion of the interviews, team members forward their evaluations for each applicant to the Admissions Committee. The Committee may recommend to accept, to deny, or place applicants on the alternate list. Recommendations are then forwarded to the Dean for final approval. The Dean, via the Office of Admissions, notifies applicants of their status after the interviews, but not before December 1 of the year preceding matriculation, which is the date that all dental schools have agreed would be the first notification date.

The interview process typically begins in the summer prior to matriculation and ends in April or May of the matriculation year.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the CDMA. Candidates must be able to perform the following abilities and skills.

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to lift 20 lbs.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial

5. Behavioral and Social Attributes: The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective Candidate must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings, including dental head/neck exams, including intra- and extra-oral examinations. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

After receiving either denial or end-of-cycle letters, or letters of dismissal from the College, applicants/students may reapply for the next enrollment cycle. Before reapplying, however, applicants should seek the advice of an admissions counselor.

To initiate the reapplication process, applicants must submit their applications to AADSAS. Applications are then processed according to standard application procedures.

### **Transfer Admission**

Midwestern University College of Dental Medicine-Arizona may elect to accept transfer students from other dental schools as long as these students remain in good academic standing and have an acceptable reason(s) for seeking transfer.

To be considered for transfer, students must meet the College's general requirements for admission. Students must also observe the following procedures:

1. All inquiries for transfer to Midwestern University College of Dental Medicine-Arizona must be submitted to the Office of Admissions.
2. Completed applications are returned to the Office of Admissions and must include transcripts from the previous dental school, class rank, a statement of the reason for transfer, a Dean's letter of "Good Academic Standing," and a letter of reference from the Dean of Students.
3. Completed applications are reviewed by the Admission's Committee and forwarded to the Dean.
4. Applications are reviewed by the Dean, who will conduct interviews with transfer applicants.
5. Applicants are notified by the Dean of final transfer admission decisions.

## **GRADUATION REQUIREMENTS**

Students usually complete the Doctor of Dental Medicine (D.M.D.) degree in fourteen consecutive quarters (45 months). To qualify for the D.M.D. degree, students must:

1. Follow an approved course of study leading to the completion of all D.M.D. requirements;
2. Satisfactorily complete all professional courses with a minimum cumulative grade point average of 2.000 and have no course grade below a "C" or "P" (Pass);
3. Successfully complete all CDMA competencies;
4. Challenge the Integrated National Board Dental Examination (NBDE);
5. Receive a favorable recommendation for conferral of the D.M.D. degree from the Student Academic Promotions Committee, Clinical and the Dean of CDMA;
6. Be recommended for conferral of the D.M.D. degree by the University Faculty Senate;
7. Settle all financial accounts with the University; and
8. Complete all graduation clearance requirements as instructed by the CDMA and University.



## LICENSURE REQUIREMENTS

Graduates of accredited U.S. Dental Schools are eligible to challenge certain licensure examinations and thereby obtain the right to practice dentistry ("licensure") in all 50 states of the United States, as well as many foreign countries. To obtain licensure, qualified candidates must meet the requirements established by individual states. Typically, states grant licensure in one of two ways:

1. The state accepts a certificate issued by the National Board of Dental Examiners (NBDE) and a certificate issued by a regional board of dental examiners (e.g. CRDTS, CDCA, SRTA, WREB, ADEX).
2. Certain states honor formal or informal reciprocity agreements with other state(s) and, in some cases, issue a license by credentialing the certificate from another state.

It is the ultimate responsibility of the individual dental graduate / candidate to become fully aware of the many rules, regulations and restrictions related to licensure across the United States. Midwestern University and the College of Dental Medicine-Arizona cannot and will not be responsible for the many regulations and frequent changes that occur in the licensure environment.

For further information concerning licensure, please contact the American Dental Association or the specific state's licensing board.

Midwestern University's College of Dental Medicine-Arizona is designed to meet the educational requirements to become licensed to practice medicine in the following states and US districts and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district, or territory in which they intend to pursue employment. *Special note:* licensure in New York and Delaware also requires completion of a PGY1 residency.

## CURRICULUM

The Midwestern University College of Dental Medicine-Arizona reserves the right to alter its curriculum whenever it

deems appropriate for the essential professional preparation of its students.

**Total Quarter Credits in the Dental Program: 248.5**

First Year Total: 53.5

### Fall Quarter Total

BASIG	1501	Basic Science Integrated Sequence I	4
BASIG	1502	Basic Science Integrated Sequence II	4
BASIG	1503	Basic Science Integrated Sequence III	4.5
COREG	1560I	Interprofessional Healthcare/One Health	0.5
DENTG	1510	Preventive Dental Medicine I	1
DENTG	1511	Preclinical Professionalism I	0.5
DENTG	1512	Oral Health Sciences I	3
DENTG	1512L	Oral Health Sciences I Lab	1.5
DENTG	1515	Personal Finance	0.5
<b>Total</b>			<b>19.5</b>

### Winter Quarter

BASIG	1504	Basic Science Integrated Sequence IV	2.5
BASIG	1505	Basic Science Integrated Sequence V	4.5
BASIG	1506	Basic Science Integrated Sequence VI	4.5
COREG	1570I	Interprofessional Healthcare/One Health	0.5
DENTG	1520	Preventive Dental Medicine II	1
DENTG	1521	Preclinical Professionalism II	0.5
DENTG	1522	Oral Health Sciences II	2.5
DENTG	1522L	Oral Health Sciences II Lab	1.5
DENTG	1523	Healthcare Ethics	0.5
<b>Total</b>			<b>18</b>

### Spring Quarter

BASIG	1507	Basic Science Integrated Systems VII	3.5
BASIG	1508	Basic Science Integrated Systems VIII	2.5

BASIG	1509	Basic Science Integrated Systems IX	4	<b>Total</b>		<b>21.5</b>
COREG	1580I	Interprofessional Healthcare/One Health	0.5	Third Year Total:		70
DENTG	1531	Preclinical Professionalism III	0.5	<b>Summer Quarter</b>		
DENTG	1533	Oral Health Sciences III	2.5	DENTG 1721	Anesthesia II	1
DENTG	1533L	Oral Health Sciences III Lab	1.5	DENTG 1724	Surgical Periodontics General Practice	1
DENTG	1535	Introduction to Human Behavior I	1	DENTG 1728	Advanced Imaging	1
<b>Total</b>			<b>16</b>	DENTG 2000	Introduction to Dental Clinic	12
Second Year Total:			65	DENTG 2010	Intro Clinical Professionalism	1.5
<b>Fall Quarter</b>				DENTG 2020	Clinical Conference I	1
PHARG	1601	General Pharmacology I	2	<b>Total</b>		<b>17.5</b>
DENTG	1611	Preclinical Professionalism IV	0.5	<b>Fall Quarter</b>		
DENTG	1612	Dental Community Service I	0.5	DENTG 1730	Introduction to Human Behavior II	1
DENTG	1614	Oral Health Sciences IV	10	DENTG 1733	Clinical Reviews	1.5
DENTG	1614L	Oral Health Sciences IV Lab	7	DENTG 1734	Dental Ethics Grand Rounds I	1
DENTG	1617	Clinical Case Studies I	1	DENTG 2001	Patient Care I	12
<b>Total</b>			<b>21</b>	DENTG 2011	Clinical Professionalism I	1.5
<b>Winter Quarter</b>				DENTG 2021	Clinical Conference II	0.5
PHARG	1621	General Pharmacology II	3	<b>Total</b>		<b>17.5</b>
DENTG	1621	Preclinical Professionalism V	0.5	<b>Winter Quarter</b>		
DENTG	1622	Dental Ethics	0.5	DENTG 1740	Implantology	1
DENTG	1623	Dental Community Service II	0.5	DENTG 1742	Clinical Pharmacology I	1
DENTG	1625	Oral Health Sciences V	10	DENTG 1745	Practice Management I	1
DENTG	1625L	Oral Health Sciences V Lab	7	DENTG 1749	Clinical Topics	1
DENTG	1627	Clinical Case Studies II	1	DENTG 2002	Patient Care II	12
<b>Total</b>			<b>22.5</b>	DENTG 2012	Clinical Professionalism II	1.5
<b>Spring Quarter</b>				<b>Total</b>		<b>17.5</b>
DENTG	1631	Preclinical Professionalism VI	0.5	<b>Spring Quarter</b>		
DENTG	1634	Dental Community Service III	0.5	DENTG 1750	Practice Management II	1
DENTG	1635	Multicultural Healthcare	0.5	DENTG 1751	Occlusion	1
DENTG	1636	Oral Health Sciences VI	9	DENTG 1754	Oral Pathology I	1
DENTG	1636L	Oral Health Sciences VI Lab	8	DENTG 1756	Special Needs	1
DENTG	1637	Anesthesia I	1	DENTG 2003	Patient Care III	12
DENTG	1638	Medical Emergencies	1	DENTG 2013	Clinical Professionalism III	1.5
DENTG	1639	Clinical Case Studies III	1	<b>Total</b>		<b>17.5</b>
				Fourth Year Total:		60

<b>Summer Quarter</b>			
DENTG	1823	Practice Management III	1
DENTG	1825	Oral Pathology II	1
DENTG	2004	Patient Care IV	11
DENTG	2014	Clinical Professionalism IV	1.5
<b>Total</b>			<b>14.5</b>
<b>Fall Quarter</b>			
DENTG	1830	Obstructive Sleep Apnea	1
DENTG	1831	Oral Conscious Sedation	1
DENTG	1837	Practice Management Selectives	0.5
DENTG	1838	Clinical Pharmacology II	1
DENTG	2005	Patient Care V	11
DENTG	2015	Clinical Professionalism V	1.5
DENTG	2023	Clinical Conference III	0.5
<b>Total</b>			<b>16.5</b>
<b>Winter Quarter</b>			
DENTG	1844	Advanced Practice Management	1
DENTG	1845	Advanced Topics	1
DENTG	2006	Patient Care VI	11
DENTG	2016	Clinical Professionalism VI	1.5
<b>Total</b>			<b>14.5</b>
<b>Spring Quarter</b>			
DENTG	1852	Clinical Service Learning	2
DENTG	2007	Patient Care VII	11
DENTG	2017	Clinical Professionalism VII	1.5
<b>Total</b>			<b>14.5</b>

## COURSE DESCRIPTIONS

### Interprofessional Healthcare/One Health

#### *COREG 1560I, 1570I, 1580I Interprofessional Healthcare/One Health*

The Interprofessional Healthcare/One Health course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations that are delivered by interprofessional

team members from each of the clinical programs. Associated quizzes will also be completed online. Occasional lectures, panel presentations, or group assignments may also be incorporated.

Each course 0.5 credits

### Basic Science Education

#### *BASIG 1501 Basic Science Integrated Sequence I*

BASIG 1501 provides an overview of cell structure and function, including topics on molecular cell biology, metabolism, epithelium, general connective tissues, and blood. Module 1: Cell and Molecular Biology outlines the basic histological structure and biochemical function of the cell with emphasis on transcription, translation, and control of gene expression. Module 2: Metabolism focuses on normal cell metabolism and includes application of the basic concepts of metabolism to cases. Module 3: Epithelium, General Connective Tissues, and Blood defines the basic structure, function, and biochemical characteristics of two basic histological tissues: epithelium and connective tissue. This module also includes an introduction to cellular adaptations, injury, and death and to peripheral blood cells and hemopoiesis. The biochemical basis of hemostasis is described. Disorders of hemostasis and their consequences are discussed.

4 credits

#### *BASIG 1502 Basic Science Integrated Sequence II*

BASIG 1502 provides an overview of cancer, genetics, lymphatic system, and immunology. In Module 4: Cancer and Genetics emphasis is placed on DNA mutations, polymorphisms, patterns of inheritance in human diseases, cytogenetics, and molecular basis of cancer. Module 5: Lymphatic System and Immunology includes the gross anatomy and histology of the lymphatic system and the structure/function of the immune system. Basic precepts of the lymphatic system and immunology will be applied to inflammation, tissue repair and healing. Understanding of immunology will be applied to immune responses to infectious agents. Also included are: development and pathology of immunologically-mediated diseases, immune responses to transplants, cancer, HIV infection, and therapeutic use of drugs affecting the immune system.

4 credits

#### *BASIG 1503 Basic Science Integrated Sequence III*

BASIG 1503 provides an overview of infectious diseases, integument, and blood disorders. Module 6: Introduction to Infectious Diseases provides fundamental understanding of basic concepts in microbiology to accurately identify and manage infectious diseases. The information will aid in the management of the patient's health and general well-being. In Module 7: Integument and Blood Disorders, students combine their knowledge of epithelium and connective tissue

to learn the basic structure and function of the integument. This module further describes common infections and pathologies of the integument as well as blood-borne infections and blood disorders.

4.5 credits

*BASIG 1504 Basic Science Integrated Sequence IV*

BASIG 1504 provides an overview of the Musculoskeletal System (Module 8). Module 8 includes: the basic concepts of embryology, an introduction to gross anatomy, the structure and function of skeletal and smooth muscle and the development of bone and cartilage. Muscle membrane excitability and the molecular basis of muscle contraction are discussed. Diseases of bone and soft tissues are included. This module contains lectures and two laboratory sessions that describe upper extremity anatomy and function.

2.5 credits

*BASIG 1505 Basic Science Integrated Sequence V*

BASIG 1505 provides an overview of the structure and function of the nervous system and is composed of one module titled Nervous System (Module 9). This module begins by discussing the nervous system in terms of its organization, support systems, and structure including the histology of nervous tissue, brain biochemistry, and mechanisms of neurotransmission including development of action potentials and synaptic transmission. This is followed by nervous system development, and then descriptions of the structure and function of the somatosensory pathways, descending motor systems, auditory, vestibular, and visual systems, and finally finishing with the cerebral cortex. Common clinical concerns are also discussed including relevant microbiology and pathology.

4.5 credits

*BASIG 1506 Basic Science Integrated Sequence VI*

BASIG 1506 provides an overview of the structure and function of the Cardiovascular (Module 11) and Respiratory Systems (Module 12). Module 11: Cardiovascular System begins with a discussion of the anatomy, histology, and embryological development of the heart and circulatory system. Other topics included are cardiac muscle function, electrophysiology of cardiac muscle, cardiac cycle, and cardiac performance. Control of cardiovascular function integrates discussions of hemodynamics, regional circulation, and arterial blood pressure. Module 12: Respiratory System discusses the anatomy and histology of the respiratory system, mechanics of breathing, gas transport, and regulation of respiration. Relevant topics in microbiology, pathophysiology, and pathology are described in both modules.

4.5 credits

*BASIG 1507 Basic Science Integrated Systems VII*

BASIG 1507 provides an overview of the Endocrine System (Module 13) and the Gastrointestinal (GI) System (Module 14). In Module 13 the disciplines of histology and physiology describe the basic structure and normal function of the Endocrine System. Topics discussed include the hypothalamic control of endocrine secretion and regulation of individual endocrine organs. Common disorders of the Endocrine System are discussed by the pathology faculty. Module 14 Gastrointestinal System includes topics such as: chewing, swallowing and digestion. The gross anatomical, histological, physiological, microbiological, and pathological aspects of the GI system are discussed.

3.5 credits

*BASIG 1508 Basic Science Integrated Systems VIII*

BASIG 1508 provides an overview of the Urogenital System (Module 15). Topics included in the first part of the module are: the anatomy of the urogenital system, histology of the urinary system, renal tubular transport mechanisms, the production of urine, the control of extracellular fluid volume, and acid/base balance. The second part of the module provides an overview of the structure and function of the Male and Female Reproductive Systems. Diseases of the urogenital system are discussed.

2.5 credits

*BASIG 1509 Basic Science Integrated Systems IX*

BASIG 1509 provides an overview of the Gross Anatomy of the Head and Neck (Module 16). This module provides instruction in the fundamental head and neck gross anatomy information required for clinical training. Three-dimensional relationships among anatomical structures are reinforced by in-depth dissections of the head and neck. Students are expected to use this anatomical information to elucidate and solve case-based problems commonly seen in clinical practice. Student dissection of the head and neck is performed under faculty supervision during three 3-hour laboratories per week.

4 credits

*PHARG 1601 General Pharmacology I*

This course places an emphasis on the physical and chemical properties of the drugs, dosages, and therapeutic effects, methods of administration and indications/contraindications for the use of the drug.

2 credits

*PHARG 1621 General Pharmacology II*

This course places an emphasis on the physical and chemical properties of the drugs, dosages, and therapeutic effects, methods of administration and indications/contradictions for the use of the drug.

3 credits

## Behavioral Science Education

### *DENTG 1510, 1520 Preventive Dental Medicine I and II*

These two courses cover important concepts in preventive dental medicine. Through lectures and hands-on exercises in the Simulation Clinic, students learn how to establish their own oral health. They also learn the science and practice of oral health assessment and preventive dental treatment modalities. Course instruction focuses on ways to promote one's own oral health, the health of one's patients, and the health of one's community at large. Methods learned and forms used in the courses are incorporated into subsequent patient care in the Dental Institute.

Each course 1 credit

### *DENTG 1515 Personal Finance*

This course introduces the new dental student to effective personal financial management. Topics include the economy's effect on credit and debt, personal money management, managing credit, and debt and personal needs.

0.5 credits

### *DENTG 1523 Healthcare Ethics*

Healthcare Ethics introduces dental students to the broad concepts of ethical guidelines, reasoning, and decision-making affecting the delivery of healthcare.

0.5 credits

### *DENTG 1535 Introduction to Human Behavior I*

This course introduces the fundamentals of effective communication and relationship-building skills. Topics covered include rapport-building skills with patients and colleagues, emotional intelligence, personality types, conflict resolution, and team-building strategies.

1 credit

### *DENTG 1612, 1623, 1634 Dental Community Service I, II, III*

In these Dental Community Service courses, second year dental students participate in visits to elementary and junior high schools to provide health promotion education to students in oral disease prevention, tobacco cessation, and drug avoidance. Each student participates on two half-days per quarter.

Each course 0.5 credits

### *DENTG 1622 Dental Ethics*

Dental Ethics uses a case-based approach to clinical ethical reasoning and examination of ethical issues and dilemmas in the dental care setting. The course also addresses expectations for professional behavior among dental practitioners.

0.5 credits

### *DENTG 1635 Multicultural Healthcare*

Students learn how multiculturalism influences oral health care delivery. Topics include diversity, race, ethnicity, gender and sexual orientation, age, health disparities, social determinants of health, health care concerns faced by different populations, and culturally appropriate communication skills. Instruction occurs in didactic lecture, online discussion posts, and classroom activities.

0.5 credits

### *DENTG 1730 Introduction to Human Behavior II*

This course covers advanced communication and human interaction skills. Topics include leadership skills, advanced NLP learning styles, case presentation skills, interviewing skills, and practice management topics related to the 'people' side of dentistry.

1 credit

### *DENTG 1734 Dental Ethics Grand Rounds*

Dental Ethics Grand Rounds involves a series of large case study analyses through self-study, small group discussion, and in-class discussion.

1 credit

### *DENTG 1756 Special Needs*

Recognizing the unique dental and medical needs of patients who are medically compromised or have mental or physical limitations, this course helps students develop the knowledge and skills needed to render comprehensive oral health care to this population. Students gain an understanding of the complexities of compromises and limitations, learn about adaptive devices and management techniques, and study the role of dentistry in total patient care while learning to manage patients with medical and physical disabilities. Topics include pediatric, adult, and geriatric special needs; sedation and OR indications; and occupational therapy and pharmacology uses.

1 credit

## Clinical Education

### *DENTG 1512, 1522, 1533, 1614, 1625, 1636 Oral Health Sciences I, II, III, IV, V, VI*

These continuously running didactic courses take the student from dental morphology and occlusion and through basic to advanced clinical dentistry of operative dentistry, fixed and removable prosthodontics (including principles and applications of CAD/CAM and implant dentistry), rotary endodontics, pediatric dentistry, oral surgery, oral medicine, periodontics, orthodontics, and temporomandibular function and dysfunction. The courses are organized into tooth systems. Each system integrates such topics as growth and development, cariology, radiology, oral pathology, and dental material science into its core while continuously utilizing a case-based, evidenced-based approach from a patient

perspective.

DENTG1512 - 3 credits; DENTG 1522 - 2.5 credits;  
DENTG 1533 - 2.5 credits; DENTG1614 - 10.5 credits;  
DENTG 1625 - 10.5 credits; DENTG 1636 - 9.5 credits

*DENTG 1512L, 1522L, 1533L, 1614L, 1625L, 1636L Oral Health Sciences I, II, III, IV, V, VI Lab*

These continuously running laboratory courses, which are simulation clinic modules, take the student from dental morphology and occlusion and through basic to advanced clinical dentistry in operative dentistry, fixed and removable prosthodontics (including design and fabrication of CAD/CAM restorations and implant placement and restoration), rotary endodontics, pediatric dentistry, oral surgery, oral medicine, periodontics, orthodontics and temporomandibular function and dysfunction introducing therapeutic appliance diagnosis and fabrication. The courses are organized into tooth systems. Each system integrates such topics as growth and development, cariology, radiology, and dental material science into the core of restorative procedures from pediatric to geriatric patients. Simulated clinical competencies integrate radiographic diagnosis, basic science, and treatment planning in conjunction with typical psychomotor skills to enhance the comprehensive preclinical learning experience.

DENTG 1512L - 2 credits; DENTG 1522L - 2 credits;  
DENTG 1533 L - 2 credits; DENTG 1614L - 7 credits;  
DENTG 1625L - 7 credits; DENTG 1636L - 8 credits

*DENTG 1617, 1627, 1639 Clinical Case Studies I, II, III*

This seminar series allows the dental students to participate in treatment planning options for complex dental cases and requires them to work up primary and alternative treatment plans for complex patients likely to be seen in a general practice, and present the plans to their faculty mentors in a case presentation format. This course runs for three quarters during the second-year curriculum where cases will become increasingly more challenging.

Each course 1 credit

*DENTG 1637, 1721 Anesthesia, I, II*

Anesthesia I covers the anatomy, medical considerations, pharmacology, techniques, and complications of local anesthesia in dental practice. Anesthesia II covers nitrous oxide administration; oral, IM, IV, and conscious sedation; general anesthesia; and emergency management. Clinical experiences occur in subsequent clinical courses.

Each course 1 credits

*DENTG 1638 Medical Emergencies*

This course covers the management of medical emergencies likely to be seen in a dental office.

1 credit

*DENTG 1724 Surgical Periodontics General Practice*

This course covers periodontal surgeries commonly performed by general practitioners and periodontists. Topics include evidence-based clinical decision-making; resective, regenerative, and plastic surgical techniques; complications of periodontal surgery; and management and maintenance of the surgical patient.

1 credit

*DENTG 1728 Advanced Imaging*

This course includes lectures and small group discussions, complemented by "hands-on" exercise using patient simulation cone beam computed tomography scans. Students learn coronal, sagittal, and axial planes and how to arrange the data in cross-sections for evaluation of the TMJ, implant treatment planning, orthodontics, etc. This course introduces the dental students to acquisition and interpretation of cone beam CT scans for the practice of dentistry.

1 credit

*DENTG 1733 Clinical Reviews*

This course provides a comprehensive review of the major clinical disciplines in dentistry to reinforce previous preclinical instruction and learning and further prepare students to deliver comprehensive patient care.

1.5 credits

*DENTG 1740 Implantology*

This course focuses on the clinical applications of dental implant treatment. Topics include various case selection, restorative techniques, and surgical techniques in dental implantology for the general dentist.

1 credit

*DENTG 1742, 1838 Clinical Pharmacology I, II*

Clinical Pharmacology focuses on the application of safe and effective pharmacology for dental patients. Through Case-based instruction, topics include identifying the effects of medications taken by patients on the delivery of dental care and the implications and contraindications of medications used or prescribed by the dentist.

Each course 1 credit

*DENTG 1745, 1750, 1823 Practice Management I, II, III*

The Practice Management courses introduce the dental student to the business, financial, and personnel aspects of dental practice. Course themes include practice building, office finances and business systems, and practice acquisition.

Each course 1 credit

*DENTG 1749 Clinical Topics*

These courses provide further instruction in the dental disciplines and specialties, covering various clinical topics, materials, procedures, and methods to improve dental care

for patients.  
1 credit

*DENTG 1751 Occlusion*

The Occlusion course teaches the fundamentals of how the movable mandibular arch works in coordinated occlusion with the fixed maxillary arch, the role of appropriate occlusion in creating dental restorations, and the diagnosis and management of occlusal disorders.

1 credit

*DENTG 1754, 1825 Oral Pathology I, II*

Oral Pathology focuses on identification and differential diagnosis of the oral pathology lesions most commonly encountered in general dental practices. Through Case-based instruction and clinical imaging, topics include hard tissue diseases and soft tissue pathoses.

1 credit

*DENTG 1830 Obstructive Sleep Apnea*

This course focuses on identification of sleep disordered breathing and describing the adverse effects of Obstructive Sleep Apnea (OSA) on systemic, neurocognitive, and craniofacial development of adult and pediatric patients. The course also applies 3D CBCT imaging to differentiate normal anatomical appearance from pathology, outlines treatment options for sleep apnea, and compares appliances for its treatment.

1 credit

*DENTG 1831 Oral Conscious Sedation*

This course focuses on patient selection, pharmacological agent selection, equipment selection, dosing protocols, and techniques for conscious sedation of dental patients. The course also covers airway management, medical emergency management, and training requirements. The course includes a lab on the use of airway adjuncts.

1 credit

*DENTG 1837 Practice Management Selectives*

In Practice Management Selectives, each student chooses one selective track, based on the student's plans for practice after graduation. Tracks include Residency or Graduate Program, Private Practice Associate, Private Practice Owner, Corporate Dentistry, Military Forces, Public Health and Prison Systems and Academics.

0.5 credits

*DENTG 1844 Advanced Practice Management*

The Advanced Practice Management course builds on the previous practice management courses and continues preparation of the graduate for management of the dental practice and leadership of the oral health team.

1 credit

*DENTG 1845 Advanced Topics*

This course consists of presentation and discussion of complex clinical dental cases, incorporating content from the dental specialties, and other dental disciplines.

1 credit

*DENTG 1852 Clinical Service Learning*

In the Clinical Service Learning course, fourth-year dental students participate in rotations to community-based dental clinics providing dental care services to pediatric and underserved populations. Each student participates two weeks.

2 credits

*DENTG 2000 Introduction to Dental Clinic*

This course is the dental student's first major exposure to direct patient care. Working in D3/D4 pairs, with students alternating as operators and assistants, students learn the clinical organization, clinical policies and procedures, the clinic software system, the clinic's equipment, and expectations for patient relations and professionalism, while initiating care under the supervision of a faculty member group leader for a small family of patients assigned to the student pair and shared by them.

12 credits

*DENTG 2001, 2002, 2003, 2004, 2005, 2006, 2007 Patient Care I, II, III, IV, V, VI, VII*

In the Patient Care courses, students learn patient-centered oral health care and develop the clinical competencies required for entry to the general practice of dentistry. By providing patient care under the supervision, guidance, and support of the faculty, students enhance their diagnostic, technical, and interpersonal skills. The course emphasizes the importance of these skills in effective, efficient, and compassionate patient care and guides the students toward independent practice by evaluating competence in the delivering specific services, providing high-quality comprehensive care to all patients, maintaining professionalism in the delivery of care, evaluating accurately one's clinical performance, and practicing efficiently and profitably.

DENTG 2001, 2002, 2003 - each course 12 credits;

DENTG 2004, 2005, 2006 2007 - each course 11 credits

*DENTG 1511, 1521, 1531, 1611, 1621, 1631 Preclinical Professionalism I, II, III, IV, V, VI*

These courses span the D1 and D2 years and serve as a transition to Clinical Professionalism in the D3 and D4 years. These quarterly courses contain no formal class sessions or written examinations. The courses monitor and evaluate student dentists' relationships with their peers, faculty, and staff and their professional conduct. The course grading philosophy assumes a professional behavioral norm in which

all encounters and personal interactions are handled appropriately and professionally. Each student dentist begins the course with 100 points. Points are deducted if there are departures from the norm of excellent interactions with peers, faculty, and staff, and professional conduct.  
Each course 0.5 credits

*DENTG 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 Clinical Professionalism, Introduction, I, II, III, IV, V, VI, VII*

The Clinical Professionalism courses contain no formal class sessions or written examinations. The courses monitor and evaluate students' relationships with their patients and their professional conduct in clinic attendance, patient relations, timeliness and continuity of care, patient record management, administrative matters, and professional conduct. The grading philosophy assumes a professional behavioral norm in which all patient encounters and personal interactions are handled appropriately and professionally. Points are deducted for departures from the norm of excellent patient relations, patient management, or professional conduct.

Each course 1.5 credits

*DENTG 2020, 2021, 2023 Clinical Conference I, II, III*

This course sequence consists of informational sessions about clinical operations, clinical policies, competency assessments, mock boards, real boards, and other matters or issues arising in the delivery of patient care in a learning environment.  
DENTG 2020 - 1 credit, DENTG 2021 - 0.5 credits,  
DENTG 2023 - 0.5 credits

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

### **Preclinical and Clinical Promotions Committee**

Two faculty committees of CDMA will review the academic performance of students: the Preclinical Student Promotion Committee for the first two years and the Clinical Student Promotion Committee for the third and fourth years.

Both promotion committees meet at the end of each academic quarter to assess the academic status of students with a F, a WF, an I or an IP grade and assess the progress of

each student. Students who attain satisfactory academic and professional progress are promoted to the next academic quarter, provided all tuition and fees have been paid.

Students with one or more course failure or WF are given the opportunity to meet with the appropriate Student Promotion Committee. Notification of the date, time, and place of the committee meeting is sent to the student at least 48 hours in advance by priority email and/or telephone. Students are invited to the meeting to give a statement, to teleconference into the meeting by telephone, or provide a statement by e-mail or in writing, should they so desire. Decisions of the committee are forwarded to the Dean and emailed to the student. The right of appeal exists and is described in the Appeals Process section. Appeals must be filed with the Dean within three working days following official notification of the committee decision.

Students who have successfully completed their clinical education, passed all of the competency evaluations, and paid all tuition and fees will be recommended for graduation to the Faculty Senate.

### **Academic Failure**

Students who accumulate three failures over more than a single academic year, or two failures in a single quarter, may be recommended for dismissal or an academic leave of absence. Students returning from an academic leave of absence are required to retake failed courses. The grade for a course repeated at an outside institution or at Midwestern University and passed is recorded as a grade of "C". The previous "F" course grade remains on the official transcript but does not calculate into the overall Grade Point Average.

Students may be dismissed from the academic program for the following reasons:

1. Accumulate 4 or more failures within the four-year curriculum
2. Accumulate 3 or more failures in a single academic year
3. Accumulate 2 or more failures in a single academic year
4. Fail the repeat of a course previously failed

Any failures must be repeated within one year, unless an extension is granted by the Associate Dean for Academic Affairs and the Dean.

*Please Note:* Students will be assessed tuition and related fees for any additional years.

### **Readmission After Dismissal for Poor Academic Performance**

It is at the discretion of the CDMA academic program to readmit a student who has been dismissed for poor academic performance. To initiate the reapplication process, candidates



must complete and submit a new application and proceed through the standard application process established by the program. Before reapplying, however, individuals should seek the advice of an admissions counselor. It is expected that the individual would have addressed documented deficiencies before reapplication and be able to demonstrate that he/she meets all admission requirements and technical standards of the program.

The College's Admissions Committee will review completed applications of candidates and submit recommendations to the Dean for action. The CDMA Dean, via the Office of Admissions, then notifies applicants in writing of admission decisions.

No guarantee of readmission is implied, and questions related to advanced standing and similar issues will be addressed as they are for new applicants. Reapplications are allowed only within the first two years following dismissal. Readmission will be granted only once.

### **Academic Warning**

An academic warning is a formal notification of substandard, quarterly academic performance, which cautions the student that continued performance at this level may result in the student being placed on academic probation. To return to good academic standing, a student must correct deficiencies and incur no further failures. An academic warning is issued by a Promotions Committee when a student has failed (grade of less than 70) one class in a quarter or upon the unsuccessful completion of a probationary quarter. When a student is placed on academic warning, it is noted in the student's academic file. Subsequently, when a student is returned to good academic standing, this is also noted in the student's file. Academic warning is not noted on transcripts. Students on academic warning are ineligible to hold student organizational offices unless appealed to, and approved by, the Dean.

### **Academic Probation**

Academic Probation represents notice that continued inadequate academic performance might result in dismissal. If a student on academic probation successfully completes a probationary quarter, the student's academic status reverts to academic warning. To return to good academic standing, a student must correct deficiencies and incur no further failures. When a student is placed on academic probation, it is noted in the student's academic file. Subsequently, when a student is returned to good academic standing, this is also noted in the student's file. Academic probation is not noted on transcripts.

### **Advanced Standing**

All requests for advanced standing by admitted, transfer, or enrolled students are processed on a course-by-course basis by the Dean. Courses must be at the graduate level to be considered for advanced standing. To request advanced

standing, a student must submit a letter to the Dean in which the student includes a list of the course(s), an official course description(s), a transcript, and a syllabus of the course(s) previously taken. It is expected that a minimum grade of a "B" would have been achieved in the class being petitioned. The decision to grant or deny advanced standing will be made by the divisions providing the dental course in consultation with the CDMA Dean's Office.

### **Appeal Process**

Following notification of a decision of the Student Promotion Committee, a student may appeal the decision in writing within three working days from notification of the decision to the Dean of the College of Dental Medicine-Arizona. The Dean makes the final decision. The Dean may grant an appeal only if a student can demonstrate one of the following:

1. bias of one or more committee members
2. material information not available to the committee at the time of its initial decision
3. procedural error.

During the appeal process, the student must continue to attend classes.

### **Course Failure Policy**

The faculty provides didactic programs and measures students' performance in subject areas deemed necessary to become dental practitioners. Students who do not demonstrate minimum competencies assume the obligation and responsibility to make up academic failures. D-1 and D-2 students must successfully pass all failed courses before they can be promoted to the following year. D-3 and D-4 students must remediate/repeat any failed courses. Usually this occurs within the first month of the subsequent quarter.

### **Grade for Retaken Course**

If a student receives a failing grade, that grade is recorded on the transcript as a letter grade (an "F" entry). Upon repetition of a failed course, the original grade of "F" remains on the transcript and the repeated course and a new grade is entered on the transcript. The grade for a failed course repeated and passed at Midwestern University or at an outside institution is recorded on the transcript as a grade of "C." For all failed clinical courses at Midwestern University that are repeated and passed, a grade of "C" will be recorded on the transcript. For both preclinical coursework and clinical courses that are repeated, the original failing grade will remain on the transcript but will not be included in the GPA calculations. If a repeated preclinical or clinical course is failed, a grade of "F" is again recorded on the transcript. Students who fail a course a second time will be recommended for dismissal.

**Disciplinary Warning/Probation**

Disciplinary warning/probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 of the Student Handbook. Disciplinary probation is not noted on transcript but is kept in the student's disciplinary file. Disciplinary probation information may be shared with clinical sites that are affiliated with Midwestern University educational programs.

**Dismissal**

Matriculation and participation in dental school is a privilege, not a right. Therefore, a student can be dismissed for the following reasons:

1. failure to achieve minimum academic standards (preclinical or clinical promotions committees)
2. failure to exhibit the personal qualifications and ethical standards necessary to the practice of dentistry (student judicial process)
3. violation of Midwestern University College of Dental Medicine-Arizona rules and regulations that are grounds for dismissal (student and administrative judicial process).

*Please Note:* Students will be assessed full tuition for any additional years.

**Faculty Advisor Program**

The advisor program plays an important role at Midwestern University College of Dental Medicine-Arizona. Students and faculty work closely together in the academic arena. This kind of educational interaction permits students to get to know their faculty and vice versa. Students are encouraged to use the advice, expertise, and help of the faculty. Students should feel free to contact a faculty member of their choice for advice, encouragement, and support.

**Grade Point Average**

The grade point average is a weighted average computed using the number of credits assigned to each course and the quality points corresponding to the letter grade earned in each course. It is determined by calculating the total number of quality points earned and dividing them by the total number of credits carried. The total quality points earned for each course is determined by multiplying the quality points earned per credit (corresponding to the letter grade) by the number of credits assigned to the course. The student's cumulative grade point average is computed and recorded by the Office of the Registrar. It is calculated beginning at the end of the first quarter of enrollment, and does not include any grades or credits for courses audited or accepted for transfer, or courses with a grade of withdrawal (W), withdrawal failing (WF), pass (P) or failed (F) that were later repeated.

## Grading System

Students receive letter grades corresponding to the level of achievement in each course, based on the results of examinations, required course work, and, as applicable, other established criteria. The letter grades, percent ranges, and quality points per credit are as follows:

Grade	Percent (%)	Quality Points (per credit)	Comments
A	93-100	4.000	-
A-	90-92	3.670	-
B+	87-89	3.330	-
B	83-86	3.000	-
B-	80-82	2.670	-
C+	77-79	2.330	-
C	70-76	2.000	-
F	< 70	0.000	- For professional programs
I	-	0.000	An Incomplete (I) grade may be assigned by a course director when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades must be resolved within 10 calendar days from the end of final exams for the quarter. In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade, with notice to the Registrar. If an incomplete grade remains beyond 10 days, it may be converted to a grade of "F," which signifies failure of the course.
IP	-	0.000	An In Progress (IP) grade may be assigned by a course director when a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "IP" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time, up to one month to complete required coursework. The "IP" in progress is used when extenuating circumstances make it necessary to extend the grade completion period past 10 days (illness, family death, etc). The completion period should not exceed one quarter with notification to the Registrar.
P	-	0.000	Pass; designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of 'P' is counted toward credit hour accruals for graduation but is not counted in any GPA calculations.
F	-	0.000	Fail (for a pass/fail course); designation indicates that the student has not made satisfactory progress or completed required coursework satisfactorily. Grade of "F" is counted toward credit hour accruals as attempted but not completed. Grade of "F" is calculated into the GPA (quality points are lowered due to unsuccessful course completion).
W	-	0.000	Withdrawal can be given during the third to the eighth weeks of the quarter. There is no penalty and no credit.
WF	-	0.000	Withdrawal/Failing is given after 50% of the course is complete and the average grade indicates that the work completed up to the time of withdrawal was unsatisfactory. This grade is not counted in any GPA calculations and is not counted in credit hour accruals for graduation. W/F may be considered as a failure by a Program Student Academic Review Committee.
AU	-	0.000	This designation indicates an audited course, that is, a student registered for a course with the understanding that neither academic credit nor a grade is earned. The possibility does not exist to change the course status from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
AP			This designation indicates the decision of a college to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement (AP) is applied toward credit hour accruals, but is not counted in the GPA calculation.

*These grading scales apply to all courses unless otherwise noted in the course syllabus.*

### **Immunization Policy for CDMA**

Full-time students are required to have all immunizations as outlined in the general policy section of the student handbook. Immunization requirements for CDMA students are subject to current Center for Disease Control and Prevention guidelines, applicable state health department protocols and affiliated rotation sites requirements. Students who do not adhere to the immunization policy by the stated deadline may jeopardize their standing in the College.

### **Leave of Absence (LOA)**

**Academic.** A student may be placed on LOA for academic reasons upon a determination of the Student Clinical Promotions Committee. A student on LOA for academic reasons is automatically placed on academic probation. Students will be assessed tuition for any additional instruction required as a result of the LOA. An academic LOA will result in a delay in the expected graduation date.

**Voluntary.** Students who wish to voluntarily initiate a leave of absence for personal or medical reasons should contact the Associate Dean for Academic Affairs. Additional coursework, for which students will be assessed tuition, may be required of students returning from a personal or medical LOA. A voluntary LOA may result in a delay in the expected graduation date.

### **Integrated National Board Dental Examination (INBDE) Policy**

Students must challenge the INBDE during the fall or winter quarter of the DMD-4 year. If a student encounters a catastrophic event that prevents them from taking the examination during that timeframe, the Dean may allow challenging of the examination at a later date.

Students who fail to pass the INBDE:

1. Should retake the exam within six months from the date of the first attempt.
2. Should meet with the Dean (or designee) and selected Course Coordinators/Directors to develop an individualized course of study focused toward retaking and passing the INBDE. This will include recommendations to the student to uncover potential test-taking challenges and develop a structured study schedule.

Passing any portion of a licensing examination is not a substitute for passing a Midwestern University course.

### **Satisfactory Academic Progress**

As required by federal law, reasonable standards of satisfactory academic progress have been established by Midwestern University College of Dental Medicine-Arizona for the Doctor of Dental Medicine program. These standards apply to all students applying for, or currently receiving, financial assistance. The policy and procedure for assessing

financial aid status are noted in the Student Financial Services section of this catalog. CDMA students must maintain a minimum GPA of 3.0 to be eligible to engage in student organization leadership roles or attend professional association meetings or other elective events that may interfere with curriculum time or academic progress.

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# ARIZONA COLLEGE OF OPTOMETRY

## MISSION

The mission of Midwestern University Arizona College of Optometry is to educate future optometrists and residents in an interprofessional healthcare environment. The College fosters professional attitudes and behaviors that encourage lifelong learning and scholarship to serve the needs of the public and a commitment to improve the health and well-being of society.

## VISION AND GOALS

The Arizona College of Optometry's vision is to:

- Deliver the premier optometric educational experience utilizing our unique multi-health professional setting and cutting edge technology.
- Provide our students with the knowledge and skills to deliver the highest level of professional, ethical and compassionate eye and vision care.
- Promote lifelong learning, community outreach and innovative research.

The 9 goals of the Arizona College of Optometry (AZCOPT) are listed below:

- Ensure that students have a strong foundation in basic visual and clinical sciences by providing broad and innovative educational opportunities
- Plan and develop a diversity of clinical experiences to enable students to enter the practice of optometry
- Support and nurture an environment of intellectual inquiry and research activity by students, residents and faculty
- Promote interprofessional educational programming to develop students' appreciation of other health care professions
- Promote student involvement in community service
- Maintain and advance high quality residency programs
- Perpetuate an Eye Institute that serves the eye/vision care needs of the community
- Provide lifelong learning activities and support services to the optometric profession and the public
- Maintain the financial viability of the College

## ACCREDITATION

The Midwestern University Arizona College of Optometry has been granted the accreditation classification of ACCREDITED as of April 24, 2013 by the Accreditation Council on Optometric Education (ACOE), of the American Optometric Association (AOA), 243 N. Lindbergh Blvd., St. Louis, MO 63141; phone 800/365-2219. "Accredited" is the classification granted to a professional degree program that generally meets the standards for accreditation. This classification indicates that the program has no deficiencies or weaknesses that compromise the educational effectiveness of the total program.

## DEGREE DESCRIPTION

AZCOPT awards the degree Doctor of Optometry upon successful completion of the four-year professional curriculum in optometry. The first and second years of the curriculum emphasize basic health sciences, optics and visual science. Students are introduced to clinical practice in simulation laboratories, introductory courses, and clinical experiences. Visual consequences of disease are introduced in the second year. The third year, divided between a didactic and clinical setting, emphasizes the diagnosis and treatment of ocular dysfunction and disease. The fourth year consists of intensive clinical training that includes both on campus and off campus externship rotations. Clinical settings for external rotations may include military facilities, veteran administration hospitals, public health service hospitals, and specialty and/or private practices or clinics. The maximum time for degree completion is five years.

## ADMISSIONS

AZCOPT considers for admission those students who possess the academic, professional, and personal qualities necessary for development as exemplary optometrists. AZCOPT uses multiple criteria to select the most qualified candidates including cumulative and prerequisites grade point averages (GPAs), admission test scores, personal experiences and character, ability to communicate, familiarity with the profession, volunteer/community involvement, research experience, and other considerations. AZCOPT uses a competitive, rolling admissions process.



## Admission Requirements

Students seeking admission to AZCOPT must submit the following documented evidence:

1. A minimum cumulative GPA and science coursework GPA of 2.75 on a 4.00 scale.
2. A baccalaureate degree from a regionally accredited institution. A B.A. degree is acceptable but a B.S. degree is preferred.
3. Submit the results of one of the following entrance examinations: Optometry Admissions Test (OAT), Medical College Admissions Test (MCAT), Dental Aptitude Test (DAT), Pharmacy College Admissions Test (PCAT) or the Graduate Record Exam (GRE). A competitive test score (at least at or above the mean score for each exam) is recommended of all applicants. In order to be considered for the class to be admitted in the Fall of each academic year, the entrance examination must be taken and results submitted by April 30th of the year of matriculation. Entrance exam scores must be earned no more than five years prior to the planned enrollment year.
4. Necessary course prerequisites. All prerequisite courses must be completed with grades of C or better. Only courses designed for science majors or pre-professional students are acceptable for the science prerequisites.
5. Two letters of recommendation. One letter must be from a practicing optometrist. The other letter must be from a prehealth advisor, a science professor, an employer, or an extracurricular activity advisor.
6. A good understanding of optometric medicine. Candidates are strongly encouraged to shadow and observe a practicing optometrist in the clinical setting.
7. Extracurricular and/or community activities that indicate a well-rounded background and demonstrate a service orientation.
8. Interpersonal and communication skills necessary to relate effectively with others.
9. Passage of the Midwestern University criminal background check.
10. A commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

## Prerequisite Courses

Biology with lab	8 Sem/12 Qtr hours
Anatomy *	3 Sem/4 Qtr hours
Physiology *	3 Sem/4 Qtr hours
General/inorganic chemistry with lab	8 Sem/12 Qtr hours
Organic chemistry with lab	4 Sem/6 Qtr hours
Biochemistry	3 Sem/4 Qtr hours
Physics	6 Sem/9 Qtr hours
Calculus	3 Sem/4 Qtr hours
Microbiology	3 Sem/4 Qtr hours
Statistics	3 Sem/4 Qtr hours
Psychology	3 Sem/4 Qtr hours
English	6 Sem/9 Qtr hours

\* *The Anatomy and Physiology requirements may also be fulfilled by taking Anatomy and Physiology I (3 Sem/4 Qtr hours) and Anatomy and Physiology II (3 Sem/4 Qtr hours)*

The Doctor of Optometry degree program is rigorous and challenging. The Admissions Committee will therefore assess the quality and rigor of the pre-optometry academic records presented by applicants. When assessing an application, the Admissions Committee will view with concern applicants with:

1. Cumulative and science grade point averages below 3.00 on a 4.00 scale.
2. Admission test scores below the mean for each exam.
3. Prerequisite science coursework completed more than 10 years ago. More recent (within five years) math and science coursework is preferred.

## Application Process and Deadlines

Applicants are strongly encouraged to apply early in the cycle. Applications are considered on a first come first served basis only until all seats are filled.

1. OptomCAS Application  
Applicants are required to submit online applications and application fees to OptomCAS by April 1st of the year of matriculation. In addition to the online application and application fees, an applicant must forward to OptomCAS official transcripts from all colleges and universities attended by the April 1 date. OptomCAS will begin the verification process as official transcripts are received, however an application will not be considered complete until all official transcripts are received.  
Students must apply for admission via OptomCAS

at [www.opted.org](http://www.opted.org) or [www.optomcas.org](http://www.optomcas.org). Please refer to the OptomCAS application instructions for specific details about completing the OptomCAS application, required documents, and processing times. OptomCAS applications are available starting in June or July for applicants seeking admission in August of the following year. Due to the large number of applicants and the limited number of seats available, students are strongly encouraged to complete their OptomCAS application early in the cycle. AZCOPT will consider completed applications on a first-come, first-served basis until all seats are filled.

2. **Admission Test**

AZCOPT prefers the OAT but will accept the MCAT, DAT, PCAT, or GRE test scores as an alternative. Applicants must arrange for scores from the admission exam to be sent directly to Northwestern University. Only test scores received directly from the testing agency will be accepted. Any of these admission exam scores must be earned no more than 5 years prior to the planned enrollment year.

Additional information on the OAT may be found at [www.opted.org](http://www.opted.org) or in writing to:

Optometry Admission Testing Program  
211 East Chicago Avenue  
Chicago, Illinois 60611  
800/232-1694

email: [oatexam@ada.org](mailto:oatexam@ada.org)

3. **Letters of Recommendation**

Applicants must submit two letters of recommendation from professionals to OptomCAS ([www.optomcas.org](http://www.optomcas.org)). One letter must be from a practicing optometrist. The other letter must be from a prehealth advisor, a science professor, an employer, or extracurricular activity advisor. Letters of recommendation from relatives, personal and/or family friends are not acceptable.

4. **Completed Application**

All application materials, including the OptomCAS application, admission test scores (as reported to Northwestern University), and two letters of recommendation (as submitted to OptomCAS) must be received by the Office of Admissions on or before April 30th of the year of matriculation. Only completed applications received by the Office of Admissions on or before the deadline date will be reviewed for potential entrance into the program.

*Please note:* Applicants are responsible for tracking the receipt of their application materials and verifying the status of their applications on the University website. The Office of Admissions will send qualified applicants instructions for checking the status of their application materials online.

Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or e-mail address.

Midwestern University  
Office of Admissions  
19555 North 59th Avenue  
Glendale, AZ 85308  
623/572-3215 or 888/247-9277  
[admissaz@midwestern.edu](mailto:admissaz@midwestern.edu)

**Rolling Admissions**

AZCOPT uses a rolling admissions process in which applications are processed and reviewed during regular intervals in the admissions cycle until the class is filled.

**Interview Process**

Before an invitation is issued to attend an on-campus interview, applicants must meet the admission requirements listed previously. After the Office of Admissions receives all required application materials, applicant files are reviewed to determine whether an applicant merits an invitation for an interview. Applicants may also be placed on a waiting list pending possible openings in a later part of the admissions cycle. Interviews are typically held between August and May. Invited applicants must attend an on-campus interview to receive further consideration in the admissions process.

The on-campus visit, which includes an interview session, generally takes five hours. Each interviewee will meet with at least two interviewers. Applicants will be evaluated on verbal communication skills, understanding of the optometry profession, commitment to patient care, and other elements as determined by the College. Applicants will also learn more about Northwestern University, AZCOPT, financial aid programs, student services, and campus housing, as well as tour the Glendale Campus.

Following the interview, an applicant's file will be forwarded to the Admissions Committee for review. The committee may recommend to accept, deny, or place students on an alternate list. Recommendations are then forwarded to the Dean for final approval. The Dean, via the Office of Admissions, notifies applicants of their status within two weeks of their interview date, provided that the file is complete.

Any request for withdrawal of an application must be made in writing.

**Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the College.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of the sense of vision and sense of touch and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively in verbal and written form and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, and interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participate in touching/palpating on the skin and being touched/palpated on the skin by individuals regardless of gender in all academic settings. These activities will take place in large and small group settings as directed in the College's curricular requirements.

Candidates are required to verify that they understand and meet these Technical Standards at least 4 weeks prior to matriculation (or if admitted later, within 1 week of deposit). Candidates who may only meet Technical Standards with accommodation must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations

can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Dual Acceptance Program with selected affiliated universities**

The Dual Acceptance Program is an early acceptance program for selected students who successfully complete the specified pre-optometry coursework. The Dual Acceptance Programs are currently in effect with Arizona State University and Arizona Christian University.

Benefits of the DAP:

- Provides for an excellent foundation in pre-optometry education.
- Sets out a clear road map for which courses to take and when.
- Exempts the student from the Optometry Admissions Test (OAT) and associated fees.
- Exempts the student from the OptomCAS application process and associated fees.
- Guarantees entry to MWU AZCOPT well in advance with successful completion of all program requirements.

To receive consideration for the Dual Acceptance Program, high school senior students must meet the following eligibility requirements:

1. Earn admission to one of the affiliated universities.
2. Apply online to the AZCOPT Dual Acceptance Program as a high school senior.
3. Obtain a minimum score of 28 on the ACT or 1250 on the SAT.
4. Demonstrate a people or service orientation through community service or extracurricular activities.
5. Demonstrate motivation for and commitment to the optometry profession as demonstrated by previous work, volunteer, or other life experiences.
6. Possess the oral and written communication skills necessary to interact with patients and colleagues.

After the Midwestern University Office of Admissions receives all completed application materials, applicant files are

reviewed to determine whether applicants merit invitations for an interview. Invited applicants must participate in an on campus interview for further consideration in the admissions process.

During the interview day, candidates will be evaluated for verbal communication skills, understanding of the optometry profession, commitment to patient care, and other elements as determined by the college. Applicants may be required to participate in writing sample exercises during the visit. Candidates will learn more about the optometry program, financial aid, student services, and tour the Midwestern University campus.

Following the interview, their completed applications are forwarded to the AZCOPT Admissions Committee for review. The committee may recommend to accept or to deny applicants for admission. These recommendations are then forwarded to the Dean for final approval. The Dean, via the Office of Admissions, notifies applicants of their status within two weeks of their visits. Accepted applicants will be ensured a seat at AZCOPT upon successful completion of the program requirements:

1. All prerequisite pre-optometry courses must be completed at an affiliated university. Official AP and dual-enrollment credits completed during high school, and that are listed on the affiliated university's transcript as equivalent courses, are acceptable for meeting the prerequisites.
2. Completion of a baccalaureate degree at an affiliated university within 4 years.
  - a. Authorization to extend an undergraduate degree beyond 4 years is at the discretion of the Dean, Arizona College of Optometry. Requests must be submitted to the Arizona College of Optometry office of the Dean; decisions will be made on a case by case basis.
3. A minimum overall GPA of 3.40 on a 4.00 scale must be attained.
4. A minimum science GPA of 3.40 on a 4.00 scale must be attained.
5. Students must earn a grade of "C" or higher in all required courses. A grade of "C-" or lower is not acceptable.
6. Students are not permitted to withdraw from more than 2 courses during their 4 year undergraduate program.
  - a. Authorization to withdraw from more than 2 courses is at the discretion of the Dean, Arizona College of Optometry. Requests must be submitted to the Arizona College of Optometry office of the Dean; decisions will be made on a case by case basis.
7. Students are not permitted to repeat courses for a higher grade for which they have already received credit.

8. Accepted students are required to sign a letter of understanding upon acceptance. Accepted students will submit a deposit fee within 1 year prior to matriculation. All fees are applied toward the student's first quarter tuition.

Students who are not accepted to or fail to complete the Dual Acceptance Program may apply to AZCOPT using the standard procedures.

[Click here to access the application.](#)

### **Articulation Agreement with Midwestern University Biomedical Sciences Degree Programs**

AZCOPT will accept MCAT, DAT, PCAT, or GRE test scores as an alternative to OAT scores for currently enrolled students in the Midwestern University Biomedical Sciences degree programs (Master of Arts in Biomedical Sciences or Master of Biomedical Sciences), who wish to apply to AZCOPT. Any of these alternative admission test scores must be earned no more than 5 years prior to the planned enrollment year at AZCOPT.

### **Reapplication Process**

After receiving either denial or end-of-cycle letters, or after dismissal from the College, applicants may reapply for the next enrollment cycle. Before reapplying, however, applicants should seek the advice of a MWU admissions counselor.

### **Transfer Admission Policy**

AZCOPT may elect to accept transfer students from other U.S. accredited schools of optometry who are currently enrolled, are in good academic standing, and provide acceptable reason(s) for seeking transfer. Typically, students will transfer at the beginning of the second year of the curriculum.

Students requesting transfers must meet the College's general requirements for admission. They must also submit the following:

1. A letter to the Director of Admissions outlining the reasons for requesting transfer and explaining any difficulties encountered at the previous institutions.
2. Course syllabi for all optometry coursework for which advanced standing credit is requested.
3. Official scores from the OAT, MCAT, DAT, PCAT, or GRE.
4. Official transcripts from all schools attended - undergraduate, graduate, and professional.
5. A letter from the Dean of the college in which the student is enrolled that describes current academic status and terms of withdrawal or dismissal.
6. Additional documents or letters of recommendation as determined necessary by the Director of Admissions or Dean.

Following receipt of these materials, a decision by the Dean is made regarding whether or not the student merits an on-campus interview. If the student receives an invitation, he/she interviews with an appropriate interview team. The interview team then makes an admissions recommendation to the Dean, who is responsible for approving both the student's admissions status and class standing.

The transfer application must be received sufficiently early to allow for processing of the application, interview, and relocation of the student prior to the start of the next academic term.

### **Readmission after Dismissal for Poor Academic Performance**

It is at the discretion of AZCOPT to readmit a student who has been dismissed for poor academic performance. To initiate the reapplication process, candidates must complete and submit an application and proceed through the standard application process established by the program. Before reapplying, however, individuals should seek the advice of an admissions counselor, Associate Dean, or Dean. It is expected that the individual would have addressed documented deficiencies before reapplication and be able to demonstrate that he/she meets all admission requirements and technical standards of the College.

The College's Admissions Committee will review completed applications of candidates and submit recommendations to the Dean for action. The Dean, via the Office of Admissions, then notifies applicants in writing of admissions decisions.

No guarantee of readmission is implied, and questions related to advanced standing and similar issues will be addressed as they are for new applicants. Reapplications are allowed only within the first two years following dismissal and readmission will be granted only once.

## **GRADUATION REQUIREMENTS**

To be eligible for graduation and to receive the degree Doctor of Optometry (O.D.), the student must meet the following requirements:

- Follow an approved course of study acceptable to the College's Student Promotion and Graduation Committee and leading to the completion of all academic requirements for the degree.
- Complete all required coursework and clinical rotations with passing grades and earn a cumulative GPA of at least 2.00.
- Provide proof of passing Part I of the National Boards administered by the National Board of Examiners in Optometry (NBEO). It is the responsibility of the individual student to pass any national board examination.

- Provide proof of taking either Part II of the National Boards administered by the NBEO or the Written Assessment portion of the Canadian Examiners in Optometry (CEO) Canadian Assessment of Competency in Optometry (CACO) examination.
- Submit proof of passage of Part I of the National Boards plus proof of the taking of Part II of the National Boards administered by NBEO or the Written Assessment portion of the CACO examination to the Office of the Dean by February 1<sup>st</sup> of the year of graduation in order to be eligible to walk-through and participate in the graduation ceremony with their class and receive a diploma.
- Be recommended for conferral of the degree Doctor of Optometry by the University Faculty Senate.
- Settle all financial accounts with the University.
- Complete all graduation clearance requirements as instructed by the Office of the Registrar.

In the event that a student does not pass Part I of the National Boards, the student may continue in the program. However, a student must pass Part I of the National Boards Exam in order to graduate.

If a student is scheduled to take Part I of the National Boards exam in March or August of the year of graduation, the student is eligible to walk-through and participate in the graduation ceremony with their class, but will not receive a diploma until documentation is provided to show passage of Part I of the National Boards.

If a student is scheduled to take Part II of the National Board exam in December of the year of graduation, the student is eligible to walk-through and participate in the graduation ceremony with their class, but will not receive a diploma until documentation is provided to show completion of Part II of the National Boards.

## **LICENSURE REQUIREMENTS**

To obtain licensure, graduates must have completed the requirements established by each state or national licensing board. Licenses require successful passage of a country's national board examinations and may require the passage of additional state licensing exams. Postdoctoral requirements may vary among US states. The National Board of Examiners in Optometry (NBEO) administers complete integrated examinations in three parts that reflect the different stages of a candidate's optometric education and training. The earliest date for a student candidate to take the Part I examination is March of the third professional year at an accredited institution. The earliest date for a candidate to take the Part II examination is in December during the candidate's fourth year at an accredited institution. Students are eligible to take the Part III examination at the conclusion of their third year or at any time throughout their fourth year.

Students intending to practice in Canada must seek a Certificate of Competence in Optometry in most provinces. This requires that they take and pass the Canadian Assessment of Competency in Optometry (CACO) examination which has Written and Practical (clinical skills) Assessments. A candidate is not eligible for registration for the spring or fall exam administration until they are enrolled in their final year of an optometry program. Candidates registering for a spring administration must graduate with an OD degree on or before June 30<sup>th</sup> following that administration. Candidates registering for a fall administration must graduate with an OD degree on or before November 30<sup>th</sup> following that administration.

It is the responsibility of the individual student to pass national board examinations. For additional information regarding licensure, contact the following agencies:

National Board of Examiners in Optometry  
200 S. College Street, #2010  
Charlotte, NC 28202  
Phone: 800-969-EXAM (3926) or 704-332-9565  
Fax: 704-332-9568  
E-mail: nbeo@optometry.org  
Website: www.optometry.org

or:

Optometry Examining Board of Canada  
37 Sandiford Drive, Suite 403  
Stouffville, Ontario  
L4A 3Z2  
Phone: 905-642-1373  
Fax: 905-642-3786  
E-mail: exams@oebc.ca  
Website: <http://www.oebc.ca>

Midwestern University's Doctor of Optometry meets the educational requirements for licensure to practice as an optometrist in the following jurisdictions: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, U.S. Virgin Islands, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

*Special Note:* Licensure in Oklahoma requires that you must have passed the Laser Therapy for the Anterior Segment Course offered by the Northeastern State University.

## CURRICULUM

**Total quarter credit hours required to complete program: 253**

The College reserves the right to alter the curriculum as it deems appropriate.

### First Year

Total Quarter Credit Hours Required: 62

#### Fall Quarter

BASIG	1510	Basic Science Integrated Sequence I	4
BASIG	1511	Basic Science Integrated Sequence II	4
BASIG	1512	Basic Science Integrated Sequence III	4.5
COREG	1560J	Interprofessional Healthcare	0.5
OPTOG	1510	Clinical Services, Theory & Methods I	3
OPTOG	1511	Contemporary Issues in Health Care and Ethics	0.5
OPTOG	1540	Geometric, Physical & Visual Optics I	4
OPTOG	1560	Ocular Anatomy and Physiology I	2

**Total 22.5**

#### Winter Quarter

BASIG	1513	Basic Science Integrated Sequence IV	2.5
BASIG	1514	Basic Science Integrated Sequence V	4.5
BASIG	1515	Basic Science Integrated Sequence VI	4.5
COREG	1570J	Interprofessional Healthcare	0.5
OPTOG	1520	Clinical Services, Theory & Methods II	3
OPTOG	1550	Geometric, Physical & Visual Optics II	4
OPTOG	1580	Ocular Anatomy and Physiology II	2

**Total 21**

<b>Spring Quarter</b>				OPTOG 1672	Capstone Project II: Literature Search and Study Design	1
BASIG	1516	Basic Science Integrated Sequence VII	3.5	OPTOG 1692	Ocular Pharmacology II	1
BASIG	1517	Basic Science Integrated Sequence VIII	2.5	PHARG 1623	General Pharmacology II	3
BASIG	1518	Basic Science Integrated Sequence IX	4	<b>Total</b> <b>20</b>		
<b>Second Year</b>				<b>Spring Quarter</b>		
COREG	1580J	Interprofessional Healthcare	0.5	OPTOG 1624	Visual Science: Binocular Vision	4
OPTOG	1514	Optometry Business & Career Management I	1	OPTOG 1644	Ocular Disease III	3
OPTOG	1525	Geometric, Physical & Visual Optics III	2	OPTOG 1646	Contact Lens II	3
OPTOG	1530	Clinical Services, Theory & Methods III	3	OPTOG 1654	Clinical Services, Theory & Methods VI	3
OPTOG	1590	Ocular Anatomy and Physiology III	2	OPTOG 1655	Introduction to Clinical Services	1.5
<b>Total</b>			<b>18.5</b>	OPTOG 1693	Ocular Pharmacology III	2.5
<b>Second Year</b>				OPTOG 1694	Pediatric Optometry	1
Total Quarter Credit Hours Required:			56.5	<b>Total</b> <b>18</b>		
<b>Fall Quarter</b>				<b>Third Year</b>		
OPTOG	1620	Visual Science: Monocular Sensory Processing	2.5	Total Quarter Credit Hours Required: 63		
OPTOG	1630	Ophthalmic Optics I	4	<b>Summer Quarter</b>		
OPTOG	1640	Ocular Disease I	3	OPTOG 1714	Optometry Business & Career Management II	1
OPTOG	1650	Clinical Services, Theory & Methods IV	3	OPTOG 1720	Diagnosis and Management of Non-Strabismic Binocular Vision Disorders	4
OPTOG	1670	Capstone Project I: Research Design and Biostatistics	1	OPTOG 1740	Contact Lens III	3
OPTOG	1675	Visual Neurophysiology	2	OPTOG 1746	Ocular Disease IV	2
OPTOG	1691	Ocular Pharmacology I	1	OPTOG 1760	Capstone Project III: Data Collection and Analysis	1
PHARG	1602	General Pharmacology I	2	OPTOG 1770	Clinical Services VII	6
<b>Total</b>			<b>18.5</b>	<b>Total</b> <b>17</b>		
<b>Winter Quarter</b>				<b>Fall Quarter</b>		
OPTOG	1622	Visual Science: Ocular Motility	2	OPTOG 1722	Diagnosis of Strabismus and Amblyopia	4
OPTOG	1632	Ophthalmic Optics II	4	OPTOG 1771	Clinical Services VIII	6
OPTOG	1642	Ocular Disease II	3	OPTOG 1785	Visual Rehabilitation	3
OPTOG	1645	Contact Lens I	3	OPTOG 1787	Neuro-ophthalmic Disease	2.5
OPTOG	1652	Clinical Services, Theory & Methods V	3	OPTOG 1790	Evidence Based Medicine	1.5
<b>Total</b>			<b>18.5</b>	<b>Total</b> <b>17</b>		
<b>Winter Quarter</b>				<b>Winter Quarter</b>		

OPTOG 1723	Treatment and Management of Strabismus and Amblyopia	3
OPTOG 1729	Advanced Ophthalmic Procedures	4
OPTOG 1772	Clinical Services IX	6
<b>Total</b>		<b>13</b>

#### Spring Quarter

OPTOG 1724	Optometry Business and Career Management III	2
OPTOG 1726	Advanced Competency in Binocular Vision and Pediatrics	3
OPTOG 1745	Epidemiology, Public Health and the Optometric Profession	2
OPTOG 1761	Capstone Project IV: Research Presentation	3
OPTOG 1773	Clinical Services X	6
<b>Total</b>		<b>16</b>

#### Fourth Year

Total Quarter Credit Hours Required: 72

#### Summer Quarter

OPTOG 1800	Clinical Services XI	18
<b>Total</b>		<b>18</b>

#### Fall Quarter

OPTOG 1810	Clinical Services XII	18
<b>Total</b>		<b>18</b>

#### Winter Quarter

OPTOG 1820	Clinical Services XIII	18
<b>Total</b>		<b>18</b>

#### Spring Quarter

OPTOG 1830	Clinical Services XIV	18
<b>Total</b>		<b>18</b>

During their enrollment at AZCOPT, students may choose to take elective courses for enrichment. No minimum number of elective credits is required for graduation. Elective options may include, but are not limited to, the following:

#### Electives

CLMDG 1354J	Being a Leader and the Effective Exercise of Leadership	2
ONEHG 1301J	One Health Grand Rounds	2

OPTOG 1351	Study Skills Enhancement	2
OPTOG 1382 A-D	Selected Studies	1-3
OPTOG 1397	Sports Vision Workshop	1.5
OPTOG 1494 A-D	Third Year Clinical Skills Enhancement	1-7.5
OPTOG 1495 A-D	Fourth Year Clinical Skills Enhancement	1-18
OPTOG 1496	Advanced Specialized Test Interpretation	1
OPTOG 1498	Spanish for Optometric Eye Exams	1.5
OPTOG 1499	Vision Correction Surgery	1.5

## COURSE DESCRIPTIONS

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description it is implied that there is no prerequisite.

#### *BASIG 1510 Basic Science Integrated Sequence I*

BASIG 1510 provides an overview of cell structure and function, including topics on molecular cell biology, metabolism, epithelium, general connective tissues, and blood. Module 1: Cell Biology outlines the basic histological structure and biochemical function of the cell. Module 2: Molecular Cell Biology and Metabolism focuses on transcription, translation, control of gene expression, and normal cell metabolism. Module 3: Epithelium, General Connective Tissues, and Blood defines the basic structure, function and biochemical characteristics of two basic histological tissues: epithelium and connective tissue. This module also includes an introduction to peripheral blood cells and hematopoiesis. The biochemical basis of hemostasis is described. Disorders of hemostasis and their consequences are discussed.  
4 credits

#### *BASIG 1511 Basic Science Integrated Sequence II*

BASIG 1511 provides an overview of cancer, genetics, lymphatic system and immunology. In Module 4: Cancer and Genetics, emphasis is placed on DNA mutations, polymorphisms, patterns of inheritance in human diseases, cytogenetics, and molecular basis of cancer. Module 5: Lymphatic System and Immunology, includes gross anatomy and histology of the lymphatic system and structure/function of the immune system. Basic precepts of the lymphatic system and immunology will be applied to inflammation, tissue repair and healing. Understanding of immunology will be applied to immune responses to infectious agents. Also included are: development and pathology of



immunologically-mediated diseases, immune responses to transplants, cancer, HIV infection, and therapeutic use of drugs affecting the immune system.

4 credits

*BASIG 1512 Basic Science Integrated Sequence III*

BASIG 1512 provides an overview of infectious diseases, integument and blood disorders. Module 6: Introduction to Infectious Diseases provides fundamental understanding of basic concepts in microbiology to accurately identify and manage infectious diseases. The information will aid in the management of the patient's health and general well-being. In Module 7: Integument and Blood Disorders, students combine their knowledge of epithelium, connective tissue, and peripheral blood to learn the basic structure and function of the integument. This module further describes common infections and pathologies of the integument as well as blood-borne infections and blood disorders.

4.5 credits

*BASIG 1513 Basic Science Integrated Sequence IV*

BASIG 1513 provides an overview of the Musculoskeletal System. Module 8 includes: the basic concepts of embryology, an introduction to gross anatomy, the structure and function of skeletal and smooth muscle and the development of bone and cartilage. Muscle membrane excitability and the molecular basis of muscle contraction are discussed. Diseases of bone and soft tissues are included. This module contains lectures and two laboratory sessions that describe upper extremity anatomy and function.

2.5 credits

*BASIG 1514 Basic Science Integrated Sequence V*

BASIG 1514 provides an overview of the structure and function of the nervous system and is composed of one module titled Nervous System. Module 9 begins by discussing the nervous system in terms of its organization, support systems, and structure including the histology of nervous tissue, brain biochemistry, and mechanisms of neurotransmission including development of action potentials and synaptic transmission. This is followed by nervous system development, and then descriptions of the structure and function of the somatosensory pathways, descending motor systems, auditory, vestibular, and visual systems, and finally finishing with the cerebral cortex. Common clinical concerns are also discussed including relevant microbiology and pathology.

4.5 credits

*BASIG 1515 Basic Science Integrated Sequence VI*

BASIG 1515 provides an overview of the structure and function of the Cardiovascular and Respiratory Systems. Module 11: Cardiovascular System begins with a discussion of the anatomy, histology, and embryological development of

the heart and circulatory system. Other topics included are cardiac muscle function, electrophysiology of cardiac muscle, cardiac cycle, and cardiac performance. Control of cardiovascular function integrates discussions of hemodynamics, regional circulation, and arterial blood pressure. Module 12: Respiratory System discusses the anatomy and histology of the respiratory system, mechanics of breathing, gas transport, and regulation of respiration. Relevant topics in microbiology, pathophysiology, and pathology are described in both modules.

4.5 credits

*BASIG 1516 Basic Science Integrated Sequence VII*

BASIG 1516 provides an overview of the Endocrine System and the Gastrointestinal (GI) System. In Module 13 the disciplines of histology and physiology describe the basic structure and normal function of the Endocrine System. Topics discussed include the hypothalamic control of endocrine secretion and regulation of individual endocrine organs. Common disorders of the Endocrine System are discussed by the pathology faculty. Module 14 Gastrointestinal System includes topics such as: chewing, swallowing and digestion. The gross anatomical, histological, physiological, microbiological, and pathological aspects of the GI system are discussed.

3.5 credits

*BASIG 1517 Basic Science Integrated Sequence VIII*

BASIG 1517 provides an overview of the Urogenital System. Topics included in the first part of module 15 are: the anatomy of the urogenital system, histology of the urinary system, renal tubular transport mechanisms, the production of urine, the control of extracellular fluid volume, and acid/base balance. The second part of the module provides an overview of the structure and function of the Male and Female Reproductive Systems. Diseases of the urogenital system are discussed.

2.5 credits

*BASIG 1518 Basic Science Integrated Sequence IX*

BASIG 1518 provides an overview of the Gross Anatomy of the Head and Neck. Module 16 provides instruction in the fundamental head and neck gross anatomy information required for clinical training. Three-dimensional relationships among anatomical structures are reinforced by in-depth dissections of the head and neck. Students are expected to use this anatomical information to elucidate and solve case-based problems commonly seen in clinical practice. Student dissection of the head and neck is performed under faculty supervision during three 3-hour laboratories per week.

4 credits

*COREG 1560J, 1570J, 1580J Interprofessional Healthcare*  
 The Interprofessional Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach all clinically-based students about each other's clinical programs, how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists of online lectures with associated quizzes, online interprofessional group discussions and in-person interprofessional group case discussions. Each course 0.5 credits

*OPTOG 1510, 1520, 1530 Clinical Services, Theory & Methods I, II, III*  
 This course sequence is an introduction to the theory and procedures that structure the examination of the eye. This includes instrumentation, examination methods, psychophysical techniques, appropriate patient instructions, protocols and recording of findings. Instruction is provided to foster progressive development of basic examination techniques including, but not limited to, medical and ocular history, visual acuity, color vision, cover test, depth perception, pupillary and visual pathways, external ocular examination, retinoscopy and refraction, and ophthalmoscopy. Students must successfully complete a proficiency examination at the end of each course before progressing into the next course in the sequence. Each course 3 credits

- Prerequisite for OPTOG 1510 Clinical Services, Theory & Methods I: none
- Prerequisite for OPTOG 1520 Clinical Services, Theory & Methods II: OPTOG 1510 Clinical Services, Theory & Methods I
- Prerequisite for OPTOG 1530 Clinical Services, Theory & Methods III: OPTOG 1520 Clinical Services, Theory & Methods II

*OPTOG 1511 Contemporary Issues in Health Care and Ethics*  
 This course introduces students to the current issues faced by providers of primary eye care as well as ethical precepts that serve as foundations to providing health care to the public. Included is the history of optometry, professional and student ethics, as well as the interaction and influence of industry on the profession of optometry. 0.5 credits

*OPTOG 1514, 1714, 1724 Optometry Business and Career Management I, II, III*  
 This course sequence introduces the student to the business, financial, and personal aspects of practice. Course themes include planning for personal, professional, and financial goals, credit and debt management, optometric career choices, modes and scope of practice, considerations in

private practice, professionalism as part of patient care and fundamentals of effective communication and interpersonal skills. The desired outcome of the course is that the student will be able to select and take the steps needed to enter the best practice for their individual needs and future goals.

- Prerequisites: Prerequisite for OPTOG 1514 Optometry Business & Career Management I, 1 credit: None
- Prerequisite for OPTOG 1714 Optometry Business & Career Management II, 1 credit: None
- Prerequisite for OPTOG 1724 Optometry Business & Career Management III, 2 credits: None

*OPTOG 1540, 1550, 1525 Geometric, Physical, and Visual Optics I, II, III*  
 The course sequence provides an introduction to the qualitative and quantitative characterization of the behavior of light and optical systems as related to optometry. In Geometrical Optics, the basics of refraction at plane and spherical surfaces, image formation and magnification, spherical and spherocylindrical thin lenses, thin lens eye models, thick lenses, prisms, reflection and mirrors will be presented. Physical Optics presents conceptual and quantitative understanding of aberrations, characteristics of electromagnetic waves, diffraction, interference, fluorescence, polarization, scattering, photometry, lasers, and other applications. Visual Optics considers the eye as an optical system, including schematic eye models, refractive error, optical characteristics of the eye, stimulus to accommodation, retinal image size and quality, Purkinje images, entoptic phenomena, presbyopia, aphakia, intraocular implants and effects of radiation.

- Prerequisite for OPTOG 1540 Geometric, Physical and Visual Optics I, 4 credits: none
- Prerequisite for OPTOG 1550 Geometric, Physical and Visual Optics II, 4 credits: OPTOG 1540 Geometric, Physical and Visual Optics I
- Prerequisite for OPTOG 1525 Geometric, Physical and Visual Optics III, 2 credits: OPTOG 1550 Geometric, Physical and Visual Optics II

*OPTOG 1560, 1580, 1590 Ocular Anatomy and Physiology I, II, III*  
 This course sequence allows the student to understand and appreciate the anatomy, physiology and pathophysiology of the tissues and structures of the eye. Students will gain an understanding of the relationship of ocular anatomy and physiology to ocular pharmacology, biochemistry, and ocular pathophysiology. This course series comprises lectures and workshops. Each course 2 credits

- Prerequisite for OPTOG 1560 Ocular Anatomy and Physiology I: None

- Prerequisite for OPTOG 1580 Ocular Anatomy and Physiology II: OPTOG 1560 Ocular Anatomy and Physiology I
- Prerequisite for OPTOG 1590 Ocular Anatomy and Physiology III: OPTOG 1580 Ocular Anatomy and Physiology II

*OPTOG 1620 Visual Science: Monocular Sensory Processing*

This course introduces concepts on anatomy and physiology related to the visual perception and image processing. The functionality of visual performance using dark adaption, color vision, spatial and temporal vision is explained in normal and abnormal conditions. This information is relevant to understanding how the visual system functions with various perception aspects. Students are introduced to the development of vision and abnormal cortical development.

2.5 credits

*OPTOG 1622 Visual Science: Ocular Motility*

This course focuses on characteristics, control, and deficits of the eye movement systems, the autonomic systems subserving accommodation, and pupillary mechanisms and understanding the interactions between these eye movement systems and the visual perception process. Theories and mechanisms of presbyopia and treatment options are also discussed.

2 credits

*OPTOG 1624 Visual Science: Binocular Vision*

Students will learn about fundamental binocular vision concepts as observed under normal and abnormal conditions. This course will include a discussion of binocular sensory mechanisms of vision such as stereovision, along with the underlying neuroanatomy and physiology. Mechanisms of cortical suppression and possible treatment options are also discussed.

4 credits

*OPTOG 1630, 1632 Ophthalmic Optics I, II*

This course sequence covers the study of the physical and optical characteristics of ophthalmic lenses and prisms; the design and application of single vision, multifocal, occupational and progressive lenses; the benefits and applications of ophthalmic lens materials, absorptive lenses, and lens treatments; and the proper measurement and fitting of ophthalmic lenses and frames.

Each course 4 credits

- Prerequisite for OPTOG 1630 Ophthalmic Optics I: OPTOG 1525 Visual Optics
- Prerequisite for OPTOG 1632 Ophthalmic Optics II: OPTOG 1630 Ophthalmic Optics I

*OPTOG 1640, 1642, 1644, 1746 Ocular Disease I, II, III, IV*

This course sequence covers signs and symptoms, pathophysiology, clinical course, differential diagnosis, treatment and management of ocular diseases of the anterior and posterior segment of the eye and ocular adnexa.

- Prerequisite for OPTOG 1640 Ocular Disease I, 3 credits: none
- Prerequisite for OPTOG 1642 Ocular Disease II, 3 credits: OPTOG 1640 Ocular Disease I
- Prerequisite for OPTOG 1642 Ocular Disease III, 3 credits: OPTOG 1642 Ocular Disease II
- Prerequisite for OPTOG 1746 Ocular Disease IV, 2 credits: OPTOG 1644 Ocular Disease III

*OPTOG 1645, 1646, 1740 Contact Lens I, II, III*

This course sequence includes a discussion of the theory and practice of contact lens design and contact lens fitting methodologies. Areas of discussion include corneal topography, design of materials, fabrication and modification of contact lenses, fitting and evaluation methodologies and procedures. This course sequence will also explore advanced contact lens applications for high and irregular astigmatism, keratoconus, presbyopia, post-surgical and irregular corneas, corneal reshaping, and ocular prosthetics.

Each course 3 credits

- Prerequisite for OPTOG 1645 Contact Lens I: None
- Prerequisite for OPTOG 1646 Contact Lens II: OPTOG 1645 Contact Lens I
- Prerequisite for OPTOG 1740 Contact Lens III: OPTOG 1646 Contact Lens II

*OPTOG 1650, 1652, 1654 Clinical Services, Theory & Methods IV, V, VI*

This course sequence covers instrumentation, examination methods, psychophysical techniques, appropriate patient instructions and communication skills, protocols, and recording of findings. Instruction is provided to foster progressive development of basic examination techniques and assessment of binocular skills and ocular health. Students must successfully complete a proficiency examination at the end of each course before progressing into the next course in the sequence.

Each course 3 credits

- Prerequisite for OPTOG 1650 Clinical Services, Theory & Methods IV: OPTOG 1530 Clinical Services, Theory & Methods III
- Prerequisite for OPTOG 1652 Clinical Services, Theory & Methods V: OPTOG 1650 Clinical Services, Theory & Methods IV

- Prerequisite for OPTOG 1654 Clinical Services, Theory & Methods VI; OPTOG 1652 Clinical Services, Theory & Methods V

#### *OPTOG 1655 Introduction to Clinical Services*

The objective of this course is to introduce the student to clinical care services in the Eye Institute. In addition, this course will assess and verify the optometry student's level of competency in primary care optometry patient care skills. The course is designed to refine clinical procedures and students will be required to complete a comprehensive clinical skills proficiency examination. Successful completion of this course qualifies the student to enter the Clinical Services VII – X course sequence.

1.5 credits

OPTOG 1652 Clinical Services, Theory and Methods V

#### *OPTOG 1670 Capstone Project I: Research Design and Biostatistics*

Principles of research design and the application of biostatistical methods will be discussed. The course will include an overview of potential studies that the student may choose for their capstone project.

1 credit

#### *OPTOG 1672 Capstone Project II: Literature Search and Study Design*

The student will decide on a project hypothesis, conduct a literature search, design the study and submit an IRB application if needed. The project requires data collection of basic or clinical research under the mentorship of a faculty member.

1 credit

Prerequisites: OPTOG 1670 Capstone Project I: Research Design and Biostatistics

#### *OPTOG 1675 Visual Neurophysiology*

This course discusses the neurophysiological basis of vision, from detection of light by the retina to the processing of complex visual scenes by the visual association cortex. Specific topics include basic neuronal physiology, signal transduction, receptive field construction, subcortical and cortical visual pathways, high-order visual processing, neurophysiological techniques for studying the visual system, and visual disorders with a neurophysiological basis.

2 credits

#### *OPTOG 1691, 1692, 1693 Ocular Pharmacology I, II, III*

This course sequence discusses the pharmaceutical treatment of ocular diseases. It will cover, in detail, the selection of drugs appropriate for the treatment of important ocular disorders and their methods of use. In-class practice of the use of pharmaceutical agents in disease treatment will be an important part of the learning experience. Specific topics include major classes of drugs used to treat ocular disorders and how they are employed, side effects of the use of both

ocular and systemic drugs, common formulations used for ocular drugs, new pharmaceutical agents, and general pharmacology and toxicology.

- Prerequisite for OPTOG 1691 Ocular Pharmacology I, 1 credit: None
- Prerequisite for OPTOG 1692 Ocular Pharmacology II, 1 credit: OPTOG 1691 Ocular Pharmacology I
- Prerequisite for OPTOG 1693 Ocular Pharmacology III, 2.5 credits: OPTOG 1692 Ocular Pharmacology II

#### *OPTOG 1694 Pediatric Optometry*

This course presents vision development and diagnostic strategies for examining children from infancy through adolescence. Discussions on how vision development guides treatment and management options in the pediatric population will include common anterior segment pathologies, refractive errors, and contact lenses.

1 credit

#### *OPTOG 1720 Diagnosis and Management of Non-Strabismic Binocular Vision Disorders*

This course reviews the common non-strabismus diagnoses of accommodation, binocular vision, and oculomotor systems. Specialized testing techniques will be presented as they relate to these diagnoses including tests of accommodative function, heterophoria, fixation disparity, associated phoria, graphical analysis, and various measures of eye movement skills. Appropriate therapies for these diagnoses with a heavy emphasis on vision therapy techniques will be outlined. Applying these skills further to patients who have suffered an acquired/traumatic brain injury (ABI/TBI) will be discussed.

4 credits

Prerequisites: OPTOG 1624 Visual Science: Binocular Vision and OPTOG 1694 Pediatric Optometry

#### *OPTOG 1722 Diagnosis of Strabismus and Amblyopia*

This course will emphasize the principles and techniques of evaluating patients presenting with strabismus and amblyopia. An organized approach to a comprehensive evaluation is presented with an emphasis on the administration and interpretation of diagnostic testing procedures including the assessment of associated anomalies such as eccentric fixation, comitancy and anomalous correspondence.

4 credits

Prerequisites: OPTOG 1720 Diagnosis and Management of Non-Strabismic Binocular Vision Disorders

#### *OPTOG 1723 Treatment and Management of Strabismus and Amblyopia*

This course presents theoretical and clinical considerations in the management of strabismus and amblyopia including the rationale and methods for using lenses, prisms, occlusion,

vision therapy, medication, and surgical referrals. Associated anomalies are discussed in terms of their significance and management.

3 credits

Prerequisites: OPTOG 1722 Diagnosis of Strabismus and Amblyopia

*OPTOG 1726 Advanced Competency in Binocular Vision and Pediatrics*

This course focuses on testing visual information processing (VIP) and gives students an organized approach to identify visual deficits that may have an impact on reading and learning. Students will also learn how to create sequential management plans for treating patients with visual processing disorders. In addition to VIP testing, an overview of acquired and traumatic brain injuries will be presented and students will be introduced to the multidisciplinary approach in management of these patients.

3 credits

*OPTOG 1729 Advanced Ophthalmic Procedures*

This course is a multidisciplinary course that is team taught by faculty from various Midwestern University colleges and demonstrates the importance of the interdisciplinary approach as related to eye and vision care. This course will provide an introduction to physical assessment therapeutic ophthalmic lasers; intraocular, subcutaneous, intramuscular, and intravenous injections; and other advanced procedures. The course will also include pre and post op care of ophthalmic procedures related to ocular disease and refractive correction.

4 credits

Prerequisites: OPTOG 1746 Ocular Disease IV

*OPTOG 1745 Epidemiology, Public Health and the Optometric Profession*

This course is an introduction to the epidemiology of ocular anomalies, overview of public and community health planning and care, and the role of the optometrist in community health promotion.

2 credits

*OPTOG 1760 Capstone Project III: Data Collection and Analysis*

This course is a continuation of OPTOG 1672 Capstone Project II: Literature Search and Study Design. The student will further develop the capstone project, begin data collection and statistical analysis.

1 credit

Prerequisites: OPTOG 1672 Capstone Project II: Literature Search and Study Design

*OPTOG 1761 Capstone Project IV: Research Presentation*

This course is a continuation of OPTOG 1760 Capstone Project III: Data Collection and Analysis. Students prepare an abstract and poster describing their research results. The

students will deliver a public presentation of the work during the spring of their third professional year.

3 credits

Prerequisites: OPTOG 1760 Capstone Project III: Data Collection and Analysis

*OPTOG 1770, 1771, 1772, 1773 Clinical Services VII, VIII, IX, X*

The student will provide eye care services in the Primary Care Clinic at the Midwestern University Eye Institute. The student will also participate in patient care in the optical and diagnostic testing services. Students may also rotate or examine patients in specialized clinics such as contact lenses, pediatrics, vision therapy, and ocular disease/low vision. This course series focuses on progressive competence in the diagnosis treatment and management of visual dysfunction and ocular conditions. Student will additionally participate in lectures and case based clinical seminars.

Each course 6 credits

- Prerequisite for OPTOG 1770 Clinical Services VII: OPTOG 1654 Clinical Services, Theory & Methods VI, and OPTOG 1655 Clinical Services Proficiency
- Prerequisite for OPTOG 1771 Clinical Services VIII: OPTOG 1770 Clinical Services VII
- Prerequisite for OPTOG 1772 Clinical Services IX: OPTOG 1771 Clinical Services VIII
- Prerequisite for OPTOG 1773 Clinical Services X: OPTOG 1772 Clinical Services IX

*OPTOG 1785 Visual Rehabilitation*

Visual Rehabilitation is an entry level course, which presents the fundamental knowledge of clinical low vision care and rehabilitation necessary to perform basic low vision examinations during the fourth year clinical rotation, and in a practice setting after graduation. This course is an overview of the strategies for visual rehabilitation examination of patients with visual impairments, neurological issues following traumatic brain injury, and the geriatric population in general.

3 credits

*OPTOG 1787 Neuro-ophthalmic Disease*

This course discusses the diagnosis, treatment, and management of neuro-ophthalmic diseases and ocular manifestations of neurological systemic diseases. Components of the neuro-ophthalmic examination, neuroimaging of the visual system, and specialty testing are presented. The student is introduced to case management strategies related to neuro-ophthalmic disorders.

2.5 credits

### *OPTOG 1790 Evidence Based Medicine*

This course will focus on various aspects of evidence based medicine. Students will learn how to analyze medical literature and apply evidence-based information to patient scenarios through case presentations and group discussions. 1.5 credits

### *OPTOG 1800, 1810, 1820, 1830 Clinical Services XI, XII, XIII, XIV*

The fourth professional year is designed to promote continued development of the student's emerging clinical problem-solving abilities. This is a series of full-time clinical rotations or externships comprised of patient care experiences. Students will rotate at the Midwestern University Eye Institute and at approved external rotation sites with an emphasis on direct patient care in individualized supervised clinical experiences focusing on primary care, ocular disease and optometric specialties. Clinical decision making will be enhanced through challenging patient care problems that highlight or emphasize differential diagnosis, management decisions, referral decisions and follow-up, as well as address newer techniques and procedures for diagnosis and management.

Each course 18 credits

- Prerequisite for OPTOG 1800 Clinical Services XI: OPTOG 1773 Clinical Services X
- Prerequisite for OPTOG 1810 Clinical Services XII: OPTOG 1800 Clinical Services XI
- Prerequisite for OPTOG 1820 Clinical Services XIII: OPTOG 1810 Clinical Services XII
- Prerequisite for OPTOG 1830 Clinical Services XIV: OPTOG 1820 Clinical Services XIII

### *PHARG 1602, 1623 General Pharmacology I, II*

These courses place an emphasis on general principles of drug action, the physical and chemical properties of the drugs, and their therapeutic effects, methods of administration, mechanism(s) of action, adverse effects and drug interactions, and indications/contraindications for the use of the drug.

- Prerequisite for PHARG 1602 General Pharmacology I, 2 credits: none
- Prerequisite for PHARG 1623 General Pharmacology II, 3 credits: PHARG 1602 General Pharmacology I

## ELECTIVES

Prerequisites are listed for those courses with such requirements. When no prerequisite is listed in a course description, it is implied that there is no prerequisite.

### *CLMDG 1354J Being a Leader and the Effective Exercise of Leadership*

In this course, students will discover that leadership does not always mean a position, a title, time, money, influence, or any of the traits typically "required" to be a leader or produce the results of a leader. Instead of more knowledge about leadership, students will gain access to actually being a leader and effectively exercising leadership as natural self-expression. During the course conventional thought will be challenged, new ways of thinking will emerge, and students will leave with new actions to create even greater success in the areas of life and leadership that matter most.

2 credits

### *ONEHG 1301J One Health Grand Rounds*

This elective course is designed to foster interest and discussion on major public health issues, and promote interprofessional study and research related to One Health. Each topic will focus on key challenges related to a specific health topic and explore cutting-edge scientific evidence and the potential impact of different interventions. The outcome will be to highlight how these challenges are being addressed at the national, state, and/or local levels and propose recommendations for future research and practice.

2 credits

### *OPTOG 1351 Study Skills Enhancement*

This course allows students to understand and apply test taking strategies in order to increase their success in professional studies.

2 credits

Prerequisites: Permission from the course director

### *OPTOG 1382 A-D Selected Studies*

This course allows students to pursue their special interests. This may include writing of abstracts or a review of current vision science literature. This may be repeated for credit with permission of the instructor.

1-3 credits

Prerequisites: Permission from the course director

### *OPTOG 1397 Sports Vision Workshop*

This course is designed to review the athlete's visual system in multiple sports including baseball, softball, football, basketball, and hockey. Students will learn how to perform a comprehensive and systematic evaluation of an athlete's visual system and make appropriate recommendations for their specific sport based on refractive error visual processing and visual motor integration. A range of options involving training techniques and lenses will be discussed to improve an athlete's visual system specifically for their sport. This course includes hands on exposure to techniques available to training an athlete.

1.5 credits

Prerequisite: Permission from the course director

*OPTOG 1494 A-D Third Year Clinical Skills Enhancement*

Individualized supervised clinical experiences to enhance the examination skills of students are the focus of this course.

This course may be repeated for credit.

1-7.5 credits

Prerequisites: Permission from the course director

*OPTOG 1495 A-D Fourth Year Clinical Skills Enhancement*

Individualized supervised clinical experiences to enhance the examination skills of students are the focus of this course.

This course may be repeated for credit.

1-18 credits

*OPTOG 1496 Advanced Specialized Test Interpretation*

This course is designed to augment the basic education on specialty test indications and their results. This course will explore image acquisition, interpretation, clinical correlates and their application to patient care.

1 credit

Prerequisites: Permission from the course director

*OPTOG 1498 Spanish for Optometric Eye Exams*

Students develop basic communication skills in Spanish. This course emphasizes the vocabulary associated with the optometric examination. This course is for students with minimal knowledge of the Spanish language.

1.5 credits

Prerequisites: Permission from the course director

*OPTOG 1499 Vision Correction Surgery*

Vision Correction Surgery is a field in which there is active collaboration between ophthalmologists and optometrists. Students will be introduced to the various modalities used in vision correction surgery. This course will give the student a better understanding of the pre-operative and post-operative collaborative care necessary to optimize outcomes for patients who have received vision correction surgery.

1.5 credits

*OPTOG 1597 A-C Optometric Competency Course*

This series of courses serves to enhance the mastery of optometry skills, techniques and concepts. A course in the sequence is assigned by the Student Promotion and Graduation Committee to a student who has been academically decelerated after receiving a non-passing grade in a required course within the Doctor of Optometry curriculum. The course is assigned for 1-12 credit hours during the quarter in which a student repeats the failed course. The assigned course will include content previously completed, that is deemed critical for success in the Doctor of Optometry curriculum. This is a pass/fail course; letter grades are not assigned. A student who fails to successfully complete the assigned Optometric Competency Course will be referred to the Student Promotion and Graduation Committee and may be dismissed from the college.

1-12 credits

Prerequisites: Approval of the Student Promotion and Graduation Committee, Associate Dean of Academic Affairs, or Dean

*OPTOG 1697 A-C Optometric Competency Course*

This series of courses serves to enhance the mastery of optometry skills, techniques and concepts. A course in the sequence is assigned by the Student Promotion and Graduation Committee to a student who has been academically decelerated after receiving a non-passing grade in a required course within the Doctor of Optometry curriculum. The course is assigned for 1-12 credit hours during the quarter in which a student repeats the failed course. The assigned course will include content previously completed, that is deemed critical for success in the Doctor of Optometry curriculum. This is a pass/fail course; letter grades are not assigned. A student who fails to successfully complete the assigned Optometric Competency Course will be referred to the Student Promotion and Graduation Committee and may be dismissed from the college.

1-12 credits

Prerequisites: Approval of the Student Promotion and Graduation Committee, Associate Dean of Academic Affairs, or Dean

*OPTOG 1797 A-D Optometric Competency Course*

This series of courses serves to enhance the mastery of optometry skills, techniques and concepts. A course in the sequence is assigned by the Student Promotion and Graduation Committee to a student who has been academically decelerated after receiving a non-passing grade in a required course within the Doctor of Optometry curriculum. The course is assigned for 1-12 credit hours during the quarter in which a student repeats the failed course. The assigned course will include content previously completed, that is deemed critical for success in the Doctor of Optometry curriculum. This is a pass/fail course; letter grades are not assigned. A student who fails to successfully complete the assigned Optometric Competency Course will be referred to the Student Promotion and Graduation Committee and may be dismissed from the college.

1-12 credits

Prerequisites: Approval of the Student Promotion and Graduation Committee, Associate Dean of Academic Affairs, or Dean

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section for additional policies that apply to all students at Midwestern University.

### **Student Promotion and Graduation Committee**

The Student Promotion and Graduation Committee (SPGC) is responsible for enforcing the published academic and professional standards established by the faculty and for assuring that they are met by all students enrolled in each program. As such, this Committee establishes the criteria and policies and procedures for student advancement and graduation, as well as academic probation, dismissal, and readmission. This Committee meets at a minimum at the end of each academic quarter to review the academic progress and performance of students enrolled in the program in relation to institutional academic policies. At the end of the academic year, the Committee assesses the academic and professional progress and performance of each student. If the student's progress is satisfactory, the student is promoted to the next academic year, provided all tuition and fees have been paid. Finally, the Committee also identifies and recommends to the MWU Faculty Senate candidates for graduation.

If a student fails to make satisfactory progress in completing the prescribed course of study, the Committee shall take appropriate action to correct the deficiency (ies). In instances involving repeated failures of a student to maintain satisfactory academic/professional progress, the Committee may recommend dismissal.

If a student's academic performance is scheduled for discussion during a Student Promotion and Graduation Committee meeting and the result could change the student's status in the College (extended program or dismissal), then the student will be invited to either appear personally before the Committee or submit a letter or documentation to be presented at the meeting on their behalf. The invited students must indicate, in writing, their intention to appear or provide their materials 24 hours prior to the scheduled meeting to the Associate Dean of Academic Affairs. If the student chooses to appear before the Committee, this prerogative extends to the involved student only and not to any other individuals. The information will be provided to the Chair and Committee members of the SPGC.

Among the options available to the Committee in regard to unsatisfactory student performance are:

1. That a written caution be provided to the student.
2. That the student:

- be placed on academic probation for a specified period of time;
- take an alternative approved course offered at another college or university;

- repeat the course(s) in which there is a failure when the course is offered again in the curriculum;
- be placed in an extended program;
- require that the student take additional coursework (e.g., OPTOG 1597 A-C, OPTOG 1697 A-C, or OPTOG 1797 A-D); or
- be dismissed from the College.

Within two working days following the Committee meeting, the Associate Dean is responsible for providing notification in writing with a delivery confirmation (i.e., next-day express mail, e-mail, or hand-delivery) to the involved student, informing him/her of the recommendation of the Committee. The Associate Dean is responsible for reviewing all recommendations for consistency with stated College academic policies and practices. The Dean or Associate Dean is responsible for providing written notification to all appropriate academic support offices (i.e., Registrar, Student Financial Services, etc.).

### **Academic Standards**

An annual didactic grade point average will be used as the central measure of academic performance. It is calculated from all didactic and clinical courses from a particular professional year. Grades earned in courses taken prior to matriculation in the professional program and grades earned for courses taken at the College in a more advanced professional year than that in which the student is enrolled, are not included in the calculation of this annual grade point average. Grades earned for courses taken at another institution while enrolled in the professional program are included in the calculation of this annual grade point average if the transfer coursework was approved by the Student Promotion and Graduation Committee.

Students must maintain an annual grade point average of 2.00 in their professional program to remain in good academic standing. If a student's annual grade point average drops below 2.00 at the end of any quarter during the academic year, or the student earns a grade of "F/WF" in one or more courses, the student is notified, in writing that he/she is being placed on academic probation for the next academic quarter. Probation represents notice that continued inadequate academic performance may result in dismissal from the program and the College.

If the student has an annual grade point average less than 2.00 at the end of an academic year, or has earned one or two "F/WF" grades in a quarter the student will be either dismissed or will be placed in an extended program (academic deceleration). The extended program year must take place in the year immediately following and the student will be required to successfully repeat all the courses in which the grades of "W/F/WF" were received and successfully



complete any and all additional courses as assigned by the Student Promotion and Graduation Committee. A student is allowed to go through an extended program only once. To be returned to good academic standing, a student must raise his/her annual grade point average to 2.00 or above at the end of the repeat year. Such a student reenters the next professional year curriculum and resumes a full load. A reentering student must achieve a cumulative grade point average of 2.00 at the end of each quarter to continue at AZCOPT.

If the student does not meet the criteria for satisfactory academic performance at the end of the extended program, he/she will be dismissed.

If the student earns an "F/WF" in three or more courses overall, and/ or fails a repeated course, the student will be dismissed from the College. The dismissal is based on the determination by the Committee that the student has not satisfactorily demonstrated that he or she possesses the aptitude to successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program.

Academic recommendations are made by the Student Promotion and Graduation Committee to the Associate Dean. Students will be notified, in writing, within two working days following the committee meeting regarding the recommendations of the Committee.

The following policies also guide decisions made by the Student Promotion and Graduation Committee:

1. A student must pass all required courses before entering the next year of the professional program.
2. Students placed on an extended program must pass any and all additional required courses assigned by the Student Promotion and Graduation Committee.
3. Students must successfully resolve all "I" (Incomplete) and "IP" (In-Progress) grades before beginning externship.
4. To proceed with externship, a student must earn an annual didactic grade point average (GPA) of at least 2.00 for the third professional year.
5. In the event that a student does not pass NBEO Part I, the student may continue in the program. However, a student must pass NBEO Part I in order to graduate.

### **Appeal Process**

Following notification of a decision for dismissal or academic deceleration, a student may appeal, in writing, the decision to the Dean. Such appeals must be received by the Dean within three working days after the student is officially notified of the dismissal or deceleration decision. A narrative explaining

the basis of the appeal should accompany the request. An appeal must be based on one of the following premises:

1. Bias of one or more Committee members.
2. Material information not available to the Committee at the time of its initial decision.
3. Procedural error.

The Dean will review the appeal request and narrative and decide if there is sufficient information to convene a meeting of the Student Promotion and Graduation Committee, which would be asked to provide a recommendation to the Dean on the appeal request. Once a decision is made to convene a Committee meeting, the student requesting an appeal shall be notified in writing with a delivery confirmation (i.e., e-mail or hand delivery) by the Associate Dean at least two working days in advance of the scheduled Committee meeting in which the student's appeal will be heard. The student will be invited to either appear personally before the committee or submit a letter or documentation to be presented at the meeting on their behalf. The invited students must indicate, in writing, their intention to appear or provide their materials 24 hours prior to the scheduled meeting to the Associate Dean of Academic Affairs. The information will be provided to the Chair and committee members of the SPGC. If the student chooses to appear before the Committee, this prerogative extends to the involved student only and not to any other individuals. The Committee submits its recommendation to the Dean. Upon receipt of the Committee's recommendation, the Dean will make a decision, typically within ten working days and then notify the student and the Associate Dean of Academic Affairs. The decision of the Dean is final.

Students must attend all didactic courses in which they are registered until the appeal process is complete. Students registered in a clinical course (rotation) may be placed on a mandatory academic leave of absence until the appeal process is finalized.

### **Dismissal**

A student may be dismissed from the College for academic reasons upon the recommendation of the Student Promotion and Graduation Committee. The dismissal is based on the determination by the Committee that the student has not satisfactorily demonstrated that he or she possesses the aptitude to successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program.

### **Extended Program**

Problems may arise that may necessitate the deceleration of a student's academic course load. Accordingly, an individual's academic course load may be reduced so that the student enters what is termed an extended program or split academic

course of study. Such a program rearranges the course schedule so that the normal time period for the program is extended, usually by one additional year. Only enrolled students may enter an extended program. To enter an extended program, either one or both of the following conditions must be met:

1. **Personal hardship.** If a student is experiencing unusual stresses in life and an extended academic load could alleviate added stress, the student may petition the College for an extended program. This petition is to be submitted to the Dean or Associate Dean of Academic Affairs and may not be automatically granted, but may be approved in exceptional circumstances. The Dean and Associate Dean are responsible for reviewing and assessing the petition and may forward it to the Student Promotion and Graduation Committee if appropriate. The student will be informed of the decision, in writing, by the Associate Dean of Academic Affairs or Dean.
2. **Academic.** As described above, a student ending an academic year with an annual GPA of less than 2.00 may be given the option to repeat courses from that year in which "F" grades were received. A student may be placed on an extended program for academic reasons at the discretion of the Student Promotion and Graduation Committee. A student placed on an extended program for academic reasons is automatically placed on academic probation and may not be returned to good academic standing until the extended program is successfully completed. In addition, the Student Promotion and Graduation Committee may require the student to take additional coursework to strengthen and /or maintain mastery of optometric skills, techniques and concepts during the extended program. In this case, the additional coursework will be considered as required courses for graduation. If a student earns a failing grade in this additional course work, the student will be referred to the Student Promotion and Graduation Committee.

If a student is placed on an extended program, such action does not modify or limit the committee's actions for dismissal. Thus, the student may be dismissed for academic reasons while on an extended program.

A student placed on an extended program for academic reasons will be returned to good academic standing when he/she reenters the prescribed academic program and completes all courses that were unsatisfactory and are required for graduation and successfully completes any and all additional courses as assigned by the Student Promotion and Graduation Committee.

A reentering student must achieve a cumulative grade point average of 2.00 at the end of each quarter to continue at the college. A student is allowed to go through an extended program only once.

### **Grade Appeals**

A student whose academic progress will be subject to review by the Student Promotion and Graduation Committee and who wishes to appeal a grade must do so in an expedited manner prior to the scheduled meeting of the committee. In this case, an appeal of a didactic course grade must be submitted within one business day following posting of the grade and must be based on one of the following premises:

1. Factual errors in course assessment tools
2. Mathematical error in calculating the final grade
3. Bias

The course director must act on this appeal within one business day. If the appeal is denied, the student has the right to appeal the decision to the Associate Dean of Academic Affairs. The Associate Dean of Academic Affairs should notify the student of his/her decision within one business day following receipt of the student's re-appeal. The decision of the Associate Dean of Academic Affairs is final.

An appeal of a failing clinical clerkship or rotation grade must be submitted within two business days after a grade for rotation is posted. The course director must act on this appeal within two business days. If the appeal is denied, the student has the right to appeal the decision to the Associate Dean of Clinical Affairs. The Associate Dean of Clinical Affairs should notify the student of his/her decision within two business days following receipt of the student's reappeal. The decision of the Associate Dean of Clinical Affairs is final. Students are allowed only one failed or withdrawn failed externship, and only one retake of the failed or withdrawn failed externship while enrolled at the College.

Any extension of the time for student appeal or course director's decision must be approved by the College Dean. All appeals and decisions must be communicated in written form.

## **STUDENT ADMINISTRATIVE POLICIES**

### **Advanced Standing**

All requests for advanced standing by newly admitted, transfer, or enrolled students are processed on a course-by-course basis by the Student Promotion and Graduation Committee. The Office of the Dean provides staff support for such evaluations. To request such consideration, a student should submit a letter of request to the Dean in which the student lists a course(s) previously taken at an accredited college or university which might be similar in content to a professional course(s) that he/she is scheduled to take. The

student is advised to provide an official course description(s) and a syllabus (syllabi) of the course(s) previously taken, as well. For some courses, a student may be required to take a comprehensive challenge exam. All requests must be submitted at least three weeks prior to the start of the course being considered. The decision of the committee is forwarded to the Dean as a recommendation to either grant or deny advanced standing. Advanced standing will be considered for coursework taken in which a letter grade of "C" or better has been earned. A "C-" letter grade is not acceptable for advanced standing consideration.

No advanced standing will be awarded for professional coursework completed at a foreign college.

### **Attendance**

Upon acceptance to AZCOPT, students are expected to devote their entire efforts to the academic curriculum. The College actively discourages employment that will conflict with a student's ability to perform while didactic courses and externships are in session and will not take outside employment or activities into consideration when scheduling classes, examinations, reviews, field trips, or individual didactic or experiential course functions. Class attendance is mandatory for all students during externship.

### **Class Standing**

To achieve the status of a second-year student in the professional program, students must have successfully completed all requisite first-year courses and earned an annual GPA of 2.00. To achieve the status of a third-year student in the professional program, students must have successfully completed all requisite second-year courses and earned an annual GPA of 2.00. To achieve the status of a fourth-year student in the professional program, students must have successfully completed all requisite third-year courses, and earned an annual GPA of 2.00.

### **Disciplinary Probation**

Disciplinary probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 of the Midwestern University Student Handbook or as defined in the Clinic Manuals. Disciplinary probation is not noted on

the transcript but is kept in the student's file. Disciplinary probation information may be shared with clinical sites that are affiliated with Midwestern University educational programs.

### **Grades**

Letter grades corresponding to the level of achievement in each course are assigned based on the results of examinations, required coursework, and, as applicable, other criteria established for each course as follows. Individual faculty have the prerogative to use a plus/minus letter grading system, pass/fail grading, or a whole letter grading system. Elective courses may be offered as pass/fail upon the discretion of the faculty.

Courses are recorded in terms of quarter hour(s) of credit. Multiplication of the credits for a course by the numeric value for the grade awarded gives the number of quality points earned for a course. Dividing the total number of quality points earned in courses by the total number of credits in those courses gives the grade point average.

Grades reported as "W", "W/F", and "P" are recorded on a student's permanent record but are not used in the calculation of a student's grade point average. Similarly, a grade of "I" or "IP" may be assigned and is used only when special/extenuating circumstances exist (e.g., prolonged illness, family crisis, etc), which prevent a student from completing the necessary course requirements on time in order to receive a grade. "W/F" may be considered a failure by the Student Promotion and Graduation Committee.

If a student receives an "F" grade in a course, that grade will be recorded on his/her transcript. This deficiency may be corrected as recommended by the Student Promotion and Graduation Committee by repeating the failed course. When a course is repeated, the student may earn a maximum grade of "C". Following successful repetition of the course, the permanent record of the student will be updated to indicate that the failing grade has been successfully corrected. The grade earned each time is recorded, but only the most recent grade is used in the computation of the student's cumulative grade point average.

### Grade and Quality Point Scale

Grade	Quality Points (per credit)	Comments
A	4.000	-
A-	3.670	-
B+	3.330	-
B	3.000	-
B-	2.670	-
C+	2.330	-
C	2.000	-
F	0.000	-
I	0.000	An Incomplete (I) grade may be assigned by an instructor when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades must be resolved within 10 calendar days from the end of final exams for the quarter. In the case of courses ending prior to final exam week, it is the obligation of the course director to monitor the use and resolution of the incomplete grade, with notice to the Registrar.
IP	0.000	An In-Progress (IP) grade may be assigned when extenuating circumstances make it necessary to extend the grade completion period past 10 calendar days (e.g. illness, family death). Authorization by the Dean is required, and the completion period should not typically exceed one quarter.
P	0.000	Pass (for a pass/fail course); designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. Grade of "P" is counted toward credit hour accruals for graduation but does not affect GPA calculations.
F	0.000	Fail (for a pass/fail course); designation indicates that the student has not made satisfactory progress or completed required coursework satisfactorily. Grade of "F" is counted toward credit hour accruals as attempted but not completed. Grade of "F" is calculated into the GPA (quality points are lowered due to unsuccessful course completion).
W	0.000	Withdrawal is given if the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation.
W/F	0.000	Withdrawal/Failing is given if the work completed up to the time of withdrawal is below the passing grade level for the Program/School. This grade is not counted in any GPA calculation and is not counted in credit hour accruals for graduation. "W/F" may be considered as a failure by a Student Academic Review Committee. Multiple "F's" and "W/F's" can be grounds for dismissal.
AU	0.000	This designation indicates an audited course in which a student is registered with the understanding that neither academic credit nor a grade is earned. The status of the course cannot be changed from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
AP		This designation indicates the decision of a college to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement (AP) is applied toward credit hour accruals, but is not counted in the GPA calculation.

## **Immunizations**

Students enrolled in a program with a clinical component are required to follow the immunization policy as outlined in the immunization section of the University's Student Handbook. Immunization requirements for Arizona College of Optometry students are subject to applicable current state health department protocol and affiliated rotation requirements. Students who do not follow the immunization policy by the stated deadline may jeopardize continued enrollment in the college. If, at any time, immunizations expire or are not up to date, the student may be suspended until such time that they are in full compliance with this requirement.

## **FACULTY**

### **Laura K. Addy, O.D., FAAO**

Midwestern University Arizona College of Optometry  
Director of Residencies and Assistant Professor

### **Adam B. Blacker, O.D., M.S.**

The Ohio State University College of Optometry  
Associate Professor

### **Elizabeth Escobedo, O.D., FAAO**

Midwestern University Arizona College of Optometry  
Assistant Professor

### **Christina A. Esposito, O.D., FAAO, FCOVD**

Midwestern University Arizona College of Optometry  
Associate Professor

### **Alicia E. Feis, O.D., FAAO**

Southern California College of Optometry  
Dean and Associate Professor

### **Kevin Helmuth, O.D.**

Pacific University College of Optometry  
Director of Clinical Operations and Associate Professor

### **Sarah E. Huff, O.D., M.S., FAAO**

Midwestern University Arizona College of Optometry  
Assistant Professor

### **Pierce Kenworthy, O.D., FAAO**

Midwestern University Arizona College of Optometry  
Assistant Professor

### **Michael R. Kozlowski, O.D., Ph.D., FAAO**

The New England College of Optometry  
Professor

### **Grace Liao, O.D., FAAO**

Southern California College of Optometry  
Assistant Professor

### **Christopher Lowe, O.D., FAAO**

Pacific University College of Optometry  
Assistant Professor

### **Caitlin C. Miller, O.D., FAAO**

Illinois College of Optometry  
Assistant Director, Clinical Rotations and Assistant Professor

### **Kaila M. Osmotherly, O.D., FAAO**

Pacific University College of Optometry  
Associate Dean of Clinical Affairs and Associate Professor

### **Nicole M. Putnam, Ph.D.**

University of California at Berkeley  
Associate Professor

### **Matthew Roe, O.D., FAAO**

State University of New York College of Optometry  
Assistant Professor

### **Sarah Y. Thomas, O.D.**

Midwestern University Arizona College of Optometry  
Assistant Professor

### **Kelly Varney, O.D., FAAO**

Illinois College of Optometry  
Assistant Professor

### **Balamurali Vasudevan, Ph.D.,**

**M.B.A., B.S.Optom., FAAO**  
State University of New York  
Director of Optometric Research and Associate Professor

### **Eric Woo, O.D., FAAO**

Illinois College of Optometry  
Assistant Professor

### **Florencia J. Yeh, O.D., FAAO**

The New England College of Optometry  
Associate Professor

### **Vladimir V. Yevseyenkov, O.D, Ph.D., FAAO**

Kansas State University  
Associate Professor

## **BASIC SCIENCE FACULTY WITH JOINT APPOINTMENTS**

### **Karen Baab, Ph.D.**

City University of New York  
Associate Professor

### **Nancy S. Bae, Ph.D.**

University of Maryland at College Park/NIH  
Associate Professor

### **Thomas L. Broderick, Ph.D.**

University of Alberta  
Professor

### **Gerald Call, Ph.D.**

University of Kansas Medical Center  
Professor

**Dana S. Devine, D.O.**

Kansas City University of Medicine and Biosciences, College  
of Osteopathic Medicine  
Associate Professor

**Justin Gerogi, Ph.D.**

Stony Brook University  
Professor

**Fernando Gonzalez, Ph.D.**

University of Texas Southwestern - Medical Center of Dallas  
Associate Professor

**Aryeh Grossman, Ph.D.**

Stony Brook University  
Professor

**Wade A. Grow, Ph.D.**

University of Idaho  
Professor

**Jose Hernandez, Ph.D.**

University of Zaragoza  
Associate Professor

**John Hnida, Ph.D.**

University of New Mexico  
Associate Professor

**Garilyn Jentarra, Ph.D.**

Arizona State University  
Associate Professor

**Douglas Jones, Ph.D.**

University of Texas  
Associate Professor

**T. Bucky Jones, Ph.D.**

The Ohio State University  
Professor

**Sam Katzif, Ph.D.**

Georgia State University  
Associate Professor

**Laszlo Kerecsen, M.D.**

Medical School of Debrecen  
Professor

**Tyler A. Kokjohn, Ph.D.**

Loyola University  
Professor

**Shaleen Korch, Ph.D.**

University of North Dakota  
Associate Professor

**Kathryn Lawson, Ph.D.**

University of Arizona  
Associate Professor

**Andrew Lee, Ph.D.**

University of California at Berkeley  
Associate Professor

**Kathryn J. Leyva, Ph.D.**

Northern Arizona University  
Professor

**Pamela E. Potter, Ph.D.**

Dalhousie University  
Professor

**Michael Quinlan, Ph.D.**

Arizona State University  
Associate Professor

**Parveen Ranjan, M.D., MPH**

University of Delhi Medical School, New Delhi  
Assistant Professor

**Erin Simons, Ph.D.**

Ohio University  
Associate Professor

**Heather Smith, Ph.D.**

Arizona State University  
Associate Professor

**Mark Swanson, Ph. D.**

Stony Brook University  
Assistant Professor

**Kathryn Townsend, Ph.D.**

Washington University, St. Louis  
Professor

**Johana Vallejo-Elias, Ph.D.**

University of Missouri  
Professor

# COLLEGE OF VETERINARY MEDICINE

## MISSION

The mission of the College of Veterinary Medicine is to improve animal and human life through innovative veterinary education, state-of-the-art health care services, and scholarly work relevant to the principles of One Health.

## VISION

Be a leader in veterinary medical education and be recognized for creating, developing, and implementing an innovative D.V.M. curriculum that focuses on producing graduates who are competent and confident in "Day-One" skills.

## CORE VALUES

In pursuit of its mission, the College is guided by this set of core values:

- Adaptability
- Diversity/Inclusion
- Personal integrity
- Professionalism
- Respect
- Teamwork
- Trust

## ACCREDITATION

Midwestern University CVM is fully accredited through the American Veterinary Medical Association's Council on Education (AVMA-COE).

Contact Information for the AVMA-COE:

1931 North Meacham Road, Suite 100

Schaumburg, IL 60173-4360

Phone: 800.248.2862

Fax: 847.925.1329

<https://www.avma.org/education/accreditation-veterinary-colleges>

## DEGREE DESCRIPTION

Upon graduation from the College of Veterinary Medicine, the Doctor of Veterinary Medicine (D.V.M.) degree is granted. The usual course of study for the program is four academic years (13 quarters). The curriculum consists of 8

quarters of basic and clinical science instruction with laboratories. The final 5 quarters consist of clinical rotations. With the exception of a student receiving a degree in another program, in addition to the DVM degree (dual degree), the educational program leading up to a DVM degree may not exceed 6 years from the date of matriculation.

Completion of requirements for a DVM degree does not guarantee future employment or licensure.

## ADMISSIONS

The College of Veterinary Medicine considers for admission those students who possess the academic, professional, and personal qualities necessary for becoming exemplary veterinary professionals. Students seeking admission to the College must:

1. Demonstrate an understanding of the veterinary medical profession.
2. Demonstrate service orientation through community service or extracurricular activities.
3. Have proper motivation for and commitment to the veterinary profession as demonstrated by previous compensated work, volunteer work, or other life experiences.
4. Possess the communication skills necessary to interact with patients, clients, and colleagues.
5. Pass the Midwestern University criminal background check.
6. Abide by Midwestern University's Drug-Free Workplace and Substance Abuse Policy.
7. Meet the technical standards for the college (see below).

### Competitive Admissions

Within its competitive admissions framework, the College uses multiple criteria to select the most qualified, diverse group of candidates from the applicant pool. Applicants are evaluated and selected based on their academic achievements including coursework, relevant non-veterinary experience, veterinary experience, letters of recommendation, and on-campus interviews. It is advisable that applicants have significant veterinary, animal, research, or biomedical experience to strengthen their applications, but major accomplishments in any field are considered assets.

### Rolling Admissions

CVM uses a rolling admissions process in which qualified applicants are reviewed, interviews are conducted, and selections are made at regular intervals during the admissions cycle.

### Application Process

CVM uses the Veterinary Medical College Application Service (VMCAS). The VMCAS application is available online at [www.aavmc.org](http://www.aavmc.org). The VMCAS application cycle opens in January of each year. The VMCAS application deadline is generally mid-September.

In accordance with the Association of American Veterinary Medical Colleges acceptance deadline policy, students have until mid-April to finalize all admission decisions. Students may accept or reject an offer prior to this deadline. If a signed letter accepting admission and the required deposit are not received by the deadline, the offer of admission will be automatically withdrawn. Refer to the VCMAS website for specifics about the application process.

### Admission Requirements

Students seeking admission to the CVM must submit documentation of the following:

1. Completion of prerequisite coursework or plans to complete the coursework prior to matriculation (confirmed by official transcripts).
  - Minimum science and minimum total cumulative GPA of 3.00 on a 4.00 scale.
  - No grade lower than a C in any course will be accepted for credit. (Pass/fail and satisfactory/unsatisfactory grading is not acceptable in prerequisite science courses).
2. Completion of a minimum of 240 hours (6 weeks) of experience in veterinary practice, health sciences field, or biomedical research. Students with additional hours of work experience and a diversity of work experience will present stronger cases for admission.
3. Three letters of recommendation.
  - At least one of the letters must be from a veterinarian.
  - The other letters can be from other veterinarians or undergraduate science professors.
  - Letters written by family members are unacceptable.
  - Letters must be submitted by evaluators. Letters submitted by students are not accepted by the Office of Admissions.
4. Although not required, a Bachelor's degree will make a candidate more competitive.
5. A minimum of 64 total semester hours/96 quarter hours.

### Admission Prerequisites

Prerequisite Courses	Sem Hrs	Qtr Hrs
Biochemistry	3	4
Biology	8	12
General Chemistry with lab	8	12
Organic Chemistry with lab	8	12
Mathematics*	6	9
Physics with lab	4	6
English Composition	6	9
Science electives**	8	12

\*Mathematics courses must be college algebra or higher; Advanced placement math courses may be substituted for college courses.

\*\*Science electives include cell biology, physiology, microbiology, genetics, animal nutrition, etc.

### Interview and Selection Process

Applicants are responsible for tracking the receipt of their application materials and verifying the status of their application on the University website. Instructions for accessing application information on the University website will be sent to each applicant via email by the Office of Admissions. Applicants must keep the Office of Admissions informed of any changes in contact information.

The Midwestern University Office of Admissions will verify completed applications and will determine which applicants merit an interview based on criteria established by the CVM Admissions Committee. On-campus interviews are a required part of the process and are conducted on a rolling basis. The interview day will include an interview by a two-member panel, tour of the facilities and an overview of the D.V.M. program. The Admissions Committee may recommend to accept the applicant, place the applicant on an alternate list or deny the applicant admission to the College. Students will be notified of their status by the Office of Admissions.

### Dual Admission Program

Selected students who have demonstrated the capacity to successfully manage course work for their primary academic degree, may request to enroll in a second degree program. This can be developed in three difference settings:

1. Students who are enrolled in one of the Midwestern University (MWU) Master's Degree programs and are accepted into a MWU doctoral degree program on the same campus may elect to complete the Master's Degree.
2. Students who wish to pursue a Master's Degree which is not offered at MWU (may include but not



be limited to MPH, MBA, MEd) should investigate information about their desired program and set up an appointment to discuss with a Dean's Office representative. Students have a number of options for institutions offering such degrees in the metropolitan area.

3. Students who wish to apply for a PhD program anywhere in the United States should investigate information about their desired program and set up an appointment to discuss with a Dean's Office representative. Typically, those entering a leave of absence to participate in a PhD program will do so between years 3 and 4 of the DVM program.

### **Technical Standards**

The Technical Standards set forth the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty to obtain the academic degree awarded by the college.

Candidates must be able to perform the following abilities and skills:

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand, including those on a computer screen or electronic device. Observation necessitates the functional use of vision, hearing, and sense of touch and is enhanced by the functional use of all of the other senses. The candidate must be able to accurately auscultate lung/breath, heart and bowel sounds to complete the curricular requirement to individually complete the physical examination of a patient. The candidate must use vision, hearing, and smell to assess herds and flocks in which animals cannot be examined individually.
2. **Communication:** The candidate must be able to communicate in English, proficiently and sensitively, in verbal and written form, and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine motor movements, maintain equilibrium, and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control, and eye-to-hand coordination to perform profession-specific skills and tasks. Candidates must be able to move at least 50 lbs. vertically and horizontally.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem-solve, measure, calculate, reason, analyze, record, and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full

utilization of her/his intellectual abilities, the exercise of good judgment, the consistent, prompt completion of all responsibilities, and the development of mature, sensitive and effective relationships. Candidate must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process. The candidate must agree to participation in touching/palpating/handling of all species as directed in the College's curricular requirements.

Candidates are required to verify that they understand and are able to meet these Technical Standards, at least 4 weeks prior to matriculation (or if admitted later, within 1 week). Candidates who may only meet the Technical Standards with accommodation, must contact the Office of Student Services to make a formal request for accommodation. The Dean of Students, in consultation with the College Dean/Program Director, will determine what reasonable accommodations can be provided. The College is not able to grant accommodations that alter the educational standards of the curriculum.

Students must meet the Technical Standards for the duration of enrollment at the College. After matriculation, if a student fails to continue to meet the Technical Standards during subsequent enrollment, the student may apply for accommodation by contacting the Office of Student Services. If the accommodation needed to meet the Technical Standards alters the educational standards of the curriculum, the student's ability to satisfactorily progress in the curriculum will be evaluated by the appropriate College's Student Graduation and Promotion Committee.

### **Reapplication Process**

After receiving either a denial or an end-of-cycle notification from the Office of Admissions, applicants may reapply for the next enrollment cycle. Before reapplying, applicants should seek the advice of an admissions counselor. To initiate the reapplication process, applicants must submit their applications and all required documentation (transcripts, letters of recommendation, etc.) to the Office of Admissions through VMCAS. Applications are then processed according to standard application procedures.

## GRADUATION REQUIREMENTS

The degree Doctor of Veterinary Medicine (D.V.M.) is conferred upon candidates who have completed all required courses in the 4-year program.

1. Students must pass all didactic course work, clinical rotation courses, and electives with an overall GPA of 2.0 or higher, in order to graduate.
2. Students must have also satisfied all financial obligations to Midwestern University.
3. Students must complete all graduation clearance requirements as instructed by the Office of the Registrar.
4. All graduating students are required to attend the ceremony.

## LICENSURE REQUIREMENTS

Graduation from the College of Veterinary Medicine does not automatically entitle one to become licensed to practice veterinary medicine. Midwestern University's College of Veterinary Medicine program is designed to meet requirements established by individual state boards in the following states and territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and the District of Columbia, Puerto Rico and the U.S. Virgin Islands.

Each student should check the additional licensure requirements for the state, district or territory in which they intend to pursue employment.

Licensure requirements vary among states but all licensing jurisdictions in The United States of America and Canada require a passing score on the North American Veterinary Licensing Examination (NAVLE) administered by the International Council for Veterinary Assessment (ICVA). The NAVLE is offered throughout The United States of America and Canada and at certain overseas sites at computer testing centers operated by Prometric.

The NAVLE is available during a four-week testing window in November/December, and a two-week window in April. Those eligible to apply for the NAVLE include:

- a. Graduates of schools accredited by the AVMA-COE.

- b. Senior students at AVMA-COE-accredited schools who have an expected graduation date no later than eight months from the last date of the applicable testing window.

Additional information regarding the NAVLE can be found on IVCA website, [www.icva.net](http://www.icva.net). For further information concerning licensure, please contact the American Veterinary Medical Association, the International Council for Veterinary Assessment, the American Association of Veterinary State Boards, or the individual licensing state board.

## CURRICULUM

*Note:* The Midwestern University College of Veterinary Medicine reserves the right to alter its curriculum to address evolving college goals and resources.

**Total credits first year - 50.5**

**Total credits second year - 57**

**Didactic credits third year - 36**

**Clinical credits third/fourth years - 81**

**Total for program completion - 224.5**

First Year Total: 50.5

### Fall Quarter

ANATG	1555	Veterinary Anatomy I	6
COREG	1560L	Interprofessional Healthcare	0.5
PHYSG	1512	Veterinary Physiology I	3
VMEDG	1501	Practice of Veterinary Medicine I	4
VMEDG	1510	Understanding Veterinary Literature	2
<b>Total</b>			<b>15.5</b>

### Winter Quarter

ANATG	1556	Veterinary Anatomy II	6
COREG	1570L	Interprofessional Healthcare	0.5
MICRG	1522	Veterinary Immunology	3
PHYSG	1522	Veterinary Physiology II	2
VMEDG	1502	Practice of Veterinary Medicine II	3
VMEDG	1593	Public Health, Epidemiology and Zoonotic Disease	4
<b>Total</b>			<b>18.5</b>

**Spring Quarter**

COREG	1580L	Interprofessional Healthcare	0.5
PHYSG	1533	Veterinary Physiology III	4
VMEDG	1503	Practice of Veterinary Medicine III	3
VMEDG	1520	Clinical Anatomy	4
VMEDG	1531	Anesthesia / Pain Management	5
VMEDG	1301/1 302	Research Elective (optional)	1

**Total 16.5**

Second Year Total: 57

**Fall Quarter**

MICRG	1671	Veterinary Microbiology I	4
PHARG	1660	Veterinary Pharmacology I	3
VMEDG	1604	Practice of Veterinary Medicine IV	3
VMEDG	1641	Veterinary Pathology I	5
VMEDG	1651	Principles of Surgery with Surgery Lab I	4

**Total 19****Winter Quarter**

MICRG	1672	Veterinary Microbiology II	3
PHARG	1661	Veterinary Pharmacology II	3
VMEDG	1605	Practice of Veterinary Medicine V	3
VMEDG	1635	Diagnostic Imaging	3
VMEDG	1642	Veterinary Pathology II	5
VMEDG	1654	Principles of Surgery II	2

**Total 19****Spring Quarter**

MICRG	1673	Veterinary Parasitology	3
VMEDG	1606	Practice of Veterinary Medicine VI	3
VMEDG	1645	Clinical Pathology	4
VMEDG	1648	Clinical Toxicology	2
VMEDG	1654	Principles of Surgery II	2
VMEDG	1655	Small Animal Medicine and Surgery I	5

VMEDG	1301/1 302	Research Elective (optional)	1
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**Total 19**

Third Year Fall, Winter Total: 36

**Fall Quarter**

VMEDG	1300s	Required CVM Elective	2
VMEDG	1709	Practice of Veterinary Medicine IX (1/2 of the class)	3
VMEDG	1724	Personal Finance for Veterinary Professionals	2
VMEDG	1756	Small Animal Medicine and Surgery II	5
VMEDG	1761	Equine Medicine and Surgery I	4
VMEDG	1766	Food Animal Medicine I	4

**Total 17/20****Winter Quarter**

VMEDG	1300s	Required CVM Elective	2
VMEDG	1709	Practice of Veterinary Medicine IX (1/2 of the class)	3
VMEDG	1757	Small Animal Medicine and Surgery III	5
VMEDG	1762	Equine Medicine and Surgery II	4
VMEDG	1767	Food Animal Medicine II	3
VMEDG	1776	Exotic Animal Medicine	2

**Total 16/19**

Upon entering the clinical program, students must choose a species-focused clinical track, either small animal or mixed animal. Scheduling of all rotations is directed by the Associate Dean for Clinical Education.

**Breaks/Vacation**

The clinical phase of the curriculum consists of five quarters that run continuously beginning Spring quarter of the third year. During the clinical program, students must complete a total of 81 credits of rotations. This will include 18 blocks (54 credits) of required on-campus rotations, and 9 blocks (27 credits) of elective rotations. In general, blocks are 2 weeks in length. However, during certain times when clinic hours are limited, 3-week blocks may be used. Students are awarded 3 credits for each block, regardless of length.

Students have 2 blocks available for vacation during the clinical program. One occurs over the Winter holidays, and the other will vary, but can only be taken during a 2-week block. Vacation time cannot be scheduled during a required

rotation. Time-off requests must follow the policies set forth in the current rotation manual.

### Elective Clinical Courses (Rotations)

To be eligible for academic credit, an externship rotation must be planned with and approved by the Associate Dean for Clinical Education.

Clinical Rotations			81
<b>Small Animal Track</b>			
VMEDG 1800	On-Campus Clinical Electives	Varied	
VMEDG 1801	Small Animal Primary Care	24	
VMEDG 1802	Emergency/ICU	6	
VMEDG 1803	Shelter Medicine	3	
VMEDG 1804	Pathology/Clinical Pathology	6	
VMEDG 1808	Small Animal Internal Medicine	6	
VMEDG 1809	Small Animal Surgery	6	
VMEDG 1810	Anesthesiology	3	
VMEDG 1811	Off-Campus Clinical Electives	Varied	
<b>Total</b>			<b>81</b>
<b>Mixed Animal Track</b>			
VMEDG 1800	On-Campus Clinical Electives	Varied	
VMEDG 1802	Emergency/ICU	6	
VMEDG 1803	Shelter Medicine	3	
VMEDG 1804	Pathology/Clinical Pathology	6	
VMEDG 1805	Equine Primary Care	12	
VMEDG 1806	Food Animal Primary Care	12	
VMEDG 1807	Mixed Track Small Animal Primary Care	12	
VMEDG 1810	Anesthesiology	3	
VMEDG 1811	Off-Campus Clinical Electives	Varied	
<b>Total</b>			<b>81</b>

## COURSE DESCRIPTIONS

### Didactic Courses

#### Course Prerequisites

In general, courses in the first 8 quarters of the CVM curriculum do not require prerequisites beyond those that are required for admission and the completion of courses that precede them in the CVM curriculum. There may be clinical rotations (quarters 9 - 13) that must be preceded by certain core rotations. If the student has scheduled to take a course or rotation out of sequence, approval will be required. On a

case-by-case basis, prerequisites may be waived upon approval by the Associate Dean for Academic Affairs or the Dean.

#### *ANATG 1555, 1556 Veterinary Anatomy I, II*

These courses focus on mammalian developmental, microscopic, and gross anatomy. Lecture and laboratory material will concentrate on canine anatomy, with comparisons to feline, equine and ruminant species. Included in the dissection of each region are the musculoskeletal, vascular, nervous and lymphatic components, and clinically relevant surface anatomy. Embryology lectures cover the general patterns and principles of normal mammalian development and specific aspects of selected systems and species. Microanatomy lectures present basic cytology, tissue types, and specific organ systems. Each course 6 credits

#### *COREG 1560L, 1570L, 1580L Interprofessional Healthcare*

This course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, Pharmacy and Veterinary Medicine. The course is designed to teach clinically-based students about each other's clinical programs, i.e. how they might interact together as part of an interprofessional healthcare team, and the importance of an interprofessional approach to patient care. The class consists primarily of online presentations, with associated online quizzes. Occasional lectures, panel presentations, or group assignments may also be incorporated. Each course 0.5 credits

#### *MICRG 1522 Veterinary Immunology*

This course focuses on fundamental immunological concepts applicable to most mammals, applying specific examples related to common veterinary species. The clinical immunology section of the course will incorporate case studies to apply basic immunology to veterinary disease, with emphasis on conditions most commonly encountered in practice (autoimmunity, hypersensitivities and cancer). 3 credits

#### *MICRG 1671, 1672 Veterinary Microbiology I, II*

The bacteriology portion of this course concentrates on diseases in domestic animals caused by pathogenic bacteria. Lectures emphasize basic properties of microorganisms, including identification and pathogenesis. Laboratory instruction includes basic bacteriology laboratory techniques, with hands-on application of the didactic content. The mycology portion of the course will present lectures on the biology of fungal pathogens of importance in veterinary medicine with emphasis on pathogenic mechanisms. Both sections will include discussion of important veterinary infectious diseases, diagnosis, and treatment. MICRG 1671: 4 credits; MICRG 1672: 3 credits

*MICRG 1673 Veterinary Parasitology*

This course presents the protozoan, helminth, and arthropod parasites of animals, including those causing zoonotic diseases. Lectures will focus on parasite morphology, biology, and disease manifestations. Laboratory sessions will be sporadically introduced to reinforce lecture material, and provide students with opportunities to gain experience in identification of clinically-relevant parasites.

3 credits

*PHARG 1660, 1661 Veterinary Pharmacology I, II*

These courses will provide students with information regarding drugs that are used in veterinary practice and facilitate understanding of how those drugs act in different species. The first course covers the general principles of drug action, including mechanisms by which drugs exert their effects, as well as administration, distribution, metabolism, and elimination of drugs in different species. The action of drugs on the autonomic nervous system, cardiovascular system, kidneys, respiratory and gastrointestinal tract will be discussed, as well as specific therapeutic uses, and the effects in various species. In the second quarter, students continue their study of general pharmacology, learning the effects of drugs on the central nervous system and the endocrine system. Drugs used for chemotherapy and for the treatment of various types of infectious disease will be covered in detail. Each course 3 credits

*PHYSG 1512, 1522, 1533 Veterinary Physiology I, II, III*

The first course is a survey course introducing the vertebrate physiological principles and concepts common to animals. The course includes core principles relevant to the physiology of cells, cell signaling systems, and cardiovascular and respiratory mechanisms in health and disease. In the second course, basic physiological principles relevant to veterinary practice are surveyed. The course includes core concepts in renal and acid-base physiology, and the role of the central nervous system in controlling movement, sensation, and perception. The third course presents physiological processes and concepts relevant to endocrine, reproductive and gastrointestinal function in healthy and diseased animals. PHYSG 1512: 3 credits; PHYSG 1522: 2 credits; PHYSG 1533: 4 credits

*VMEDG 1501, 1502, 1503, 1604, 1605, 1606, 1709 Practice of Veterinary Medicine I, II, III, IV, V, VI, IX*

The Practice of Veterinary Medicine is a seven-quarter series designed to teach veterinary students the clinical and communication skills necessary to become competent and successful veterinarians. The main objective of these courses is for the student to build the foundational pillars of communication, physical examination skills, medical knowledge, and critical reasoning, all essential for a successful

career in the veterinary profession.

VMEDG 1501: 4 credits; others in this section: 3 credits

*VMEDG 1510 Understanding Veterinary Literature*

This course is aimed at helping students develop skills for reading and using peer-reviewed journal articles. Journal articles will be selected from recent editions of veterinary medical journals for demonstration, discussion, and examples. Faculty members will discuss specific aspects of a journal article as described in the syllabus and then use an example from the literature to illustrate the use of evidence in clinical practice.

2 credits

*VMEDG 1520 Clinical Anatomy*

This course is a clinically oriented follow-up to ANATG 1555 and 1556 and will emphasize anatomical features for the most relevant clinical disorders, as well as medical and surgical techniques specific to veterinary medicine. Normal anatomy as observed by commonly employed imaging procedures (radiography, ultrasound, CT, and MRI) will be presented as a prelude to the clinical imaging course later in the curriculum. Students will have the opportunity to learn clinical anatomy as it relates to small and large animals in both wet labs and live animal labs.

4 credits

*VMEDG 1531 Anesthesia / Pain Management*

This course introduces the basic principles of anesthesia and analgesia (pain management); students will gain the knowledge, skills and critical decision-making needed to conduct competent administration of general and regional anesthesia and pain management in veterinary practice. Clinically-relevant pharmacology, equipment selection and use, patient monitoring and support, patient risk identification and anesthetic complication management in different species will be emphasized. Integrated pain management concepts will be introduced, and assessed.

5 credits

*VMEDG 1593 Public Health, Epidemiology and Zoonotic Disease*

This course focuses on principles of clinical and public health practice, emphasizing a One Health approach: Public Health Principles, Epidemiology Principles, Food Safety & Security, and Zoonotic & Emerging Diseases. Delivery of course material is through a combination of lectures, interactive games, case study scenarios, and guest speakers.

4 credits

*VMEDG 1635 Diagnostic Imaging*

This course is an introduction to diagnostic imaging. Digital radiography, fluoroscopy, MRI, CT, and ultrasound will be discussed, along with the principles of interpreting images of

each of these modalities in various species and disease conditions.

3 credits

*VMEDG 1641, 1642 Veterinary Pathology I, II*

This course introduces the student to general pathophysiologic mechanisms that cause disease including biochemical, structural, and functional changes. Concepts covered in the first quarter include normal and altered cell development, metabolic diseases, inflammation, cell aging and repair, immunopathology and neoplasia. In Pathology II, students apply their knowledge of general pathology to specific disease processes as they affect various organs or systems. Four aspects to be learned for each disease are etiology, pathogenesis, morphologic changes, and biochemical alterations. Laboratories will supplement course material.

Each course 5 credits

*VMEDG 1645 Clinical Pathology*

This course introduces the student to the interpretation of laboratory tests. General principles of laboratory testing will be discussed on a system basis. In group discussions, lab results will be presented and students asked to develop differential diagnoses and follow-up plans. The course will include, but not be limited to, hematology, clinical chemistry, specialized chemical assays, body fluid analysis, protein analysis, urinalysis, cytology, and serology.

4 credits

*VMEDG 1648 Clinical Toxicology*

This course will introduce the most common toxins encountered in veterinary medicine with emphasis on the mechanism of action of these toxins and the pathophysiology in the animal body. Clinical presentation of animals exposed to various toxins, and treatment of toxic exposures, will also be presented.

2 credits

*VMEDG 1651, 1654 Principles of Surgery, Surgery Labs I, II*

This year-long course will introduce students to surgical principles and anesthetic techniques. The students will have the opportunity to practice in wet lab and live animal settings. Aseptic technique, intravenous catheterization, tracheal intubation, basic surgical skills, and other techniques will be emphasized. Students will participate in all aspects of the perioperative management of patients.

Each course 4 credits

*VMEDG 1655, 1756, 1757 Small Animal Medicine and Surgery I, II, III*

These courses will be interactive discussions on medical and surgical disorders based on presenting clinical signs seen in

small animal practice. Disorders of the endocrine, neurological, reproductive, hematopoietic, ophthalmologic, urinary, gastrointestinal, cardio-pulmonary, musculoskeletal, and immune systems will be discussed. These courses are designed to emphasize the clinical diagnosis, pathophysiology and management of common diseases. Medicine and surgery, including pre- and post-operative management of surgical patients will be integrated in the course to emphasize the problem-based approach to management of small animal patients.

Each course 5 credits

*VMEDG 1724 Personal Finance for Veterinary Professionals*

This course will focus on financial literacy to help students make informed personal financial decisions. Shortly after graduation, veterinarians are faced with major financial decisions involving student loans, retirement savings, homes, children, insurance, etc. Making simple but financially savvy decisions early in one's career can provide significant rewards later in life.

2 credits

*VMEDG 1761, 1762 Equine Medicine and Surgery I, II*

This course will introduce students to principles of diagnosis and treatment of medical and surgical conditions found in the equine species. Emphasis will be placed on the clinical assessment of patients, signs of common and uncommon diseases, management of diseases, pharmacologic agents used in equine species, and fundamental techniques used in clinical practice.

Each course 4 credits

*VMEDG 1766, 1767 Food Animal Medicine I, II*

This course will introduce students to principles of diagnosis and treatment of medical and surgical conditions found in the bovine, porcine, caprine, and ovine species. The clinical presentation and treatment of common disorders and fundamental clinical techniques will be taught. Zoonotic disorders and importance of animals in the human food chain (relative to food-borne illness) will also be discussed.

VMEDG 1766: 4 credits; VMEDG 1767: 3 credits

*VMEDG 1776 Exotic Animal Medicine*

This course will introduce veterinary students to the practice of veterinary medicine on species other than dogs, cats, cattle, and horses. Emphasis will be placed on common species, preventive medicine, and diseases encountered in companion pet exotic veterinary practice. Coverage will be broad and will include birds, non-avian reptiles, amphibians, rodents, rabbits, ferrets, and fish. General husbandry needs, safe handling, diagnostic options, and common diseases of concern will be discussed.

2 credits

## **Clinical Courses**

### *VMEDG 1800 On-Campus Clinical Electives*

Students must complete a total of 27 credits of clinical elective rotations to complete the clinical component of the curriculum. A variety of on-campus elective rotations are available.

Varied credits

### *VMEDG 1801 Small Animal Primary Care*

This rotation will require students to spend a continuous block functioning as primary care practitioners. Students, under the supervision of veterinarians, will work in groups of two and will have primary responsibility for all aspects of primary care for dogs, cats, and exotics in the CVM's Companion Animal Clinic. Students will be scheduled to see patients and do procedures comparable to a high-functioning small animal primary care practice. There will also be designated daily times for teaching rounds. Students will follow up on their cases, maintain their patient medical records, prescribe treatments and diets, and provide wellness/preventive medicine services.

24 credits

### *VMEDG 1802 Emergency/ICU*

The rotation will provide students with experience handling small animal emergency cases in the Animal Health Institute, Companion Animal Clinic. Students will provide primary care for critically ill patients.

6 credits

### *VMEDG 1803 Shelter Medicine*

This rotation takes place primarily off-campus on the mobile clinic or at various shelters. Students on the rotation will refine their knowledge and clinical skills in shelter medicine, with the main areas of focus being shelter animal physical health, shelter animal behavioral health, community and public health, companion animal homelessness, shelter management, animals and public policy, research and critical review of the literature, and communication.

3 credits

### *VMEDG 1804 Pathology/Clinical Pathology*

This rotation will be divided between anatomic and clinical pathology. While rotating through the clinical pathology service, students will work on teaching cases, review cytology samples, and complete hands-on technical skills through the Clinical Pathology Laboratory at the Animal Health Institute.

6 credits

### *VMEDG 1805 Equine Primary Care*

This rotation occurs in the Equine and Bovine Center of the Midwestern University Animal Health Institute and at Chaparral Veterinary Medical Center. Students on the

Equine Medicine and Surgery rotation will refine their knowledge and clinical skills in primary and referral equine medicine and surgery through a blend of institutional instruction, ambulatory practice, and private practice experience.

12 credits

### *VMEDG 1806 Food Animal Primary Care*

This rotation will introduce the student to the art and science of the practice of veterinary medicine in food animal medicine, surgery, and population health. The student will work cooperatively with instructors, peers, clients, and farm personnel, in the examination, evaluation, diagnosis, and treatment of diseases of various species of food and fiber animals. The student will also be working with the public and will gain skills in client communications, medical record keeping and basic familiarity with the medical diseases and management of food animal species.

12 credits

### *VMEDG 1807 Mixed Track Small Animal Primary Care*

This rotation is similar to VMEDG 1801 Small Animal Primary Care but is eight weeks in duration.

12 credits

### *VMEDG 1808 Small Animal Internal Medicine*

This rotation builds upon the student's knowledge from coursework, laboratory sessions, and prior clinical rotations (if applicable) toward the diagnosis and treatment of patients evaluated through the Companion Animal Clinic Internal Medicine service.

6 credits

### *VMEDG 1809 Small Animal Surgery*

This rotation will allow students to participate in the diagnosis and treatment of canine and feline patients with surgical disease in the Companion Animal Clinic.

6 credits

### *VMEDG 1810 Anesthesiology*

This rotation will require students to participate in the anesthetic and pain management of patients. The application of medical knowledge to patient care through critical thinking and communication skills is emphasized. The primary goals of this rotation will be to refine the students' knowledge and clinical techniques needed to safely anesthetize small and large animal patients in clinical practice.

3 credits

### *VMEDG 1811 Off-Campus Clinical Electives*

Off-campus clinical elective rotations may be completed at research institutions, other veterinary teaching hospitals, government sponsored programs, industry sponsorship, or

any approved program associated with veterinary medical education or careers in the profession. To be eligible for academic credit, off-campus elective rotation schedules must be planned with the assistance and approval of the faculty advisor or appropriate faculty member and be approved by the Associate Dean for Clinical Education. Some off-campus clinical electives may have additional fees.

Varied credits

## ELECTIVE DIDACTIC COURSES

Not all electives are offered every year. Students will be made aware of active elective offerings before the enrollment deadline.

### *VMEDG 1301/1302 Research Elective (optional)*

This elective course provides an opportunity for students to conduct research under the supervision of a faculty investigator. On a case-by-case basis, the faculty investigator, in conjunction with the interested student, determines the content of the course and the evaluation criteria, and obtains approval of the Associate Dean for Research.

1 credit

### *ONEHG 1301L One Health Grand Rounds*

This elective course is designed to foster interest and discussion on major public health issues, and promote interprofessional study and research related to One Health. Each topic will focus on key challenges related to a specific health topic and explore cutting-edge scientific evidence and potential impact of different interventions. The outcome will be to highlight how these challenges are being addressed at the national, state, and/or local levels and propose recommendations for future research and practice.

2 credits

### *VMEDG 1310 Emergency and Critical Care*

This elective course focuses on the clinical knowledge and skills needed to manage the emergency and/or critical veterinary patient from presentation, through medical and surgical treatment and later during convalescence in the critical care facility or veterinary hospital. Emphasis of this course will be focused on the knowledge, clinical skills and techniques that are needed to manage commonly seen emergency/critical care patients seen in clinical companion animal practice.

2 credits

### *VMEDG 1314 Clinical Immunology*

This elective course is designed to reinforce and integrate concepts presented in Veterinary Immunology (MICRG 1522) and the Practice of Veterinary Medicine sequence (VMEDG 1501-1606). Overall course goals are: (1) to apply the problem-oriented approach to a clinical immunology case and (2) to integrate immunological biomedical concepts with

clinical reasoning.

2 credits

### *VMEDG 1316 Shelter Medicine*

This elective course will provide an introduction to shelter medicine and medical decision making within the framework of animal sheltering. Population health and management will be explored through various topics including risk analysis, shelter sterilization, animal physical health, animal behavior and mental health, and disease control. External aspects of shelter medicine involving private practice relations, community outreach, disaster response and animal cruelty investigations will be discussed.

2 credits

### *VMEDG 1318 Advanced Topics in Laboratory Animal Medicine*

This elective course will offer advanced education relevant to the practice of laboratory animal medicine through the interactive discussion of current controversial topics and literature from the field.

2 credits

### *VMEDG 1319 Writing Veterinary Medicine*

This elective course is a writing-intensive elective designed to help students improve their writing and critical reflection skills, and to introduce them to the concept of narrative medicine, while exploring a variety of topics relevant to the veterinary profession. Readings come from peer-reviewed, scientific literature, and classical and contemporary literary sources, with a mix of both assigned for each session. Writing objectives for each session focus on standards of good composition, and principles of narrative and reflective writing.

2 credits

### *VMEDG 1320 Cytology*

This elective course is designed to expand the knowledge base of cytology that students acquired in VMEDG 1645 and to introduce advanced techniques and ancillary procedures used in diagnostic pathology.

2 credits

Prerequisite: VMEDG 1645

### *VMEDG 1321 Advanced Veterinary Anatomy Dissection*

This elective course is a clinical-based elective class in which students will use a variety of surgical and dissection techniques to gain additional anatomical knowledge and hone their surgical skills. Each student will select a clinical topic involving a dissection or surgical technique of the veterinary profession. Students are expected to write a proposal for performing their selected dissection. The students will present their projects to the MWU community at a poster presentation of their projects followed by the



demonstration of their projects in the laboratory.  
2 credits

*VMEDG 1322 Foreign Animal Diseases (FAD)*

This elective course focuses on foreign animal diseases that are important for animal and human health. The elective will include a theoretical and a practical component. Students will be required to join ProMED and instructors will urge the open discussion of postings. The practical component will include a visit to a slaughterhouse and a classroom exercise reproducing a proper response to a FAD. These opportunities will showcase the veterinarian's role in recognizing and preventing the incursion of FADs into the country.

2 credits

*VMEDG 1324 Comparative Sports Medicine*

This elective course will introduce students to the field of sports medicine. The course will use a comparative approach, with a focus on athletic, sporting and working dogs and horses. Content will expand upon concepts introduced in basic anatomy and physiology as well as equine and canine medicine and surgery. A combination of lectures, discussion sessions, demonstrations and hands-on laboratories then will reinforce and integrate these concepts as they apply to the veterinary care of athletes and working animals.

2 credits

*VMEDG 1325 Venoms and Toxins*

This elective lecture and project based course will introduce zootoxins, toxin pathophysiology, treatment options, and therapeutic applications of zootoxins focusing on a One Health perspective. The course will also review clinical research methods with a student project consisting of creating a clinical trial protocol regarding a zootoxin of choice.

2 credits

*VMEDG 1328 Veterinary Clinical Microbiology*

This elective course will provide students with the experience in a veterinary infectious diseases diagnostic microbiology laboratory. The course will familiarize the students with the potentials and limitations of modern veterinary clinical microbiology laboratory. Areas of focus include the process involved in sample submission, completion of submission forms and specific test requests, hands-on experience and/or demonstration of the current methods used in veterinary pathogen detection, antimicrobial susceptibility testing using the minimum inhibitory concentration method (MIC), test results interpretation and application of test results in veterinary practice.

2 credits

*VMEDG 1331 Online Dental Course*

This elective is a small animal dentistry course offered by the University of Illinois, College of Veterinary Medicine with

registration paid by Northwestern University. A certificate of completion is awarded upon completion of comprehensive clinically relevant online modules.

1 credit

*VMEDG 1341 Small Animal Orthopedics*

This elective course will emphasize clinical orthopedic cases seen in small animal practice. The student will be introduced to a variety of orthopedic principles along with the anatomy and physiology of orthopedic disease and injury. Students will gain an understanding of the processes that are involved with orthopedic decision-making. Students will have hands-on opportunities to apply knowledge by completing surgical approaches, placing surgical implants, and performing physical therapy techniques. Case-based learning scenarios and peer-reviewed journal articles will be utilized to further student comprehension of fundamental orthopedic concepts.

2 credits

*VMEDG 1345 Advanced Clinical Pathology*

This elective course is case-based in which students will hone their skills in the interpretation of clinical pathology case data for large and small animals. Students will be expected to interpret case data and integrate their interpretation into relevant pathophysiologic mechanisms of disease, while also identifying additional testing that may aid in confirmation of the suspected diagnosis. This class will require students to think critically and to support their case interpretations with literature from peer-reviewed sources.

2 credits

*VMEDG 1346 Mechanisms of Disease*

This elective course will provide a deeper understanding of the pathophysiology of cancer and infectious disease processes. Students should expect to develop an understanding of how disease mechanisms are used to guide diagnostic and therapeutic approaches while also enhancing their ability to critically interpret current literature. Although open to all 3rd-year veterinary students, it will be particularly beneficial for those interested in pursuing advanced training in the fields of internal medicine, oncology, pathology or research.

2 credits

*VMEDG 1351 Feline Medicine*

This elective course designed to teach veterinary students the clinical nuances of feline companion animals. This elective will include lecture and small group case based workshops. The goal for this course is to integrate the knowledge of mechanism of disease, clinical anatomy, and physiology in order to apply a problem-oriented approach to the diagnosis and treatment of feline patients with naturally occurring diseases.

2 credits

*VMEDG 1352 Veterinary Pain Management*

This elective course will focus on an in-depth understanding of pain pathways, modalities for providing analgesia, and species differences in pain management. Different modalities for treating pain will be explored, including non-steroidal anti-inflammatories, opioids, local anesthetics, physical rehabilitation, low level laser therapy, acupuncture, and more. Students will gain an understanding of the species differences in experience and treatment of pain, and how this affects day-to-day practice. This course will be conducted through online modules with participation expected in online discussions and work outside of class to complete assigned projects.

2 credits

*VMEDG 1361 Forensic Investigations*

This elective course will provide an introduction to veterinary forensic investigations, including an overview of the ways the veterinary profession interfaces with legal and social institutions. It will outline relevant laws and expert witness roles and responsibilities, and will provide students with an opportunity to discuss the types of animal-related cases commonly encountered. The course includes a hands-on laboratory session so that students can practice common procedures such as postmortem examination, photography, and evidence collection, and will also include two field trips that will illustrate aspects of forensic scene investigation and prosecution.

2 credits

*VMEDG 1371 Practice Management*

This elective course provides an overview of the skills required to evaluate, manage, incorporate and grow a veterinary practice. Students will learn practice management skills that will allow them to demonstrate value as associates and create a competitive advantage for a practice as practice owners. The benefits and challenges of practice ownership will be described so that students can explore how practice ownership fits their financial and professional goals.

2 credits

*VMEDG 1381 Advanced Equine Medicine and Surgery*

This elective course expands upon the treatment of diseases and conditions that are discussed in VMEDG 1761 and 1762, and introduces more advanced topics related to equine practice. This course is designed for those students who have an interest in equine practice and those who want to pursue advanced training in equine medicine and surgery after completing the DVM degree. Class sessions will include labs and workshops requiring active learning and participation. In addition, there will be an individually written paper as well as small group presentations.

2 credits

Prerequisite: VMEDG 1761

*VMEDG 1382 Advanced Techniques in Large Animal Ultrasound*

This elective course is designed to provide both didactic and hands-on ultrasound education. The course will be divided into major body systems – hepatobiliary and spleen, urogenital, digestive, cardiopulmonary, and musculoskeletal. The didactic portion of the course will present the techniques for obtaining images for that body system and using a case-based approach will highlight common ultrasonographic abnormalities used to aid in the diagnosis of diseases relevant to that body system.

2 credits

*VMEDG 1391 Small Animal Clinical Nutrition*

This elective course is designed to teach students the iterative process of veterinary clinical nutrition. Emphasis will be placed on making nutritional recommendations for healthy animals and using nutrition to prevent and manage clinical conditions in sick patients. Emphasis will be placed on clinical skills development using lab sessions and case discussions.

2 credits

## STUDENT ACADEMIC POLICIES

The following academic policies apply to all students who matriculate during the academic year of this catalog publication. These policies will apply throughout the entire time a student is enrolled in the college. In the event that these policies need to be revised as the result of new accreditation requirements, mandates by the United States Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Faculty and students should also refer to the University Academic Policy section of this catalog for additional policies that apply to all students at Midwestern University.

### Academic Probation

Academic probation represents notice that continued inadequate academic performance will result in a recommendation of dismissal. If a student on academic probation successfully completes a probationary quarter with repeated courses and earns grades of "C" or greater in all courses, the student's academic status reverts to academic warning. To return to good academic standing, a student must complete one full quarter at full academic credit load in the CVM curriculum sequence with no grade lower than a "C". A student cannot return to good academic standing until all course failures are corrected. Academic probation is not noted on the transcript. The student should seek assistance from the Office of Student Services for tutoring. Students on academic probation are ineligible to hold student organizational offices or to progress to quarter nine and clinical rotations.

### **Academic Warning**

Academic warning issued by the CVM Associate Dean for Academic Affairs is a formal notification of marginal or substandard academic performance. Student progress is assessed mid-quarter and a student is placed on academic warning status, if indicated by academic performance. Academic warning cautions the student that continued performance at this level may compromise the student's ability to pass one or more courses. Students may be required to seek assistance from course faculty and/or the Office of Student Services. Students with an academic warning are ineligible to hold student organizational offices.

### **Appeal Process**

Following notification of a decision by the Student Promotion and Graduation Committee, a student may appeal the decision in writing within three working days to the Dean. The Dean may grant an appeal only if a student can demonstrate one of the following:

1. Bias of one or more committee members.
2. Material information not available to the committee at the time of its initial decision.
3. Procedural error.

During the appeal process, students must continue to attend classes. The decision of the Dean is final.

### **Clinical Rotation Policies**

The clinical phase of the curriculum will consist of five quarters that run continuously beginning with Spring quarter of the third year. During the clinical program students must complete a total of 81 credits of rotations. This will include 18 blocks (54 credits) of required on-campus rotations, and 9 blocks (27 credits) of elective rotations. In general, blocks are 2 weeks in length. However, during certain times when the clinic hours are limited, 3-week blocks may be used. Students are awarded 3 credits for each block, regardless of length. Students have 2 vacation blocks. One occurs over the Winter holidays, and the other will vary, but can only be taken during a 2-week block.

### **Immunization Policy**

Full-time students enrolled in a program with a clinical component are required to follow the immunization policy as outlined in the general policy section of the student handbook. Immunization requirements for CVM students include a rabies vaccination or an adequate antibody titer. Additionally, students may be subject to current applicable Centers for Disease Control and Arizona Department of Health protocols, and/or affiliated practice/institution rotation requirements.

### **Clinical Rotation Attendance Policy**

Students in the clinical rotation segment of the curriculum must attend all clinical rotations to which they are assigned.

Attendance and on-call requirements for clinical rotations take precedence over non-rotation events. Students must be sure that the requirements of each clinical rotation are understood and will be met prior to scheduling non-rotation events.

### **Supervision of Veterinary Students by Off-Campus Veterinarians**

While on clinical rotations, veterinary students must have direct, on-premises supervision by a veterinarian (D.V.M. or equivalent) who is licensed to practice veterinary medicine in the state in which care is being provided.

### **Course Failure Policy**

Students who do not demonstrate minimum competencies assume the obligation and responsibility to make up academic failures. First- and second-year students must successfully pass all failed courses before they can be promoted to the second or third years, respectively. Likewise, third-year students must pass all requirements of the preclinical curriculum before advancing to clinical rotations. Third- and fourth-year students must remediate any failed rotations as soon as possible following the failure in order to be considered for graduation. Students who fail a course may be placed on academic probation, or recommended for dismissal. If not dismissed, students are required to retake the course and must earn a C or better in order to proceed in the program. If the course is not given until the subsequent year, the student may be placed on academic leave of absence until it is offered again. If an equivalent course is available for substitution to be taken in place of the failed course(s) it must be approved by the course coordinator and the Curriculum Committee in advance. If a student fails a course that is a pre-requisite for additional courses offered during that calendar year, and/or there are no available courses for re-take prior to the start of the subsequent academic year the student may be placed on an academic leave of absence, offered an extended course of study plan, or be dismissed.

### **Grade for Retaken Course**

If a student receives a failing grade, that grade is recorded on the transcript as a letter grade of "F". Upon repetition of a failed course, the original grade of "F" remains on the transcript but is not counted towards GPA calculation. The repeated course and new grade are entered on the transcript. If a repeated preclinical course or clinical rotation is failed, a grade of "F" is again recorded on the transcript. Students who fail a course a second time will be recommended for dismissal.

### **Academic Standing**

Good academic standing is achieved by maintaining >70% cumulative average in all courses at all times. A student on academic warning or academic probation is not considered to be in good academic standing. To return to good academic

standing, a student must pass the failed courses and incur no further failures.

### **Disciplinary Warning/Probation**

Disciplinary warning/probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 of the Student Handbook. Disciplinary probation is not noted on transcript but is kept in the student's file.

### **Dismissal**

Matriculation in veterinary school is a privilege, not a right. Therefore, a student can be dismissed for the following reasons:

1. Failure to achieve minimum academic standards (as outlined and enforced by the preclinical or clinical promotions committees).
2. Failure to exhibit the professional and personal attributes required for the practice of veterinary medicine, such as acts of dishonesty, including but not limited to cheating on any assessments (examinations, quizzes, OSCE, online assignments, etc.), falsification of patient records, activity logs, verbal reports or plagiarism.
3. Violation of MWU and/or CVM policies that have been stipulated to be grounds for dismissal.
4. Falsification of admission records.
5. Failure to meet and maintain technical standards.
6. Conviction of a felony or other criminal offense.
7. Failure to report a criminal arrest.

### **Readmission after Dismissal for Poor Academic Performance**

Students who have been dismissed due to poor academic performance are not eligible for readmission to the CVM.

### **Extended Study Program (ESP)**

#### *Academic Extended Study Program*

A student may be placed in the Extended Study Program (ESP) for academic reasons at the recommendation of the Student Promotion and Graduation Committee. A student placed in ESP for academic reasons is automatically placed on academic probation and may not be returned to good academic standing until all failures are retaken and passed. If a student is placed in ESP, such action does not modify or

limit the Student Promotion and Graduation Committee's recommendation for dismissal. Thus, the student may be dismissed for academic reasons while in ESP.

Students will be assessed tuition for any additional years of instruction while enrolled.

#### *Non-Academic Extended Study Program*

The purpose of this program is to provide additional time to address significant personal and academic issues by creating a program of study that allows students to complete the first two years of the curriculum in three years. Students must petition the Dean of CVM to become an ESP student no later than the completion of 50% of a quarter. Requests received after that time are reviewed by the Dean and granted only for reasons of substantiated hardship or medical emergencies.

Students will be assessed tuition for any additional years of instruction.

#### *Academic and Non-Academic Extended Study Program*

Per Midwestern University policy, the transcript will reflect the student's standing in all courses at the time the student enters ESP.

### **Grade Point Average**

Courses are recorded in terms of quarter hour(s) of credit. The grade point average (GPA) is a weighted average computed using the number of credits assigned to each course and the quality points corresponding to the letter grade earned in each course. The total quality points earned for each course is determined by multiplying the quality points earned per credit (corresponding to the letter grade) by the number of credits assigned to the course. The GPA is calculated by dividing the total quality points earned by the total number of credits carried.

The student's cumulative grade point average is computed and recorded by the Office of the Registrar. It is calculated beginning at the end of the first quarter of enrollment, and does not include any grades or credits for courses audited or accepted for transfer, or courses with a grade of withdrawal (W), withdrawal failing (WF), pass (P) or failed (F) that were later repeated.

## Grading System

Students receive letter grades corresponding to the level of achievement, based on the results of examinations, required course work, and, as applicable, other established criteria. Recognizing that testing of students may be done by various methods and measurement of achievement may be carried out with various endpoints, the general guidelines for letter grades in lecture courses and the quality points per credit are as follows:

Grade	Percent (%)	Quality Points (per credit)	Comments
A	93-100	4.00	--
A-	90-92	3.67	--
B+	87-89	3.33	--
B	83-86	3.00	--
B-	80-82	2.67	--
C+	77-79	2.33	--
C	70-76	2.00	--
F	<70	0.00	--
I	--	0.00	An Incomplete (I) grade may be assigned by a course director when a student's work is of passing quality but incomplete, or if a student qualifies for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an "I" grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. All incomplete grades must be resolved within 10 working days starting from the first Monday following the end of the quarter unless there is written authorization by the Dean to extend the deadline. If an incomplete grade remains beyond 10 days, it may be converted to a grade of "F," which signifies failure of the course.
IP			An In Progress (IP) grade may be assigned by a course director under certain circumstances (illness, family death, etc.) when incomplete work cannot be resolved within a 10-day period. Outstanding grades may extend for more than one quarter only when scheduling of the student, the availability course director, or the scheduling of coursework makes completion impossible in the quarter following the assignment of an "IP" grade. The "IP" grade must be resolved within an academic year.
P	--	0.00	A Pass (P) designation indicates that the student has made satisfactory progress or completed required coursework satisfactorily. A grade of "P" is counted toward credit hour accruals for graduation but is not counted in any GPA calculations.
W	--	0.00	Withdrawal/Passing (W) is given for single quarter courses if the grade achieved up to the time of the withdrawal is >70% or >C. Withdrawal/Passing is not counted in the GPA calculation, and is not counted in credit hour accrual for graduation.
W/F	--	0.00	A Withdrawal/Failing (W/F) is given after 50% of a course is completed and the grade achieved up to the time of withdrawal is <70% or <C. Withdrawal/Failing is not counted in the GPA calculation, and is not counted in credit hour accrual for graduation. Withdrawal/Failing may be considered as a failure by the Preclinical or Clinical Promotions Committees.
AU	--	0.00	This designation indicates an audited course, that is, a student registered for a course with the understanding that neither academic credit nor a grade is earned. The possibility does not exist to change the course status from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
AP			This designation indicates the decision of a college to award academic credit that may allow a student to substitute previous course work or experience for required course work. The designation of Advanced Placement (AP) is applied toward credit hour accruals but is not counted in the GPA calculation.

### **Leave of Absence**

The Leave of Absence (LOA) policy is present in the Academic Policy section at the beginning of the University Catalog. Any student returning from an Academic Leave of Absence will be placed on Academic Probation.

### **Minimum Academic Requirements**

Students must have a cumulative GPA of 2.0 or higher to proceed to the clinical component of the program.

### **Satisfactory Academic Progress**

As required by federal law, reasonable standards of satisfactory academic progress have been established by Midwestern University CVM for the Doctor of Veterinary Medicine program. These standards apply to all students applying for, or currently receiving, financial assistance. The policy and procedure for assessing financial aid status is noted in the Student Financial Services section of the Midwestern University catalog.

### **Student Promotion and Graduation Committee**

The Student Promotion and Graduation Committee (SPGC) of CVM will review the academic performance of students. This committee monitors the academic progress of all students enrolled in the College against the published academic standards of the College. At a minimum, the committee meets at the end of each academic quarter to assess the status of students with an academic failure, an incomplete, or an in-progress grade. The committee may communicate complaints pertaining to lapses in professional behavior to the Dean of Students, who is responsible for investigating allegations of professional and academic misconduct.

Students with one or more failures must meet with the SPGC. Students who attain satisfactory academic and professional progress are promoted to the next academic year, provided all tuition and fees are paid. Students with any failing grades or incomplete courses will receive a letter from the CVM administration listing the requirements they must fulfill for continuation in the CVM program. Students are potentially subject to immediate dismissal from the CVM program if they:

- accumulate 4 or more failures within the 4 year curriculum
- accumulate 3 or more failures in a single academic year
- accumulate 2 or more failures in a single academic quarter
- fail the repeat of a course previously failed
- any failures must be repeated within a year, unless an extension is approved by the Associate Dean for Academic Affairs and the Dean

The SPGC also recommends to the Faculty Senate for graduation those students who have successfully completed all curriculum requirements, and who have paid all tuition and fees. In February each year, the Committee will prepare a list of candidates for the Doctor of Veterinary Medicine degree, and review and approve all graduation requests that are consistent with the University policy.

### **SPGC Guidelines for Preclinical Courses**

Students are required to meet with the SPGC if their academic status is subject to change. Students are notified of the date, time, and place of the committee meeting by email to their official Midwestern University email account, or by telephone, at least 48 hours in advance. Decisions of the committee are emailed to the student's official Midwestern University email account.

The committee shall recommend to the Dean an appropriate course of action after reviewing each case presented at the meeting. Among the options available to the committee in regard to unsatisfactory student performance, the committee may recommend that the student:

- be placed on probation with a written caution provided to the student
- be required to take an alternative equivalent course offered at Midwestern University or another university (if available and approved)
- be placed on an extended course of study plan, with the approval by the Associate Dean for Academic Affairs
- be placed on an academic leave of absence in order to repeat the course(s) in which there was a failure when the course(s) is/are offered again
- be dismissed from the CVM.

The right to appeal a decision for dismissal or academic leave of absence exists and is described elsewhere in this catalog. Appeals must be filed in writing with the CVM Dean within three business days following official notification of the committee decision.

### Student Promotion and Graduation Committee Pre-Clinical Guidelines

Didactic Course	Usual Action	Academic Status	Action Following Repeat or Re-take
All Passed	Promote or Graduate		
1 course failure	Repeat or take equivalent course	Academic Warning*, or Probation	Fail - Dismiss; Pass - Promote
2 course failures in a single academic quarter	Repeat or take equivalent course or dismiss	Academic Probation or Dismissal	Fail - Dismiss; Pass - Promote
3 course failures in a single academic year	Dismiss	Dismissal	
4 or more failures within the 3 year curriculum	Dismiss	Dismissal	

These guidelines may be modified by the Student Promotion and Graduation Committee for reasons of additional consideration.

\* Letters of academic warning will indicate that, if another failure occurs, the student will be placed on academic probation or be dismissed.

### SPGC Guidelines for Clinical Courses

The SPGC meets as needed to review academic and professional progress of students throughout the clinical rotation portion of the curriculum. Students with any failing grades or incomplete courses will receive a letter from the CVM administration listing the requirements they must fulfill for continuation in the CVM program.

These students are required to meet with the committee if their academic status is subject to change. Students are notified of the date, time, and place of the committee meeting by email to their official Midwestern University email account, or by telephone, at least 48 hours in advance. Decisions of the committee are emailed to the student's official Midwestern University email account.

The committee shall recommend to the Dean an appropriate course of action after reviewing each case presented at the meeting. In instances involving more than one failure to maintain satisfactory academic/professional progress, the

committee may recommend dismissal. Guidelines for advancement through the clinical curriculum are described in the table below.

The right to appeal a decision of the committee exists and is described elsewhere in this catalog. Appeals must be filed in writing with the Dean of CVM within three business days following official notification of the committee decision.

### Student Promotion and Graduation Committee Clinical Rotation Guidelines

Clinical Rotation	Usual Action	Academic Status	Action Following Repeat or Re-take
All Passed	Promote or Graduate		
1 rotation failure	Repeat or take equivalent rotation	Academic Warning*, or Probation	Fail - Dismiss; Pass - Promote
2 rotation failures	Repeat or take equivalent rotation; or Dismiss	Academic Probation or Dismissal	Fail - Dismiss; Pass - Promote
3 or more rotation failures	Dismiss	Dismissal	-

These guidelines may be modified by the Student Promotion and Graduation Committee for reasons of additional consideration.

\* Letters of academic warning will indicate that, if another failure occurs, the student will be placed on academic probation or be dismissed.

## DEPARTMENT DESCRIPTIONS

### Department of Equine Medicine and Surgery:

Faculty in the Department of Equine Medicine and Surgery teach, study, diagnose, and treat medical and surgical disorders of horses. The department is involved in classroom and laboratory teaching, and is responsible for providing both ambulatory and haul-in clinical services for horses. Members of the department are board-certified in large animal internal medicine or large animal surgery.

### Department of Pathology and Population Medicine:

The diverse Department of Pathology and Population Medicine includes faculty experts in food animal medicine, anatomic pathology, clinical pathology, theriogenology, microbiology and shelter medicine. The department is heavily involved in infectious disease and pathology research, and provides clinical services to production animal herds and small animal shelter populations. The College's first residency program, in anatomic pathology, resides in the department.

The department's Diagnostic Pathology Center, provides post-mortem examinations, biopsy services, and animal forensics investigations that serve the entire State of Arizona.

**Department of Small Animal Primary Care:**

The Department of Small Animal Primary Care is unique among North American veterinary colleges. Its faculty provide didactic and clinical teaching in areas of small animal general practice, exotics, and clinical communications. The majority of faculty effort in this department is spent in clinical service and teaching in the Companion Animal Clinic.

**Department of Specialty Medicine:**

Faculty members in the Department of Specialty Medicine provide teaching, research, and advanced clinical services in a wide variety of small animal specialty disciplines. The faculty includes specialists in small animal internal medicine, small animal surgery, neurology, oncology, cardiology, and anesthesiology. The College's small animal clinical internships are housed in the department.

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