Midwestern University

Glendale, AZ

Midwestern University Catalog 2010-2011

Glendale Campus
Arizona College of Osteopathic Medicine
College of Pharmacy-Glendale
College of Health Sciences
- Physician Assistant Program
- Occupational Therapy Program
- Biomedical Sciences Program
- Cardiovascular Science Program
- Arizona School of Podiatric Medicine
- Nurse Anesthesia Program
- Clinical Psychology Program
- Physical Therapy Program

College of Dental Medicine-Arizona
Arizona College of Optometry

Downers Grove Campus
Chicago College of Osteopathic Medicine
Chicago College of Pharmacy
College of Health Sciences
- Physician Assistant Program
- Physical Therapy Program
- Occupational Therapy Program
- Biomedical Sciences Program
- Clinical Psychology Program
- Doctor of Health Science

College of Dental Medicine-Illinois

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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 your community as a health care professional who has 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 Dental Medicine, or the Arizona College of Optometry, 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. Goeppinger, Ph.D.
President & Chief Executive Officer

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Jacquelyn M. Smith, Ph.D.  
Dean, College of Health Sciences

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 undergraduate, 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 health care 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, and the College of Dental Medicine-Illinois in 2009. 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 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, and the Arizona College of Optometry (AZCOPT) in 2008. The campus has seen rapid growth in the number of buildings, academic programs, faculty, staff, and students. Today the Glendale Campus, located on 145 acres, has 32 buildings that provide for academic classrooms, state-of-the-art laboratories, student commons, auditorium, recreation center, student housing, and an on-campus multispecialty clinic.

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 tomorrow’s health care team, learning together today.

**ACCREDITATION**

Midwestern University is accredited by The Higher Learning Commission, A Commission of the North Central Association of Colleges and Schools (230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1413; 312/263-0456; <www.higherlearningcommission.org>). Please refer to the specific college sections of this catalog for further information on program and professional accreditation.

**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.

**FACILITIES**

The 145-acre Glendale Campus boasts a scenic location situated 15 miles outside of downtown Phoenix. The new and attractive facilities on the campus include:

- The 64,000-square-foot Sahuaro Hall houses the library, computer rooms, and lecture halls.
- Cholla Hall has two lecture auditoria, modern laboratories, multiuse classrooms, a computer workshop, and faculty offices.
- The Barrel Student Center includes three buildings that feature the Stagecoach Dining Hall, a weight room, a big screen TV with theater seating, pool and ping pong tables, and administrative offices.
- Midwestern University Multispecialty Clinic, includes family medicine, osteopathic manipulative medicine, podiatry, optometry, clinical psychology, and pharmacy services.
- Midwestern University Dental Institute and Eye Institute provide health services to the community and clinical training for our students.
- The Foothills Science Center houses research laboratories for faculty and students, an animal facility, and shared equipment rooms.
- Ocotillo Hall provides classrooms, laboratories, and a large auditorium.
- Agave Hall features classrooms, the OMM laboratory, the gross laboratory, and faculty offices.
- Cactus Club House is for on-campus housing students and for special events, offering a large meeting area with amenities such as a kitchen; big-screen TV; pool, ping pong, and foosball tables; smaller group study areas; as well as separate patio areas.
- A Recreation and Wellness Hall featuring gymnasium, music and craft rooms, yoga/pilates room, handball courts, exercise equipment and showers/locker rooms.
- Glendale Hall, featuring classroom, a dental simulation lab, other educational and research labs and faculty offices.
- A large classroom/auditorium that comfortably seats 2600 people.
- An interfaith chapel.

**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; Internet wiring; and cable television. The complex also has a swimming pool, volleyball court, sand play area, 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 Department 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 providers, 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, 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.

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 allow the University 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), the student can find the Student Handbook and consent form.

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:
   a. Request for additional detailed information about the positive criminal background check report. This may entail one or more meetings with the student.
   b. Consultation with the state licensing agency of the state in which the student is enrolled about the impact of the misdemeanor or felony conviction on the student’s ability to undertake/resume practical training/rotations. Such consultation may be conducted by the College Dean (or their designees), Director of University Risk Management, and/or the Dean of Students with representatives from the state licensing agency.
   c. 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 College Dean (or their designees), will determine whether or not the student should be disqualified from matriculation or continued enrollment. Criminal convictions 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 conviction, 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.

4. Failure to disclose a conviction or material misrepresentation of information by an incoming or enrolled 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. Students must disclose any misdemeanor or felony charge/conviction.

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 other than the home state of their college where the student is interested in participating in a preceptorship, internship, clinic or other rotation to determine whether or not their conviction may be a barrier to participation.

7. Students are required to disclose to the Dean of Students and appropriate College Dean any arrests, criminal charges, or convictions against them during their entire period of enrollment as a student at Midwestern University. Such arrests, criminal charges, or convictions may negatively impact a student’s ability to obtain and/or complete clinical rotations or preceptorships.

8. Midwestern University does not guarantee clinical rotations for students who have a history of felony or misdemeanor convictions. In such cases, the University confidentially shares information about the student’s positive criminal background 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.

   a. If this information is known by the University prior to the student’s matriculation, the Dean of Students and/or College 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 so that appropriate action can be taken.

   b. If this information is known by the University after the student’s matriculation, the Dean of Students and/or College 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 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 Office of Student Services and Office of the Dean.

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 University will release a copy of the report for the site’s review.

**Harassment/Hostile Working Environment**

Midwestern University ("MWU") believes in the dignity and worth of its students, faculty, staff, Interns, and Residents and prohibits conduct or behavior, which has the effect of substantially interfering with the individual’s performance or creates an intimidating, hostile, or offensive learning/working environment. Members of the MWU community have a right to be free from harassment based on a person’s legally protected status.

It is the policy of MWU to provide an environment that is free from harassment because such conduct seriously undermines the atmosphere of trust and respect that is essential to a healthy work and academic environment. The conduct prohibited by this policy includes all unwelcome conduct (whether verbal, physical or visual) based on an individual’s protected status, such as gender, color, race, ancestry, religion, national origin, age, physical or mental disability, marital status, veteran status, citizenship status, sexual orientation or other protected group status as defined by law.

**Harassment Defined:** Harassment is offensive and unwelcome behavior that interferes with the work performance and effectiveness of an employee. It includes inappropriate and disrespectful conduct and communication. Harassment can take the form of, but is not limited to, the following:

- **Verbal:** For example, epithets, derogatory jokes or comments, slurs or unwanted sexual advances, invitations or comments.

- **Visual:** For example, derogatory and/or sexually-oriented posters, photography, e-mails, cartoons, drawings or gestures.

- **Physical:** For example, assault, unwanted touching, blocking normal movement or interfering with work.

- **Quid Pro Quo:** Explicit or implicit demands to submit to sexual requests in order for an employee to keep his or her job, or to avoid some other loss, and offers of employment benefits in return for sexual favors.

- **Retaliation:** Actions of revenge, directed toward one who had reported or threatened to report harassment.
Teasing and/or negative stereotyping: Derogatory actions or comments; based on another person's protected status.

The policies and procedures relating to Harassment/Hostile Working Environment are available in the Student Handbook (http://mwunet.midwestern.edu/administrative/SS/ssStuHANDBOOK.htm).

ATTENDANCE
The policy for class attendance is determined by each department/division and/or college. Students should refer to their course syllabus or to the college-specific section of the University Catalog 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 college or department/division has the prerogative to establish its 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/exam environment that is most conducive to teaching, learning, and performing one's best on exams, students are expected to behave in a manner that is not disruptive or disrespectful to any person and that does not adversely affect teaching, learning, or examination performance of any person. If cell phones and pagers 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 or examination room, forfeiting their right to take the exam. 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.

Cell phones, pagers and other electronic devices are strictly prohibited from being used during examinations. Students who do not abide by this policy may forfeit their right to sit for an examination.

COURSE AUDITING
An enrolled student or a student-at-large 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 and students-at-large are charged 50% of the tuition costs to audit a course. Students-at-large may also be subject to additional fees for courses that have a laboratory or clinical component or that require use of library services.

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 receipt 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 and must occur prior to the start of the subsequent quarter.

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

A student whose academic progress will be subject to review by his/her Promotions/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 course grade must be submitted within 24 hours following receipt of the grade and must be based on one of the premises stated above. The course director must act on this appeal within 24 hours. Any appeal of this decision will be addressed by the course director’s supervisor. The student is responsible for notifying the chair of the Promotions/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 student who has not satisfied academic requirements for a particular degree may seek permission to participate in a graduation ceremony for his/her program/college if the student will complete all academic requirements for the degree within the one quarter immediately following the official scheduled end of the academic program for his/her class.

To seek permission, the student must submit a formal, signed letter of request in writing to participate in the graduation ceremony. The letter should be addressed to the College Dean. The letter must state the reason for the request, a timeline for completion of all academic requirements for the degree which shows that all degree requirements will be met within the one quarter immediately following the official scheduled end of the academic program. The letter should be submitted no later than eight weeks prior to the official graduation date for his/her program/college.

The Dean is responsible for verifying that all of the requisite information is in the letter, and that the information is correct. The Dean forwards the letter to the Student Promotion and Graduation Committee or Program Academic Review Committee for consideration.

The committee is responsible for reviewing the student’s request. Each request is considered based on its individual merits. If approved, the committee will add the student to the proposed list of candidates for graduation, denote on the listing that the student will not have completed the academic requirements by the official graduation date, and then forward the list of candidates to the Dean.

The Dean will then forward the list of candidates for graduation to the MWU Faculty Senate for review and approval at an appropriately scheduled meeting, prior to the official graduation date.

The Senate will forward the list of approved candidates for degrees to the University President for review and approval by the Board of Trustees.

In all cases, students who walk through will not receive a diploma.

**INCOMPLETE GRADES**

The grade incomplete (I) 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 the 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 starting from the last day of final examinations for the quarter. If an incomplete grade remains beyond the 10 calendar days, it is automatically converted to a grade of F 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 CLASSES**

The last day that a student may drop a course without impact to the transcript is the second Friday of the quarter. For all courses to be added/dropped a student must complete a course add/drop form. A course add/drop form can be
obtained from the Office of the Dean or on-line at http://online.midwestern.edu. To add/drop a course a student must have the following approvals.

CDMI/CDMA/CCOM/AZCOM: Dean for all core course drops; course director for all elective add/drops
AZCOPT/CCP/CPG: Dean and course director for all core and elective course add/drops
CHS: Program Director for all core and elective course add/drops

Courses dropped after the second Friday of the quarter may be recorded as “W” (Withdrawal) or “WF” (Withdrawal/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 College Dean to discuss the leave of absence;
2. A student must provide written notification and documentation, if applicable, to the 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 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.

All leaves of absence are granted for specific periods of time. At a minimum of thirty 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 application 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. Leave of absences can only be initiated through the Office of the Dean.

Students on a Leave 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, husband/wife, child (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.

**Registrar**
The Registrar maintains, prepares, and verifies all academic records, grades, and transcripts. The main number of the Office of the Registrar is 630/515-6222 (Downers Grove Campus) and 623/572-3325 (Glendale Campus). Registrar services can be accessed at [http://online.midwestern.edu](http://online.midwestern.edu).

**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 as well as students enrolled in the Biomedical Science Program. Students registering for special schedules need to contact the Office of the Dean or CHS Program Director’s Office, if applicable, for assistance. Students registering for electives can access the list of electives on-line after notification by the Office of the Dean or the Registrar.

**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 discarded.

**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 [http://online.midwestern.edu](http://online.midwestern.edu).

1. No phone requests are honored.
2. Allow 1 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 $5.00 per official transcript release.
4. Individuals who are no longer students at MWU are charged $5.00.
5. Transcripts will not be issued for any student with an account balance with MWU.
6. Transcripts 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 diploma by writing to the Registrar. The charge for a duplicate diploma is $50.00 paid in advance.

WITHDRAWAL

Withdrawal from One or More Courses
Any student who wishes to withdraw from one or more courses must first receive approval from their respective course directors. Following approval by the course directors, the withdrawal must be approved by the Program Director, if applicable, and by the Dean. The student must complete a course add/drop form, which can be obtained from the Office of the Dean, the Registrar’s Office, or on-line. Such approval is granted only for extraordinary circumstances. If approval is granted, the student receives one of the following grades: W (Withdrawal) or WF (Withdrawal/Failing). Withdrawal from core curriculum courses will be noted on the student’s permanent record. Students should be aware that withdrawal from a core class may result in a significant extension of the students’ professional program and may alter financial aid assistance.

Unless there are exceptional circumstances, a student will not be allowed to withdraw from a course after the end of the 8th week of the quarter.

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). 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 Midwestern University should contact the Office of Admissions at either the Glendale Campus or the Downers Grove Campus to request application forms and/or application instructions for both admission and university housing. All applicants must submit formal applications, official transcripts, test scores, and other required supporting material. For specific admission standards of the respective colleges, refer to the appropriate collegiate sections of the catalog.

Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308
623/572-3215
AdmissAZ@midwestern.edu

Office of Admissions
Midwestern University
555 31st Street
Downers Grove, IL 60515
630/515-6171
800/458-6253
AdmissIL@midwestern.edu

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 is located in the Barrel Student Center on the Glendale Campus and is composed of the Dean, Assistant Dean for Student Services, Assistant Dean for Student Governance, Assistant Director of Student Activities, Counselors and Manager of Residence Life. The Office coordinates a variety of student support service functions within the University. The Office of Student Services supports all colleges and interacts with students to develop and offer 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, career guidance and academic counseling, stress and time management seminars, multicultural and diversity programming, crisis intervention and interpersonal
Sports, and other developmental activities. The Office of counseling, MWU Student Recycling Program, intramural sports, and other developmental activities. The Office of Student Services has an open door policy and is available to students on a continuing basis offering support, advice, and encouragement needed to meet student 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, administrative, 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 Senate is composed of representatives from each college within the campus. The members of the Executive Board are the Speaker of the Student Senate, the Vice Speaker, and the Secretary. The 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 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 (Student Government Associations-SGAs) function to provide governance for student issues related to the individual colleges, as well as conducting all college-wide elections. Adoption of bylaws governing the individual college student councils is at the discretion of the elected/appointed officers of these councils. SGAs are encouraged to adopt bylaws that are consistent with the bylaws of the other college student councils.

Individual SGAs are required to develop and publish bylaws that describe: (1) the name of the SGA; (2) purpose; (3) objectives of the council; (4) operation and relationship with other SGAs; (5) membership and procedures for the election of officers/representatives and their terms of office; (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 full-time and part-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 Counselor 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 problems through the Office of Student Services. 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.

Recreational Activities
Committed to the concept of “wellness,” Midwestern University encourages students to utilize the Recreation and Wellness Center. 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, student may participate in many intramural sporting activities that are sponsored by the University, including 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.
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.

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 (Mountain Time) or by email at az_fin_aid@midwestern.edu. Our full address is:

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

Equal Opportunities for All
Midwestern University provides equality of opportunity in its educational programs for all persons, maintains nondiscriminatory admission policies, and considers for admission all qualified students regardless of race, color, sex, sexual orientation, religion, national or ethnic origin, citizenship status, disability, status as a veteran, age, or marital status.

Midwestern University has a very strong commitment to financial literacy. 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 Offices 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 to registered and accepted students as well as to new admissions.

General Eligibility Requirements
All students seeking financial aid must meet general eligibility requirements regarding citizenship, selective services, 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 financial 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 the student was 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 student’s 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 who is convicted of a drug-related offense that occurred while the student was enrolled in school and receiving Title IV aid loses Title IV eligibility as follows:

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: indefinitely from the date of the third conviction.

For the sale of illegal drugs:
- First offense: two years from the date of conviction.
- Second offense: indefinitely from the date of the second conviction.

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 may regain eligibility at any time by completing an approved drug rehabilitation program and by informing the school that he or she has done so. A student regains Title IV eligibility on the date he or she successfully completes 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 criteria:

- 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.

For a student whose Title IV eligibility is reinstated after a drug conviction, the maximum loan period that a school may certify is the academic year during which the student regains eligibility. However, the school may not certify eligibility prior to the date on which eligibility is regained. A student who loses eligibility during a loan period is immediately ineligible to receive subsequent disbursements of FDLP funds and is required to repay any Title IV funds received after the date he or she loses eligibility. Schools are not required to recalculate a student’s loan amount.

Financing an Education
The Office of Student Financial Services helps coordinate four types of financial aid: scholarships and grants, Federal Work-Study, Veteran’s Educational Benefits, and loans.

Scholarships and Grants

All Programs
MWU Need-Based Scholarship: Awarded to students who demonstrate the most significant financial need as determined by their Free Application for Federal Student Aid (FAFSA). Students must meet MWU’s priority financial aid deadline date in order to be considered eligible. Historically MWU has been able to award between $750,000 and $1,750,000 each year in non-renewable institutional scholarships to incoming and returning students from each of the University’s five colleges with funding provided by the University’s School-As-Lender program. Future amounts and availability of funding will depend upon market conditions and Federal legislative actions regarding the School-As-Lender program. School-As-Lender Need-Based Scholarships, if available, are in addition to scholarships historically awarded at MWU.

Medical, Podiatry, and Pharmacy Programs
Arizona College of Osteopathic Medicine, Arizona School of Podiatric Medicine, Arizona College of Optometry, College of Dental Medicine, and College of Pharmacy-Glendale participate in the Professional Student Exchange Program administered by the Western Interstate Commission for Higher Education (WICHE), under which legal residents of Western states without a public professional school in this field may receive preference in admission and reduced tuition at MWU. To be certified as eligible for this program, the student must contact the WICHE Certifying Officer in his/her state of legal residence for the program application form. The number of students to be supported in each state in this 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

Health Science Programs
The physician assistant program and the occupational therapy program, Glendale Campus, participate in the Professional Student Exchange Program administered by the Western Interstate Commission for Higher Education (WICHE), under which legal residents of Western states without a public professional school in this field may receive preference in admission and reduced tuition at MWU. To be certified as eligible for this program, the student must contact the WICHE Certifying Officer in his/her state of legal residence for the program application form. The number of students to be supported in each state in this 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 open to all students who apply by the deadline date and demonstrate financial need. Students who qualify for this program may work on campus or off campus if performing community service activities. The Office of Student Financial Services determines the total amount students may earn. This is NOT a loan program. Students who obtain Federal Work-Study employment will be paid bi-weekly at the rate of $9.00 per hour for regular work-study and $11.00 per hour for community service work-study effective July 4, 2010 through June 30, 2011.

Federal Student Loans

All Programs
1. Federal Perkins Loan: Qualified graduate students with exceptional financial need may borrow from this campus-based loan program. The interest rate is 5%. Loan amounts and availability of funding are dependent on annual Federal allocations. Awards typically range from $1,000 to $2,000 per academic year. A student may borrow an aggregate maximum of $60,000 for undergraduate and graduate study. The student borrower will also receive a nine-month grace period and may defer or have the loan forgiven in certain circumstances.
2. Subsidized Federal Direct Stafford Loan: Graduate students enrolled at least half-time in a degree seeking program may borrow up to $8,500 per academic year, with an aggregate maximum of $138,500 for undergraduate and graduate study. Students borrowing the Stafford loan must repay their loan at a fixed interest rate of 6.8%. The federal government pays this interest while students attend school, as well as during a six-month grace period.

3. Unsubsidized Federal Direct Stafford Loan: Qualified graduate students may borrow up to $20,500 per academic year with an aggregate maximum of $138,500 for undergraduate and graduate study (includes amounts borrowed under the subsidized Stafford program). Students enrolled in the osteopathic medicine, dental medicine, podiatric medicine, pharmacy and optometry programs are eligible to apply for higher annual loan limits based on their program of study and year in school and may borrow up to an increased aggregate loan maximum of $224,000 (includes amounts borrowed under the Subsidized Stafford program). Students borrowing the Stafford loan must repay their loan at a fixed interest rate of 6.8%. The student is responsible for payment of the interest but may elect to have the interest accrue and capitalize while enrolled.

4. Federal Direct Graduate PLUS loan: Qualified graduate students may borrow up to the budgeted cost of attendance less other aid. Students borrowing the Graduate PLUS must repay their loan at a fixed interest rate of 7.9%. Repayment of the loan begins 6 months after graduation, withdrawal, or upon enrolling on a less than half-time basis. Students should check with the lender for deferment eligibility.

Medical Programs

1. Primary Care Loan: Priority consideration is given to certain third- or fourth-year students with exceptional financial need who are committed to practicing primary care medicine. Such students may borrow this campus-based loan that offers a one-year grace period and a residency deferment of up to four years. The interest rate is 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 from AZCOM. Students must also agree to practice primary care medicine through the date on which the loan is repaid in full. Per federal regulations, all applicants are required to submit parental financial information regardless of dependency status.

2. Arizona Medical Student Loan Program: A program that provides educational loans to medical students sponsored by the state of Arizona. In order to be considered eligible for the loan program a student must be a legal resident of the state of Arizona and must be willing to commit to full-time practice in a medically underserved area in Arizona in family practice, general practice, general pediatrics, combine medicine and pediatrics, obstetrics and gynecology or general internal medicine. A student’s loan will be forgiven if a full commitment is made. A minimum two-year service commitment is required. The maximum loan, which may vary yearly, is set by Arizona law, and is subject to the availability of funds. For the 2009-2010 academic year the amount was $65,469 per student. Due to the continuing state budget difficulties, it is not anticipated that awards for new recipients will be possible for 2010-2011. Prior recipients should contact the Student Financial Services Office for a renewal application.

Private Student Loans

Private Educational Loans: Graduate students enrolled at least half-time in a degree-seeking program may be eligible to borrow up to the total cost of attendance less other aid. The loan is not based on financial need. Rather, eligibility is based on subtracting other financial aid assistance from a student’s total cost of attendance. Loan eligibility is also based on the student borrower’s and/or co-borrower’s credit history and ability to repay the loan. The in-school or grace period interest rate is variable and usually based on the Prime, LIBOR or T-Bill rate plus 1.9% margin (which is determined by the borrower and/or co-borrower’s credit history). The student is responsible for payment of interest but may elect to have the interest accumulate and capitalize while enrolled at MWU. Repayment may begin immediately upon enrolling on a less than half-time basis or upon graduation. Students will need to check with their lender for further details on postponement or deferment of loan payments.

Veterans’ Educational Benefits

Midwestern University is approved for Veterans’ Educational Benefits by the Arizona Department of Veterans’ Services for most Glendale MWU programs. For further information and eligibility requirements, students may contact the Registrar’s Office. The address is:

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

Website Information for Financial Aid

Additional information regarding scholarship and loan programs can be found in the Midwestern University Student Handbook or on the MWU web site, http://www.midwestern.edu/Programs_and_Admission/Financial_Aid.html. Students are encouraged to check with local religious organizations, clubs, professional associations, civic groups, and corporations concerning community scholarships provided to students. Students are also encouraged to check on the Internet, with local public and/or college libraries (in the general reference department), and on the
MWU web site to find information on specific state, professional, and/or general interest scholarships.

**Applying for Financial Aid**

**Budget and Cost of Attendance**

Each program at Midwestern University has an established budget or Cost of Attendance (COA as it is commonly referred to). Budgets are designed to primarily cover a student’s educational and living expenses while in school; if enrolled for nine months, for example, the budget covers the expenses for that period. The standard budget for each program is developed using federal guidelines that allow for a reasonable standard of living for students within the community. Each year the major components of the budget are reviewed and modified based on changes in costs; to further augment and validate the expenses included in the budget, Midwestern University periodically surveys students in the fall to gather actual expenses being incurred.

Representative major categories included in every budget include:

- Tuition and Fees
- Books and Supplies
- Health and Disability Insurance
- Food
- Transportation Expenses
- Housing
- Utilities
- Personal Expenses

Some programs may include technology and equipment fees as well. Depending upon a student’s circumstances, daycare expenses may be included in the cost of attendance budget if the student has dependent children. In all instances, Federal regulations govern what is or is not allowed in budgets.

While most students find it necessary to borrow to pay for their education, we highly encourage students to live as modestly as possible in an effort to minimize debt following graduation. Good choices now can lead to financial freedom down the road. Staff in the Office of Student Financial Services are available to discuss any questions surrounding budgets.

**On-Line Application Process**

On-line application instructions for the upcoming financial aid award year are made available on an annual basis in January to each continuing class of students. All accepted students who have paid their matriculation deposit will receive on-line application instructions for the upcoming academic year. Accepted applicants will also have electronic access to other relevant financial aid resources provided on the University website.

**Glendale Tuition and Fees (for academic year 2010-2011)**

Please Note: Tuition rates are subject to change each academic year for all enrolled students. Tuition for full-time students is an annual tuition and may be payable over two, three, or four quarters per year depending on the academic schedule of a student. Historically, tuition has increased between 4% and 7% annually.

<table>
<thead>
<tr>
<th>Program</th>
<th>Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona College of Osteopathic Medicine</td>
<td>$47,742</td>
</tr>
<tr>
<td>College of Pharmacy</td>
<td>$41,217</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>$34,125</td>
</tr>
<tr>
<td>Occupational Therapy</td>
<td>$29,445</td>
</tr>
<tr>
<td>Biomedical Sciences, Master of Arts</td>
<td>$31,421</td>
</tr>
<tr>
<td>Biomedical Sciences, Master of Biomedical Science</td>
<td>$26,866</td>
</tr>
<tr>
<td>Cardiovascular Science</td>
<td>$29,356</td>
</tr>
<tr>
<td>Podiatry</td>
<td>$30,125</td>
</tr>
<tr>
<td>Nurse Anesthetist</td>
<td>$30,624</td>
</tr>
<tr>
<td>Psychology</td>
<td>$24,845</td>
</tr>
<tr>
<td>Dental Medicine*</td>
<td>$54,278</td>
</tr>
<tr>
<td>Optometry**</td>
<td>$28,875</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>$28,000</td>
</tr>
</tbody>
</table>

For the 2010-2011 academic year, all programs (both full-time and part-time) have a yearly $450 student services fee. These fees are subject to change each academic year. Students enrolled on a less than full-time basis will be charged tuition based on a per credit fee as determined by the Office of Student Financial Services. All rates and fees are subject to correction if they are stated in error.

*The College of Dental Medicine has the following additional fees:

- Technology Fee- $1,500
- Supply Fee- $3,582
- Instrument Rental Fee- $1,654
- Sim Lab and Clinic Fee- $4,300
- Surgical Atlas and Telescope Fee- $1,465

** The Arizona College of Optometry has the following additional fees:

- Technology Fee- $1,500
- Equipment and Diagnostic Kits Fee- $3,916

**Tuition Payment**

Tuition for full-time students is an annual tuition and may be payable over 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 full-time tuition. Students exceeding the maximum prescribed course load will pay overload charges. Students enrolled in an extended studies program will be charged the annual tuition rate for their extra year of enrollment.

Students who extend their program for one quarter or less will be charged the quarterly tuition rate or per credit hourly rate depending on the program and their enrollment status.

We encourage all students to pay their bills via our secure website at https://online.midwestern.edu. Options for payment include debit card, credit card or direct debit from your checking or savings account. MWU accepts American Express, Discover, MasterCard and Visa for tuition payments. 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. Tuition due dates will be publicized quarterly via MWU email. If tuition payments are made through the mail, please address the envelope as follows:

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

Students who fail to pay tuition at the designated times will have their account processed according to Midwestern University’s Overdue Accounts Policy.

Payment Plans
The Office of Student Financial Services offers a payment plan that allows a student to divide his/her unpaid balance into equal monthly installments over the course of a quarter. The following are policies regarding the payment plan:
1. 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.
2. Payment plans will be effective for the entire quarter.
3. A fee of $25 will be charged per quarter. This fee is to cover costs associated with payment plan enrollment, maintenance, billing, collections, and monthly follow-up on the plans.
4. The plan is interest-free.
5. All financial aid must be applied toward the unpaid balance due first before accepting student payments.
6. A 1.5% late fee will be applied to accounts at 10 days late and the balance may be accelerated to fully due.
7. The unpaid balance must be paid by the end of each quarter. Example: Student’s balance due is $10,500+ $25 payment plan fee. The quarter is three months long, $10,500/3 = $3,500. Thus, student’s first payment will be $3,525, which includes the payment plan fee. The next two payments will be $3,500 per month.
8. Student must not have been late on any prior MWU payment plans.
9. Student’s account must be paid in full from the previous quarter.

Prepayment Plans
Any student has the option to prepay the entire amount of tuition for his/her program at the tuition rate that is effective for the first year of study. Prepayment of the entire program’s tuition must be paid in full by the first day of matriculation.

Any student may prepay a year at a time of tuition at the current rate. This tuition must be prepaid one full academic year in advance. For example, a student matriculating in the 2010-2011 academic year in September 2010 who wishes to prepay his/her 2011-2012 tuition must make this prepayment by the first day of matriculation in September 2010. If this same student does not choose to prepay at matriculation but later decides for example 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.

Credit Cards
The Office of Student Financial Services does accept credit cards as payment of tuition, student services fees, disability/health insurance fees, and institutional housing; however, the following requirements do apply:
1. Mastercard, Visa, Discover and American Express are accepted.
2. All financial aid funds must be applied to the balance first before using a credit card for payment.
3. When using a parent’s credit card, the Office of Student Financial Services must receive a memo authorizing the charges or have phone authorization from the parent.
4. Credit card payments will not be accepted on accounts already paid in full unless the student provides written authorization to hold the pre-payment for future quarters in which the student owes an outstanding balance after applying financial aid funds.

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 fee. Students who are enrolled 3 or 4 quarters per year will be charged the full annual student services fee. 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% and 50% of the annual student services fee, respectively. The student services fee funds such areas as the recreation center, sports intramurals, counseling services, operation of the student lounge, student council, student representation in government, graduation fees and student events on and off-campus.

Add/Drop Charges
The last day to add or drop a course is the second Friday of each quarter. Charges for courses added/dropped by this date will be adjusted according to the student’s new in-school status (i.e. full-time, part-time, half-time, etc.). Please note that if all courses are dropped and a student is determined to be withdrawing for the entire quarter, tuition and fee charges may be assessed and will be based upon guidelines stated in the Return of Federal Title IV Funds/MWU Refund Policy.
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 academic 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 credit hour is calculated based on the current quarterly full-time tuition divided by 12 for credit hours. The per credit hour rate is multiplied by the enrolled credit hours to equal the tuition charge for the quarter.

Course Overload
Students desiring to register for more than the prescribed course load in a given quarter are considered to have registered for a course overload. These students must receive prior approval from the academic dean before starting the quarter. Tuition in addition to full tuition will be charged for each additional credit hour above the prescribed course load on the following basis:

- The credit hour rate for courses that cause a course overload will be calculated based on the current quarterly full-time tuition rate divided by the current quarter’s prescribed course load.
- The per credit hour rate is multiplied by the enrolled credit hours to equal the tuition charge for the quarter.
- Overloads are defined as follows: AZCOM >29 credit hours; CPG: >21 credit hours; CHS Graduate >23 credit hours; CHS Podiatric Medicine >27 credit hours; CDM >30 credit hours; AZCOPT >30 credit hours.

Overdue Accounts
The Office of Student Financial Services will follow up with students to collect past due accounts. This will enable the Office of Student Financial Services to encourage all students to pay their balance owed on time so that they are not dropped from the enrollment of their appropriate college.

Consequences of past due accounts can include any and all of the items listed below:
1. 1.5% late fee on unpaid balance is assessed at 10 days delinquent for all balances of $500 or more. Balances of $499 or less are assessed a flat $7.50 late fee. These fees are assessed on a monthly basis throughout the quarter until the account becomes current.
2. Past due notices will be sent via email.
3. Follow up phone calls may be made to your residence.
4. Notification of delinquency will be made to the academic dean.
5. Dropped from enrollment of the college.
6. Will not be permitted to attend or participate in class, participate in clinical rotations, take examinations, or receive any academic credit. Will lose student status.
7. Suspension and/or termination from classes at MWU. Student must reapply for admission to MWU.
8. Withholding of official academic transcripts.
9. Account referred to collection agency for further action.

All students with accounts 30 days delinquent may be terminated from MWU.

Note: A student may be exempt from the payment deadlines and permitted to continue in school without risk of suspension. However, students must notify the Office of Student Financial Services 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:

a. Circumstances beyond the student’s control (i.e., non-arrival of financial aid, scholarship, or grant funds by the due date);
b. A payment plan has been approved by the Office of Student Financial Services;
c. Any documented extraordinary circumstance that prevents the student from paying his/her account balance on time.

Returned Checks
A $35.00 fee will 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 exception will be made.

Receiving Funds
Students will receive periodic refunds by direct deposits to cover monthly living expenses. Representative living expenses include food, housing, utilities, transportation, and personal expenses. Students have the obligation to budget funds appropriately so they are able to cover their expenses month to month. Some one time expenses such as a laptop or medical equipment required at the beginning of a course of study are included in the first disbursement of the year. The objective is to insure that students have the funding for these major outlays as they occur and are not forced to use credit cards for these purchases.

Student Financial Services provides a variety of resources to assist students with important money management skills; these include budgeting, credit cards, managing your credit and money management for couples. We are committed to assisting students as they develop strong money management skills.

Direct Deposit
Direct deposit for financial aid refund checks is mandatory. Students requesting an exception to this mandatory requirement must submit a letter to the Director of Student
Financial Services 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 fees or charges that result due to checks written when a student had insufficient funds in his/her 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 that the deposit has cleared prior to writing checks.

A direct deposit made in error must immediately be returned 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. The policy/procedure for “Assessing Financial Aid Status” is as follows:

**Purpose**

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

**Policy**

1. All full-time students must complete their academic program in the maximum time frame allowed for their specific program and must maintain academic standards as specified by their program in order to be considered progressing satisfactorily toward their degree (refer to the charts that follow and the detailed descriptions under each college). Students enrolled on less than a full-time basis will have their standard time frames for program completion prorated, and expected program completion per academic year (% of coursework completed in terms of credit hours or contact hours per quarter) prorated.

2. All students are required to accumulate credits toward graduation and are expected to successfully complete a minimum percentage of their academic program each year as specified by their academic program (refer to the charts that follow), not including those courses in which grades of incomplete were received, course withdrawal occurred, or remedial coursework was performed. Audited courses are also not included. All periods of enrollment will be included regardless of whether or not a student receives financial aid.

3. Students who are not maintaining the academic standards specified by their program at the end of an academic year will be placed on academic probation. The Director of Student Financial Services will subsequently place those students on financial aid probation for the following academic year. While on financial aid probation, students will be eligible to receive financial aid funds.

4. If a student’s academic progress remains unsatisfactory after the completion of the academic year in which he/she is on financial aid probation and/or he/she enters a second subsequent academic year on academic probation, the student will be placed on financial aid suspension and no financial aid funds will be awarded until satisfactory academic progress, as determined by the student’s program, has been attained. If a student achieves satisfactory academic progress in the academic year during which he/she is on financial aid probation, and is removed from academic probation, the student will be removed from financial aid probation. Financial aid eligibility will not be retroactive (backdated to the beginning of the academic year). Eligibility will resume and commence only for the subsequent quarter(s) in which satisfactory academic progress was attained. The financial aid probationary period will remain on the student’s record.

5. Students who are denied financial assistance on the basis of unsatisfactory academic progress may regain financial aid eligibility by satisfactorily completing, at their own expense, those courses required to attain the minimum academic standards specified by their program. This statement does not imply that continuation in any academic program is the prerogative of the student.

6. A student will be allowed a maximum of two nonconsecutive financial aid probationary periods while enrolled at MWU. A student who does not attain satisfactory academic progress at the conclusion of his/her 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 his/her enrollment period at MWU. Permanent suspension can be waived at the discretion of the dean of the respective college.

7. A student placed on financial aid probation or financial aid suspension may appeal a decision by the Director of Student Financial Services to discontinue his/her financial aid (See Procedure, #5).

8. Satisfactory academic progress standards may be appealed if a student has personal mitigating
circumstances that will not allow him/her to maintain a full-time academic load. An appeal will be considered if these personal mitigating circumstances will not allow the student to meet the expected program completion per academic year or the maximum timeframe for program completion. Examples of personal mitigating circumstances may include: (1) a severe injury or extended illness, (2) illness or death of a family member, or (3) disability (see procedure #8).

Procedure

1. The Office of Student Financial Services will be responsible for assessing the financial aid eligibility status of all students by monitoring their academic progress through documentation received from the deans’ offices and the Office of the Registrar.

2. Following the end of each academic year, the Office of Student Financial Services will send a written notice to students who are not maintaining academic standards as specified by their program and who have been placed on academic probation, informing the student that they are on financial aid probation for the upcoming academic year. The letter will outline for the student the ramifications of being placed on financial aid probation, and inform him/her of the right to appeal. A copy of the written notice will also be sent to the Dean of the college in which the student is enrolled, to the program director, if applicable, and to the chair of the Financial Aid Committee.

3. Following the end of each academic year, the Office of Student Financial Services will also send a written notice to students who are entering a second sequential year of academic probation, or who have unsatisfactorily completed a second, non-consecutive year of academic probation, informing the student that he/she is on financial aid suspension, effective immediately. The letter will outline for the student the ramifications of being placed on financial aid suspension, and inform him/her of the right of appeal. A copy of the written notice will also be sent to the Dean of the college in which the student is enrolled, to the program director, if applicable, and to the chair of the Financial Aid Committee.

4. If a student is placed on financial aid suspension due to not meeting standards of satisfactory academic progress, the Office of Student Financial Services will reinstate his/her financial aid eligibility upon receipt of written confirmation from the dean of the respective college that standards of satisfactory academic progress have been met. The Office of Student Financial Services will provide written notification to the student of his/her compliance with standards of satisfactory academic progress, cancellation of his/her suspension and reinstatement of aid. This notification will also be provided to the College Dean in which the student is enrolled, to the Program Director, if applicable, and to the chair of the Financial Aid Committee. Financial aid eligibility will not be reinstated for preceding quarters during the academic year in which the student did not meet standards of satisfactory academic progress.

5. A student on financial aid probation or financial aid suspension may appeal the decision of the Director of Student Financial Services by so indicating in writing to the chair of the Financial Aid Committee. The appeal must include:
   a. Reasons why the minimum academic standards of progress were not met;
   b. Reasons why his/her aid eligibility should not be terminated or should be reinstated; and
   c. A plan that demonstrates a means to bring his/her academic progress up to satisfactory standards within a period of one academic year.

It is the student’s responsibility to provide appropriate documentation to support his or her appeal. This written appeal must be submitted to the chair of the Financial Aid Committee within seven (7) working days after receipt of notification of financial aid probation or suspension.

6. The Chair of the Financial Aid Committee and the committee members will review the appeal. Appeals that do not have the required documentation will be returned to the student for completion prior to review by the committee. The student will be permitted to present his/her appeal to the Financial Aid Committee in person upon written request to the Chair of the Financial Aid Committee. The Financial Aid Committee will vote and render a decision regarding the appeal. The chair of the Financial Aid Committee will send written notification of the decision to the student, the academic dean, and the program director within two (2) weeks of the receipt of the written appeal. In the event that the Financial Aid Committee denies the appeal, the student may then appeal to the Dean of their respective college. A student may appeal to the Dean based upon the following:
   a. New information;
   b. Bias on the part of a committee member; or
   c. Procedural error.

It is the student’s responsibility to provide appropriate documentation to support his or her appeal.

7. Students are limited to a maximum of two (2) appeals of their financial aid status during the course of their stay at MWU.

8. A student may appeal standards of satisfactory academic progress for financial aid eligibility as required by Federal law based on personal mitigating circumstances. Appeals must be submitted in writing to the Dean of his/her college. Appeals must include:
   a. reasons why the standards of program completion per academic year and/or maximum timeframe completion cannot be met;
   b. reasons why he/she should be granted a timeframe extension;
   c. reasons why his/her aid eligibility should not be terminated.
It is the student’s responsibility to provide appropriate documentation of the mitigating circumstances to support his/her appeal. The Dean will review the appeal and render a decision within two (2) weeks of the receipt of the written appeal.

9. In the event that the Dean denies the appeal, the student may then appeal to the President. A student may appeal to the President based upon the following: (a) new information, (b) bias on the part of the dean, or (c) procedural error.

| MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility |
|---------------------------------|---------------------------------|-------------------------------|------------------|
| **Academic Program**           | **Standard & Maximum Time Frames for Program Completion (in years)** | **Expected Program Completion Per Academic Year (% of coursework completed)** | **Minimum Cumulative GPA Requirement** |
|                                | **Standard**                   | **Maximum**                   |                                |
| AZCOM (full-time)              | 4                              | 6                             | 17%                            | 2.00              |
| AZCOM (extended studies)       | 5                              | 6                             | 17%                            | 2.00              |
| CPG-Pharm.D.                   | 3                              | 4.5                           | 22%                            | 2.00              |
| CHS-Biomedical Sciences (M.B.S.) | 2                         | 3                             | 33%                            | 2.75              |
| CHS-Biomedical Sciences (M.A.) | 1                              | 1.5                           | 66%                            | 2.75              |
| CHS-PA M.M.S.                  | 2.25 (27 mos.)                 | 3.33 (40.5 mos.)              | 30%                            | 2.75              |
| CHS-M.O.T.                     | 2.25 (27 mos.)                 | 3.33 (40.5 mos.)              | 30%                            | 2.75              |
| CHS-Cardiovascular Science (M.S.) | 2                       | 3                             | 33%                            | 2.75              |
| CHS Podiatric Medicine (D.P.M.) | 4                              | 6                             | 17%                            | 2.00              |
| CHS CRNA                       | 2.25 (27 mos.)                 | 3.33 (40.5 mos.)              | 30%                            | 3.00              |
| CHS-Clinical Psychology (Psy.D.) | 4                          | 6                             | 17%                            | 3.00              |
| CDMA (full-time)               | 4                              | 6                             | 17%                            | 2.00              |
| CDMA (extended studies)        | 5                              | 6                             | 17%                            | 2.00              |
| AZCLOPT (full-time)            | 4                              | 6                             | 17%                            | 2.00              |
| AZCLOPT (extended studies)     | 5                              | 6                             | 17%                            | 2.00              |
| CHS-PT                         | 3                              | 4                             | 25%                            | 2.75              |

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<tr>
<th>Academic Status Chart for Determining Financial Aid Eligibility</th>
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<tr>
<td><strong>Academic Status</strong></td>
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<tr>
<td>Full-Time</td>
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<tr>
<td>Three-Quarter Time</td>
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<tr>
<td>Half-Time</td>
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<tr>
<td>Less than Half-Time</td>
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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.

**Leave of Absence for Financial Aid Eligibility Policy and Procedure**

**Policy**

A. Any student requesting a leave of absence while enrolled at Midwestern University must adhere to the policies and procedures established by his/her 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:

1. The student must request the leave of absence in writing to the program director, if applicable, with approval from the Dean of the college in which the student is enrolled. The letter should clearly state the reason(s) for the requested leave of absence.

2. MWU may not charge the student for the leave of absence nor for tuition or any educational expenses during the leave of absence. However, in order to continue coverage for long-term disability insurance and/or health and dental insurance, a student on an approved leave is obligated to pay his or her premium. In addition, a student living on campus will be responsible for paying his or her rent, utilities, and covered parking charges.

3. The leave of absence is limited to 90 days.

4. A subsequent leave of absence, not to exceed 90 days, 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).

5. Any additional leaves of absence requested may not exceed a total of 180 days in a 12 month period. This 12 month period begins with the first day of the first leave of absence.

6. A student on an approved leave of absence will retain his/her in-school status.

7. There must be a reasonable expectation that a student will return from a leave of absence to continue his/her enrollment at MWU.

B. For purposes of administering federal financial aid, a student who is receiving Title IV or Title VII financial aid funds and is granted an approved leave of absence that does not meet the above guidelines will be considered to have withdrawn from MWU (for financial aid purposes only). A student who is receiving Title IV or Title VII financial aid funds and is granted an approved leave of absence under the following conditions:

1. 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).

2. A student on an approved leave of absence will retain his/her in-school status.

C. If the student who is receiving financial aid fails to return from the leave of absence at the end of the approved period, 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 last day of an approved leave of absence to calculate a refund and return funds to the lender(s). If a student who is not receiving financial aid is granted a leave of absence by his/her College Dean and fails to return at the end of the approved period, the disposition of such a case will be decided on an individual basis.

D. Before final consideration is given to granting the requested leave of absence, a financial aid administrator will meet with the student and provide information regarding loan obligations, possible revisions in his/her aid package, deferment options and consequences of not returning to MWU at the expiration of the leave of absence.

E. A student on an approved 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. All outstanding balances must be paid in full prior to a student’s return from a leave of absence.

Procedure

A. Upon receiving written notification from the College Dean that a student has been granted an official leave of absence, the Office of Student Financial Services will take the following steps:

1. Recalculate the loan period and cost of attendance based on months of actual enrollment to determine the total amount of financial aid eligibility for the academic year and, if necessary, correct resulting over-awards.

2. Notify the student and lender(s) of the following:
   1. Student’s last date of attendance;
   2. Beginning and ending dates of the approved leave of absence;
   3. Revised cost of attendance and financial aid eligibility;
   4. Revised loan period, if applicable;
   5. Revised graduation date, if applicable; and
   6. Revised student loan disbursement dates, if applicable.

B. The Office of Student Financial Services will promptly return to the lender any loan disbursements received during the approved leave of absence and, if applicable, request that the disbursement be reissued upon the student’s scheduled return to MWU.

C. If the student fails to return at the end of the federally approved 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 perform the following functions:

1. The Office of Student Financial Services will perform refund/repayment calculations.
2. The Office of Student Financial Services will promptly return any federal funds or student loan funds to lender(s) within 45 days of receipt of notification of the student’s failure to return from the approved leave of absence.
3. The Office of Student Financial Services will attempt to contact the student by telephone for a personal exit interview consultation.
4. If the student cannot be contacted by telephone, the financial aid administrator will mail exit interview materials containing information on borrower rights/responsibilities, loan repayment options, loan deferment options, consolidation, total loan indebtedness and consequences of default directly to the student.
5. The Director of Student Financial Services will notify the College Dean and the Program Director, if applicable, of the student’s withdrawal status and the impact the withdrawal has on the student’s financial aid award package.

**Notification of Withdrawal**

A. A student’s withdrawal date is the earlier of the date the student officially notified MWU of the intent to withdraw, or the student’s last date of attendance at a documented academically related activity (exam, turning-in of assignment, academic counseling, advisement, etc.), or the midpoint of the period for a student who leaves without notifying the institution.

B. 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 Dean will conditionally approve a withdrawal until all clearances are obtained.

C. The student must receive clearance of his/her withdrawal from the MWU departments on the http://online.midwestern.edu leave system within seven calendar days from the date of 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.

D. Upon submission of all completed documentation and adherence to all clearance procedures, the Dean will provide an official letter of withdrawal to the student. If a student does not complete his/her on-line exit counseling requirement, the Registrar Office will withhold official academic transcripts.

**Return of Title IV Funds Policy/MWU Refund Policy**

In establishing a refund policy, MWU has instituted and adhered 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). MWU’s refund policy will include the following guidelines:

A. Title IV funds includes the following programs available at MWU, subsidized Federal Direct Stafford loans, unsubsidized Federal Direct Stafford loans, Federal Perkins loans, Federal 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.

B. 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 refunded.

C. Withdrawal After the First Day of Classes Through 60% of the Quarter for Which the Student Is Charged
   - Tuition and student services fee 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 housing for the quarter will be refunded according to the terms on the housing contract.
   - University meal plans will be prorated based on the remaining weeks in the quarter.
   - For students on a leave of absence, disability and health insurance fees paid to the University for the quarter will not be refunded. A student will be obligated to pay his/her premium through the end of the quarter.

D. Withdrawal After 60% of the Quarter for Which the Student is Charged
   - No refund of tuition or student services fee will be made.
   - University housing for the quarter will be refunded according to the terms on the housing contract.
   - All refunds on University meal plan costs will be prorated based on the remaining weeks in the quarter.
   - For students on a leave of absence, disability and health insurance fees paid to the University for the quarter will not be refunded. A student will be obligated to pay his/her premium through the end of the quarter.

E. If a Subsequent Quarter(s) Has Been Prepaid
   - 100% of tuition, student services fee, University housing, health insurance fee, and disability insurance fee will be refunded.

F. 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 refunded 100%
provided that the laptop 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.

G. All Non-institutional Costs (living, personal, transportation, and book/supply expenses)
   • Will be prorated based on the percentage of the quarter completed.

H. All refunds will be distributed in the following order as prescribed by federal law:
   1. Unsubsidized Federal Direct Stafford Loan
   2. Subsidized Federal Direct Stafford Loan
   3. Federal Perkins Loan
   4. Federal Direct Graduate PLUS Loan
   5. Other Title IV Aid Programs
   6. Other Federal Sources of Aid (PCL)
   7. Other state or private aid *
   8. Institutional Aid (MWU Need-Based Scholarship, departmental loans and scholarships)**
   9. 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 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 charges that he/she owes to the institution.

I. Students who borrowed and received monies from the unsubsidized/subsidized Federal Direct Stafford loans, Federal Direct Graduate PLUS loans, Federal Perkins loans, institutional (MWU) 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).

J. Upon request by the student, examples of refund worksheets and calculations will be available for distribution in the Office of Student Financial Services.

K. Students who feel that individual circumstances warrant exceptions from published policy may appeal the Return of Title IV Funds policy. Student appeals need to be submitted to the academic dean of the appropriate college.

ACADEMIC CALENDAR

SUMMER QUARTER 2010
Memorial Day *No Class*
OCM IV Didactic Lectures
Classes Resume (PS11)
Orientation (PS13/PAI/NAI/PTI)
Commencement (MS, CVSP, PM, BMS) *See Syllabus for Class Schedule*
Classes Begin (PS13/PAI/NAI/PTI) Resume
(OTII/OTIII/BMS/PMI/PMII/CPI/CPII/CPPII/DM3)
Commencement (PS10) *See Syllabus for Class Schedule*
OCM III Introduction to Clerkship
Independence Day *No Class*
Last Day of Class (PS11)
Quarterly Exams (PS11)
Last Day of Class (PS13/PAI/NAI/OTII/BMS/PMI/PMII/CPI/CPII/CPIII/PTI)
Quarterly Exams
(PS11/PS13/PAI/NAI/OTII/OTIII/BMS/PMI/PMII/PMII/CPI/CPII/CPPII/PTI)
Quarter Break (PS11)
Quarter Break (PS13/PAI/NAI/OTII/OTIII/BMS/PMI/PMII/PMII/CPI/CPII/CPPII/PTI)
Commencement (PA, OT, NA, CP-MA) *See Syllabus for Class Schedule*

FALL QUARTER 2010
Orientation (MSI/PMI)
Classes Begin (MSI/PMI)
Orientation (OTI/BMS/CVSPI/CPI/DMI/OPI)
Program Completion (PAIII)
Classes Begin
(MSII/PS12/PS13/PAI/NAI/PMII/PMIII/OTI/OTII/BMS/CVSPI/CPI/CPII/CPPII/DMI/
   DMII/DMIII/OPI/OPII/PTI)
Labor Day *No Class*
White Coat Ceremony
Last Day of Class
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Quarterly Exams
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Thanksgiving Break
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)

WINTER QUARTER 2010-2011
Classes Begin
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Winter Break
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Classes Resume
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIIII/DMII/DMIII/OPI/OPII/PTI)
Martin Luther King, Jr. Day *No Class*
CAREErxPO (CPG)
Last Day of Class
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Quarterly Exams
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Spring Break
(MSI/MSII/PS12/PS13/PAP/NAP/PMI/PMII/OTI/OTII/BMS/CVSP/CPI/CPII/CPIII/
DMI/DMII/DMIII/OPI/OPII/PTI)

SPRING QUARTER 2011
Classes Begin
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Last Day of Class
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
Quarterly Exams
(MSI/MSII/PS12/PS13/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSP/CPI/CPII/
CPIII/DMII/DMIII/OPI/OPII/PTI)
OCM III Exam Week (MSIII)
Quarter Break (PS12/PS13)
Quarter Break (NAI/PMI/PMII/OTI/OTII/BMS/CPI/CPII/CPIII/DMII/PTI)
Quarter Break (MSII)
OCM III Exam Week (MSIII)
Quarter Break (MSII)
Prep for Clinical Practice (PAI/CVSP)
Memorial Day *No Class*
Quarter Break (PAI/CVSP)
Commencement (MS, CVSP, PM, BMS) *See Syllabus for Class Schedule*
Commencement (PS11) *See Syllabus for Class Schedule*
MISSION
The mission of the Arizona College of Osteopathic Medicine (AZCOM)–Midwestern University (MWU) is to meet the contemporary societal need for physicians by emphasizing care and educational experiences needed to serve all communities. The curriculum provides an innovative academic foundation incorporating the philosophy of osteopathic principles and practices, striving to be fully integrated throughout the basic and clinical sciences, while promoting faculty development and research.

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 2014 having received a 7 year accreditation in 2007.

For further information, please contact the Commission on Osteopathic College Accreditation, American Osteopathic Association, 142 E. Ontario St., Chicago, IL 60611; 800/621-1773.

DEGREE DESCRIPTION
Upon graduation from Arizona College of Osteopathic Medicine, the Doctor of Osteopathic Medicine (DO) degree is granted. The usual length of the course of study is 4 academic years. The curriculum consists of 2 years of primarily didactic instruction followed by 2 years of primarily clinical rotations including the applicable didactic material. Upon graduation with the DO degree, the graduate is eligible for postdoctoral residency training in all fields of medicine.

Students in good standing may apply to the AZCOM Dean for a combined D.O./Master’s program in Bioethics (M.A.).

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 prerequisite coursework.
   - 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 regionally accredited colleges or universities prior to matriculation.
   - Applicants participating in special affiliated programs with the College and other exceptions to this policy will be considered on an individual basis.

3. Competitive scores on the Medical College Admissions Test (MCAT).
   - Average MCAT score for students entering in 2009 was 27
   - Only MCAT exam scores earned from tests taken no more than 3 years prior to the matriculation date of the planned enrollment year are acceptable
   - Register for MCAT tests through the MCAT Program Office at 319/337-1357 or visit www.aamc.org/students/mcat for information
   - MCAT exams are offered multiple times throughout the year

4. Two letters of recommendation are required.
   - One letter from either a premedical advisory committee or science professor who has taught the applicant
Students seeking admission to AZCOM must:

1. Demonstrate understanding of and sincere 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 oral and written communication skills necessary to interact with patients and colleagues.
5. Pass the Midwestern University criminal background check.
6. Commit to abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.
7. Meet the Technical Standards for the College.

Admission Prerequisites

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</tr>
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<tbody>
<tr>
<td>Biology with Lab</td>
<td>8 Semester</td>
</tr>
<tr>
<td>General Chemistry with Lab</td>
<td>8 Semester</td>
</tr>
<tr>
<td>Organic Chemistry with Lab</td>
<td>8 Semester</td>
</tr>
<tr>
<td>Physics</td>
<td>8 Semester</td>
</tr>
<tr>
<td>English Composition</td>
<td>6 Semester</td>
</tr>
</tbody>
</table>

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

International Applicants

An international applicant 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

Competitive Admissions

Within their 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. For the class that matriculated in the fall of 2009, AZCOM received nearly 3,300 applications for its 250 seats.

Rolling Admissions

AZCOM uses a rolling admissions process in which applications are reviewed and interview decisions are made at regular intervals during the admissions cycle. Interviews are conducted and selection decisions for the College are made until the classes are 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 ACOMAS 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.

1. ACOMAS Application - January 1st Deadline

   To initiate the application process, all applicants must apply online via the centralized application service administered by ACOM at http://aacomas.aacom.org/. The ACOMAS application is typically available in early June. As part of this process, students must submit official MCAT scores (for tests taken no earlier than January 2008) and official transcripts directly to ACOMAS. The Office of Admissions will not accept MCAT scores or transcripts submitted directly to Midwestern University. The deadline for submission of the ACOMAS application is January 1.

2. AZCOM Supplemental Application - March 1st Deadline

   Upon receipt of the ACOMAS 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 along 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 1, 2010.

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

Applicants must submit two letters of recommendation. One letter must be written by a prehealth advisory committee or science professor who has taught the applicant. The second letter must be written by a physician, either a D.O. or an 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 1, 2010. Letters must adhere to the following guidelines:

- The applicants full legal name and AACOMAS ID number must be on the front page of the recommendation. Please provide this information to evaluator.
- Letters must be sent directly from the evaluator and must be printed on letterhead stationary, which includes the complete contact information for evaluator.
- The evaluator’s academic degrees must be listed (e.g., Ph.D., D.O., M.D.).
- Students who have previously applied to AZCOM must submit new letters of recommendation.
- Letters from immediate family members will NOT be accepted.

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

All application materials, including the AACOMAS application, MCAT scores (as reported to ACOMAS), 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.

5. **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 ACOMAS application, official MCAT scores (as reported to ACOMAS), supplemental application materials, processing fee, and both required letters of recommendation. Students 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 your application information on the university web site will be sent to you by the Office of Admissions. Please keep the Office of Admissions informed of any changes to your 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 ACOMAS and with AZCOM. Please follow ACOMAS’s 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 “Waiting List” pending possible interview openings toward the end of the interview cycle. The on-campus interview process typically begins in September and ends in April.

When applicants accept interview appointments, they join other interviewees to meet with members of a three-person interview panel—a panel selected from a volunteer group of basic scientists, current students, administrators, and clinicians. Team members question applicants about their academic, personal, and prior health care experiences that may prepare them for medical school, and they rate applicants on a standardized evaluation form relative to each variable. At the conclusion of the interviews, the team 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 for final approval. The Dean, via the Office of Admissions, notifies students of their status within three or four weeks of their interview.

The interview process typically begins in September and ends in April.

### Technical Standards

The educational mission of AZCOM is to produce competent osteopathic physicians, emphasizing primary care but including traditional specialties and subspecialties. Because the D.O. degree signifies that the holder is a physician prepared for entry into the practice of medicine within postgraduate training programs, graduates must have the knowledge and skills to function in a broad variety of clinical situations and to render a wide spectrum of patient care, including direct hands-on analysis and treatment.

Accordingly, the following abilities and expectations must be met by all students admitted to AZCOM with reasonable accommodation. A candidate must have abilities and skills in
five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in some areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the academic dean (and program director), will identify and discuss what accommodations, if any, the College(/Program) would need to make that would allow the candidate to complete the curriculum. The College(/Program) 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 in their professional program.

Matriculation Process
To initiate the matriculation process, newly accepted students must return both their signed matriculation agreement and their deposit by the date designated in their matriculation agreement. To conclude the matriculation process, a student must also:

1. Submit deposit monies and administrative fees by the dates designated in their matriculation documents. Deposits are applied towards first quarter’s tuition.

2. Submit official transcripts from all colleges attended post–high school by the deadline of two weeks (14 calendar 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. (Note: The information provided on AACOMAS application is verified against the information provided on the student transcripts. Offers of admission are revoked when course and degree information on student applications cannot be verified).

3. Submit completed medical files as instructed in the information sent by the Office of Student Services.

4. Submit proof of medical and disability insurance coverage. Students may select either a plan offered by AZCOM or an AZCOM-approved outside carrier of their choice.

5. Provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending AZCOM (for non–U.S. citizens/nonpermanent residents only).

6. Submit additional documents as required by the Office of Admissions.

7. Authorize and pass the Midwestern University criminal background check.

8. Sign and submit a Midwestern University Drug-Free Workplace and Substance Abuse policy Statement.

9. Complete a physical exam and submit form.

10. Sign and submit a Credit Policy Statement.
Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an interview with another Midwestern University program if the student:

1. is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, that is equal to or greater than 3.0; and
4. achieves a score on the professional entrance exam (if required) that is not less than one standard deviation below the mean score for students that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Combined D.O./Master’s Program

Through the Biomedical Sciences Program of Midwestern University, D.O. students may enroll in a dual degree option in Bioethics (M.A.). This degree is intended to supplement the educational experience and career opportunities for D.O. students. The degree can be completed while simultaneously completing the requirements for the D.O. degree.

The Bioethics Program will provide students with the background necessary to understand the process by which ethical decisions that relate to patient care and health care practice are made.

See the Biomedical Sciences Program catalog, or call the Office of Admissions for more details.

Deferred Admission

Deferments are only considered under extreme circumstances in which students are physically unable to begin classes due to a medical condition. If granted, students may defer their admission for one year only.

To initiate the deferred admission process, students must request deferment in writing to the Director of Admissions by the date designated in their matriculation agreements. These requests must be accompanied by a letter(s) from the student’s physician(s) documenting the conditions that prevent students from beginning their medical education. The Director will respond to written requests with a letter detailing the specific conditions associated with deferral. Typically, the conditions include:

1. At the time of their deferral requests, students must submit their remaining deposit monies by the first week of December during the year preceding their matriculation.
2. Students must provide letters from their physicians stating that students can begin their medical education.

Students who are granted deferments are NOT required to interview again or submit another supplemental application or letters of evaluation.

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.

Students requesting transfers must meet the College’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 designates available transfer positions, applications will be sent.
4. Students must return their completed applications to the Office of Admissions and must include: transcripts from the COM, class rank (must be in top 50%), statement of reason for transfer, Dean’s letter verifying “Good Academic Standing,” a letter of reference from the Dean of Student Affairs, and COMLEX Level 1 scores, if available.
5. Completed applications are forwarded to the Dean of AZCOM.
6. The Dean’s Advisory Council conducts interviews with applicants.
7. Recommendations are forwarded to the Dean of AZCOM for final approvals.
8. Applicants are notified by the Dean through the Office of Admissions of the final transfer decision.

Graduation Requirements

The degree Doctor of Osteopathic Medicine 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 required to attend the ceremony at which the degree is conferred, unless excused by the Dean.

Students must pass COMLEX Level I and both components of the COMLEX Level II examinations of the National Board of Osteopathic Medical Examiners. A minimum of 45 months must elapse between the date of matriculation and graduation.

**Licensure Requirements**

Osteopathic physicians can obtain full practice rights in all 50 states as well as many foreign countries. To obtain licensure, osteopathic physicians must meet the requirements established by individual states. Typically, states grant licensure in one of two ways:

1. Many states accept a certificate issued by the National Board of Osteopathic Medical Examiners and/or the United States Medical Licensing Examination (USMLE).
2. The state honors a formal, or informal, reciprocity agreement with another state(s).

Postdoctoral requirements vary among states. For example, Illinois requires at least two years of postdoctoral training for licensure.

For further information concerning licensure, please contact the American Osteopathic Association (AOA) at (800)621-1773.

**Curriculum**

**First Year**

**Fall Quarter (10 weeks) Credit hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAT 1511</td>
<td>Gross Anatomy I</td>
<td>5.0</td>
</tr>
<tr>
<td>BIOC 1511</td>
<td>Biochemistry I</td>
<td>7.0</td>
</tr>
<tr>
<td>CORE 1560</td>
<td>Interdisciplinary Healthcare</td>
<td>0.5</td>
</tr>
<tr>
<td>FMED 1511</td>
<td>Clinical Correlates/ICM I</td>
<td>3.0</td>
</tr>
<tr>
<td>HIST 1511</td>
<td>Histology/Embryology I</td>
<td>4.4</td>
</tr>
<tr>
<td>OMEG 1511</td>
<td>Osteopathic Medicine I</td>
<td>2.5</td>
</tr>
<tr>
<td>PSYC 1511</td>
<td>Intro. to Human Behavior I</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
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**Winter Quarter (10 weeks)**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAT 1522</td>
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<tr>
<td>BIOC 1522</td>
<td>Biochemistry II</td>
<td>4.0</td>
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<td>CORE 1570</td>
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<td>Clinical Correlates/ICM II</td>
<td>3.0</td>
</tr>
<tr>
<td>HIST 1522</td>
<td>Histology/Embryology II</td>
<td>1.5</td>
</tr>
<tr>
<td>OMEG 1522</td>
<td>Osteopathic Medicine II</td>
<td>2.5</td>
</tr>
<tr>
<td>PHYS 1521</td>
<td>Physiology I</td>
<td>5.5</td>
</tr>
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<td>Intro. to Human Behavior II</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>23.0</strong></td>
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**Spring Quarter (10 weeks)**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CORE 1580</td>
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<tr>
<td>FMED 1531</td>
<td>Clinical Ethics/Medical Jurisprudence</td>
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</tr>
<tr>
<td>FMED 1533</td>
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<td><strong>Total</strong></td>
<td></td>
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**Curriculum**

**Second Year**

**Fall Quarter (10 weeks)**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
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<tr>
<td>CMED 1613</td>
<td>Patient Care Experiences I</td>
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<tr>
<td>FMED 1614</td>
<td>Clinical Correlates/Case Presentations IV</td>
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</tr>
<tr>
<td>ICMD 1614</td>
<td>Intro. to Clinical Medicine IV</td>
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<tr>
<td>MICR 1611</td>
<td>Microbiology I</td>
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<tr>
<td>OMEG 1614</td>
<td>Osteopathic Medicine IV</td>
<td>2.5</td>
</tr>
<tr>
<td>PATH 1611</td>
<td>Pathology I</td>
<td>6.0</td>
</tr>
<tr>
<td>PHAR 1611</td>
<td>Pharmacology I</td>
<td>4.0</td>
</tr>
<tr>
<td>PSYC 1611</td>
<td>Mandatory Elective(s)</td>
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**Winter Quarter (10 weeks)**

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<th>Course Title</th>
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<tr>
<td>CMED 1624</td>
<td>Patient Care Experience II</td>
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<td>FMED 1625</td>
<td>Clinical Correlates/Case Presentations V</td>
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<tr>
<td>ICMD 1625</td>
<td>Intro. to Clinical Medicine V</td>
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</tr>
<tr>
<td>MICR 1622</td>
<td>Microbiology II</td>
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<td>OMEG 1625</td>
<td>Osteopathic Medicine V</td>
<td>2.5</td>
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<td>Pathology II</td>
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**Spring Quarter (10 weeks)**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
<td>CLMD 1631</td>
<td>Introduction to Radiology</td>
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<tr>
<td>CLMD 1632</td>
<td>Board Preparation</td>
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<tr>
<td>FMED 1630</td>
<td>Clinical Medicine Capstone</td>
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<td>OMEG 1636</td>
<td>Osteopathic Medicine VI</td>
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<tr>
<td>PATH 1633</td>
<td>Pathology III</td>
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<td>PHAR 1633</td>
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<td>PSYC 1634</td>
<td>Psychopathology IV</td>
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**Third Year**

**Summer, Fall, Winter, and Spring Quarters (**54 weeks**)**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
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<tr>
<td>CLMD 1701</td>
<td>Osteopathic Clinical Medicine III-CE</td>
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<td>CLMD 1702</td>
<td>Osteopathic Clinical Medicine III-PE</td>
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<td>FMED 1701</td>
<td>Family Medicine I (4 wks)</td>
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<tr>
<td>FMED 1703</td>
<td>Primary Care (4 weeks)</td>
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<tr>
<td>IMED 1701</td>
<td>Gen. Internal Med. I (4 wks)</td>
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<td>IMED 1702</td>
<td>Gen. Internal Med. II (4 wks)</td>
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</tr>
<tr>
<td>OBGY 1701</td>
<td>Obstetrics/Gynecology (4 weeks)</td>
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<tr>
<td>PEDI 1701</td>
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<tr>
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<td>Course Title</td>
<td>Weeks</td>
</tr>
<tr>
<td>------------</td>
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<td>-------</td>
</tr>
<tr>
<td>PSYC 1701</td>
<td>Psychiatry (4 weeks)</td>
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<tr>
<td>RURL 1701</td>
<td>Rural/Underserved Medicine (4 weeks)</td>
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<tr>
<td>SURG 1701</td>
<td>General Surgery (4 weeks)</td>
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**Total** 54.0

*Total weeks includes orientation and a holiday break/vacation.

**Fourth Year**  
**Summer, Fall, Winter, and Spring Quarters (*40 weeks)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Weeks</th>
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<tr>
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<tr>
<td>IMED 1803</td>
<td>Subspecialty Medicine</td>
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<tr>
<td>IMED 1804</td>
<td>Critical Care (4 weeks)</td>
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<tr>
<td>SURG 1802</td>
<td>Subspecialty Surgery II</td>
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<tr>
<td>ELEC 1801</td>
<td>Electives (24 weeks required)</td>
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**Total** 40.0

*Four (4) weeks of (not for credit) elective time may be scheduled as a rotation, vacation, interview, study time, or be used as additional "for credit" elective rotations.

**Total Curricular Hours**

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>70.4</td>
</tr>
<tr>
<td>Second</td>
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</tr>
<tr>
<td>Elective</td>
<td>2.0</td>
</tr>
<tr>
<td>Third</td>
<td>54.0</td>
</tr>
<tr>
<td>Fourth</td>
<td>40.0</td>
</tr>
<tr>
<td>Total</td>
<td>230.9</td>
</tr>
</tbody>
</table>

Note: The Arizona College of Osteopathic Medicine reserves the right to alter its curriculum however and whenever it deems appropriate.

**Elective Courses**
Students are required to accumulate a total of 2 credit hours of approved elective courses by the end of second year.

**Clinical Rotations**

*Required Core Rotations*
Students must successfully complete required clinical rotations in the following disciplines: family medicine, internal medicine, surgery, pediatrics, cardiology, psychiatry, and obstetrical/gynecology at AZCOM in-system rotation facilities. There are also required rotations in emergency medicine, critical care, subspecialty medicine, subspecialty surgery, rural/underserved medicine, and primary care medicine. Primary Care and/or rural rotations may be done at either in-system or approved out-of-system sites. All other core rotations must be done in-system.

**Required Elective Rotations**
Students must successfully complete a minimum of 24 weeks of elective rotations during their fourth year in recognized disciplines of medicine. This may include the following specialties: anesthesiology, cardiology, family medicine, osteopathic manipulative medicine, dermatology, gastroenterology, hematology/oncology, infectious disease, nephrology, neurology, neurosurgery, nuclear medicine, endocrinology/metabolism, obstetrics/gynecology, ophthalmology, orthopedic surgery, otolaryngology, pathology, radiology, rheumatology/immunology, cardiovascular/thoracic surgery, PM&R, and urology.

Students may also schedule a four week elective in international medicine and/or research. Other specialized rotations are available on request.

Students are restricted to a maximum of eight weeks of elective rotations in any one discipline. The appropriate Department Chair may be petitioned for prior approval for up to an additional four weeks of rotations in that discipline.

Elective clinical rotations may be done at osteopathic, allopathic, or military institutions. To be eligible for academic credit, elective rotation schedules must be planned with the assistance of, and approval by, the appropriate clinical department chairs.

**Breaks/Vacation**
There is a one week holiday break at the end of the calendar year during the third and fourth years. In addition, there is a one week break for senior week/graduation preparation culminating in the Friday graduation in June for fourth year students.

Students may arrange academic breaks to attend out-of-area interviews, take COMLEX-USA Level II-PE, or to study for COMLEX-USA Level II-CE.

**Department Descriptions**

**Department of Anatomy**
Through a comprehensive course of study in gross anatomy, embryology, histology, and neuroscience, the anatomy section 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 anatomy courses. In Gross Anatomy, all students participate in the dissection of the cadaver under the guidance of the Anatomy faculty.

Dissection is supplemented by the study of surface projections, models, osteologic specimens, radiographs and transverse sections. The microscopic structure of cells and their organization into tissues and organs are presented in the
Histology course. In Embryology, students study the normal pattern of human development with an emphasis on the development of specific organ systems. The Neuroscience course is a multidisciplinary course that incorporates several of the basic science disciplines and uses case studies to apply and reinforce basic concepts and new trends in the field of neuroscience.

Department of Biochemistry
Biochemistry is the science concerned with cellular constituents at the molecular level and all the reactions that take place within a living cell. A biochemical understanding of molecular and cellular components in health enables physicians to appreciate how the properties and function of these components are altered in disease. Biochemistry is fundamental to understanding all branches of the life sciences. The course is offered during the first two terms of medical school and is composed of both lectures and workshops. Workshops are conducted with small groups using case-based learning to apply the application of biochemical concepts in a clinical setting.

Department of Clinical Education
The Department of Clinical Education offers several courses throughout the four (4) years of medical school. The purpose of clinical courses is to prepare the medical student for the clinical experiences during the third and fourth years of medical school. In addition, the Department of Clinical Education aims to assist the medical student in achieving the integration of knowledge in the development of differential diagnoses, the reporting of patient care, and the development of professional skills.

Department of Family Medicine
The Department of Family Medicine is responsible for several clinical courses in the first two years as well as the core clinical rotations in Family Medicine, Rural Medicine, Primary Care and Osteopathic Medicine. It facilitates specialty-specific didactic lectures during the first, second, third and fourth years. The department is also responsible for elective rotations including, but not limited to Public Health/Preventative Medicine, Rehabilitation Medicine, Sports Medicine, Dermatology, Addiction Medicine, and international rotations. Specialty-specific small and large group lectures are provided by department faculty throughout the clinical years, as well as facilitated OSCE experiences.

Department of Integrated Medicine
The Department of Integrated Medicine is responsible for required core clinical rotations in Psychiatry and Emergency Medicine, and elective rotations including, but not limited to Radiology, Pathology and Laboratory Medicine, and Preventive Medicine. It facilitates specialty-specific didactic lectures during the second, third and fourth years.

Department of Medicine
The Department of Medicine is responsible for required core clinical rotations in General Internal Medicine, Cardiology, Critical Care, and the medical subspecialties. It is responsible for elective rotations in Cardiology, Rheumatology, Gastroenterology, Hematology/Oncology, Neurology, Allergy/Immunology, Infectious Disease, Pulmonology, Nephrology, and Geriatrics. It delivers or facilitates didactic lectures, small group tutorials, objective structured clinical examinations and curricular instruction in all areas of Internal Medicine while preparing, grading and conducting remediation examinations both written and practical in the discipline. It oversees and develops the Clinical Department of Medicine faculty.

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 Obstetrics and Gynecology
The Department of OB/GYN is responsible for the required core clinical rotation in Obstetrics and Gynecology. It facilitates specialty-specific didactic lectures during the second, third and fourth years. The department is also responsible for elective rotations in related subspecialties.

Department of Osteopathic Manipulative Medicine
The Department of Osteopathic Manipulative Medicine is responsible for integrating the first two years of basic Osteopathic Manipulative Medicine into the clinical curriculum of years three and four. All aspects of the clinical application of osteopathic philosophy, science and methods, including appropriate use of osteopathic manipulative treatment, are considered and facilitated.

Department of Pediatrics
The Department of Pediatrics is responsible for the required core clinical rotation in General Pediatrics. It facilitates specialty-specific didactic lectures during the second, third and fourth years. The department is also responsible for elective rotations including, but not limited to pediatric subspecialties and adolescent medicine.
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. Pharmacologic knowledge per se is valueless unless health care professionals can apply the information in their daily practice of medicine. Physicians must be able to 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.

Department of Physiology
The Physiology Department 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 and workshops 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 is responsible for the required core clinical rotation in General Surgery. The department facilitates specialty-specific didactic lectures during the second, third and fourth years including a series of skills labs beginning in the second year that help prepare all students for their clinical rotations. The department is also responsible for elective rotations including, but not limited to Ophthalmology, Otolaryngology, Plastic and Reconstructive Surgery, Orthopedic Surgery, Proctology, Anesthesiology, Neurological Surgery, Thoracic/Cardiovascular Surgery, Vascular Surgery, and Urology. The department has an active program in counseling and preparing students for the residency match including planning of third and fourth year clinical rotations, audition rotations, rotational preparation sessions and mock interview preparation.

COURSE DESCRIPTIONS
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.

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

ANAT 1511 Gross Anatomy I
In this course, students approach the study of the human body in a regional manner with sequential study of the back, upper extremities, body wall, thoraco-abdominal cavity and contents. Included in the dissection of each region are the musculoskeletal, vascular, nervous and lymphatic components, relevant surface anatomy, and imaging of the region. The lectures and laboratories are coordinated with the Histology/Embryology course to provide an overall anatomic view of each region. This course involves lecture and dissection in the laboratory, and student progress is evaluated through written and practical examinations.
5 credits

ANAT 1522 Gross Anatomy II
In this portion of the Gross Anatomy course, students continue their regional study of the body by examining the pelvis and perineum, lower extremities, and the head and neck. Regional coordination with the Histology/Embryology course continues. This course also involves lecture and dissection in the laboratory and testing by written and practical examinations.
5 credits

BIOC 1511 Biochemistry I
Course modules feature protein structure and enzymes emphasizing structure-function relationships; cell biology emphasizing how cells move, grow, and divide; molecular biology emphasizing the role of nucleic acids in storage and expression of genetic information; and intermediary metabolism emphasizing degradation and synthesis of carbohydrates, lipids, and amino acids. Clinical aspects as well as regulation and coordination of biologic processes during the fed and fasted states are emphasized. Workshops introduce the biochemical basis of common clinical laboratory tests and/or illustrate clinical applications of biochemical concepts.
7 credits

BIOC 1522 Biochemistry II
This course has modules on human nutrition emphasizing the importance of nutrition in health and preventive medicine; human genetics emphasizing the inheritance of selected genetic disorders; and tissues and organs emphasizing the customization and adaptation of biochemical pathways in specialized cells. The workshops introduce the biochemical basis of common clinical laboratory tests and/or they illustrate clinical applications of biochemical concepts.
Selected workshops feature a modified problem-based learning environment.
4 credits

CARD 1701 Core Cardiology Rotation
This third year, 4-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, and patient care management.
4 credits

CLMD 1631 Introduction to Radiology
Presented in the spring quarter of the second year, this course provides clinical lectures to prepare students to recognize and understand the utilization of common imaging procedures.
1 credit

CLMD 1632 Board Preparation
This course will provide the student a solid preparation for Level 1 of the medical licensing board examinations. The student will learn how to plan out a reasonable study schedule, know the recommended review texts, and learn the level of medical knowledge needed to excel on the licensing exam. The curricular content will blend both basic science and clinical medicine to allow for integration and critical thinking. Ultimately, the goal is for students to surpass the national average score on the examination, which will assist them in attaining residency placement and further the quality of future physicians.
3 credits

CLMD 1701 Osteopathic Clinical Medicine III-CE
Osteopathic Clinical Medicine III (OCM III) is a year-long course during the MSIII year composed of the following components:

Introduction to Clerkship: Involves large group lectures on administrative and clinical academic topics relevant to the beginning of clinical rotations. It also involves Objective Structured Clinical Examinations (OSCEs), which are conducted to evaluate the student’s history and physical examination skills prior to being allowed to begin clinical rotations.

Didactic Weeks: Three weeks during the academic year which consist of OSCEs, Department Small Group Didactics, Department Small Group Laboratory Experiences, Department Large Group Didactics, OMM Small Group Studies and Simulation Experiences.

Final Year-End Testing: Consists of a final NBME comprehensive shelf examination. Students must pass the comprehensive shelf examination in order for students to be allowed to progress into the MSIV year.
7 credits

CLMD 1702 Osteopathic Clinical Medicine III-PE
At the end of the third year, students participate in a series of Objective Structured Clinical Examinations (OSCEs) as part of their summative evaluation. Students are graded across three domains: history and physical skills, interpersonal and communication skills, and written documentation skills. The OSCEs are structured to mirror the COMLEX Level 2 Physical Examination that each student must take and pass as a requirement for graduation.
3 credits

CMED 1613 Patient Care Experience I
This course is designed to help students make the transition from a screening history and physical examination of patients without a chief complaint to a problem-focused history and physical examination for the patient with a chief complaint.

Emphasis will be on: 1) generating differential diagnoses; 2) obtaining a problem-focused history; 3) performing a problem-focused physical examination; 4) oral presentation skills; 5) obtaining a medical history from various patients; 6) assisting students in developing the skills necessary to examine patients of different ages with different problems; 7) documentation.

Students will gain experience in formulating diagnostic and treatment plans through their participation in interactive group individual Objective Structured Clinical Examinations (OSCEs), and standardized patients. The individual OSCE experiences will be designed to give students the opportunity to conduct history and physical examinations on patients of various ages with different problems.
1 credit

CMED 1624 Patient Care Experience II
This course is a continuation of the CMED 1613 course and is designed with three major teaching goals:

1) Provide experiences in how to perform the female breast/pelvic examination and the male genitourinary/prostate examination. 2) Continue assisting students in developing their skills in performing a problem-focused history and physical examination in an Objective Structured Clinical Examination (OSCE) on standardized patients with a chief complaint. Emphasis will be on: generating differential diagnoses, obtaining a problem-focused history, performing a problem-focused physical exam, performing a problem-
focused history and physical examination professionally and with the proper interpersonal skills, developing an appropriate SOAP note. 3) Provide a surgical skills introductory laboratory experience. 1 credit

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs. 0.5 credits per quarter

ELEC 1801 Elective Rotations
Students have 28 weeks of electives during the fourth year but may designate four of those weeks as additional rotation, study, interview, or vacation time. Elective rotations must be done in four week blocks, although students can petition the respective clinical department chair to be allowed to split an elective into two 2-week blocks. Students may request to do electives in basic science or clinic research. Additionally, one 4-week elective can be used for an international rotation. All electives must be approved by the appropriate Chair in the Department of Clinical Education. Additional policies regarding electives are provided in the Clinical Education Policies Manual. 24 credits

EMED 1801 Emergency Medicine Core Rotation
This fourth-year rotation consists of 4 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 usually seen only in the hospital emergency department setting. 4 credits

FMED 1511 Clinical Correlates/ICM I
Clinical Correlates/Introduction to Clinical Medicine I presents basic history and physical exam skills and provides laboratory experiences. Normal and abnormal findings are illustrated through clinical cases. The development of clinical reasoning skills is emphasized. Training is enhanced by guest lecturers, and history and physical experiences. 3 credits

FMED 1522 Clinical Correlates/ICM II
Clinical Correlates/Introduction to Clinical Medicine II presents basic history and physical exam skills and provides laboratory experiences. Normal and abnormal findings are illustrated through clinical cases. The development of clinical reasoning skills is emphasized. Training is enhanced by guest lecturers, blood draw and injection labs, and history and physical experiences. 3 credits

FMED 1531 Clinical Ethics/Medical Jurisprudence
This course covers complimentary topics and aspects of care that will be necessary to formulate a solid foundation for clinical medicine as it relates to clinical ethics, medical jurisprudence, and end of life care. Instruction is provided by a practicing attorney, a member of the state medical board, and a palliative care physician. Ethical issues regarding life and death, medical malpractice, professionalism, and laws regarding documentation and patient privacy are discussed. 1.5 credits

FMED 1533 Clinical Correlates/ICM III
Clinical Correlates/Introduction to Clinical Medicine III presents basic history and physical exam skills and provides laboratory experiences. Normal and abnormal findings are illustrated through clinical cases. The development of clinical reasoning skills is emphasized. Training is enhanced by standardized patients, guest lecturers, and history and physical experiences. 3.5 credits

FMED 1614 Clinical Correlates/Case Presentations IV
This course utilizes a case-based format to link the preclinical and clinical years of the medical school curriculum. Medical problem solving with emphasis on evidence-based medicine and correlation of the basic science curriculum is presented in an interactive forum. 3 credits

FMED 1630 Clinical Medicine Capstone
Clinical Capstone, in spring of 2nd year, continues to link the preclinical and clinical years of the medical school curriculum. Clinical lectures concentrate on topics to ready the student for rotations, including ACLS. In addition, weekly cases are presented and students work either in groups or individually to formulate differential diagnoses and treatment plans. SOAP notes, admission notes, prescriptions and orders are written weekly in the first section of the
course. Various other topics are included such as Pediatrics, OB-GYN, Sports Medicine and Orthopedics. ENT, Ophthalmology and Evidence Based Medicine are also discussed. 3.0 credits

**FMED 1625 Clinical Correlates/Case Presentations V**
This course utilizes a case-based format to link the preclinical and clinical years of the medical school curriculum. Medical problem solving with emphasis on evidence-based medicine and correlation of the basic science curriculum is presented in an interactive forum.
3 credits

**FMED 1701 Family Medicine Core Rotation I**
The Family Medicine I core rotation consists of a four week experience in 3rd year, which is 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. This experience is supplemented by small group tutorials, online cases and reading objectives. Additionally, hands-on OMM training, small group sessions and large group lectures are provided in the didactic weeks.
4 credits

**FMED 1702 Family Medicine Core Rotation II**
The Family Medicine II core rotation consists of a four week experience in 3rd 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. This experience is supplemented by small group tutorials, online cases and reading objectives. Additionally, hands-on OMM training, small group sessions and large group lectures are provided in the didactic weeks.
4 credits

**FMED 1703 Primary Care Rotation**
Students may arrange for a Primary Care rotation either in Arizona, or at an out-of-state site. Any out-of-state site must be approved by the Department Chair who oversees that particular discipline. In addition, out-of-state rotations require an affiliation agreement or letter of understanding prior to the start of the rotation. This will be initiated by the Department of Clinical Education once Chair approval for the rotation has been obtained. Rotations may be done in family medicine, general internal medicine, general surgery, osteopathic manipulative medicine, pediatrics, obstetrics-gynecology, and urgent care. No rotations with family members are permitted.
4 credits

**HIST 1511 Histology/Embryology I**
In Histology, students study the structure of the cell and the distinguishing morphologic characteristics of the four types of tissues: epithelium, connective tissue, muscle tissue, and nervous tissue. Students will learn how these four basic tissues are combined to form organs. This portion of the course focuses on the normal microscopic features of the lymphatic, circulatory, respiratory, and gastrointestinal systems. In the Embryology component of the course, students learn the general pattern and principles of normal development and the basic aspects of development of the musculoskeletal, circulatory, and gastrointestinal systems. This course uses a lecture-based format. Examinations include both written and image-based practical questions.
4.4 credits

**HIST 1522 Histology/Embryology II**
The Histology portion of the course continues with the microscopic examination of the urinary, reproductive, and endocrine systems and the eye and ear. The development of the urogenital system, the eyes, the face, and structures derived from the pharyngeal arches are the focus of the Embryology portion of this course. Regional coordination with the Gross Anatomy course also continues. This course uses a lecture-based format. Examinations include both written and image-based practical questions.
1.5 credits

**ICMD 1614 Introduction to Clinical Medicine IV**
Introduction to Clinical Medicine in the second year curriculum is a case-based curriculum that integrates the materials being taught in other second year courses into clinical application. Each week, a new case is presented, and students must obtain a history and physical examination on the patient. Students work in groups to determine problem lists, differential diagnoses, and initial treatment plans. Students write SOAP notes and prescriptions based on their clinical case. An in-depth discussion of the case topics, including differential diagnosis, history and physical, lab and x-ray findings, and disease management is provided by the faculty the following week.
1.5 credits

**ICMD 1625 Introduction to Clinical Medicine V**
Introduction to Clinical Medicine in the second-year curriculum is a case-based curriculum that integrates the materials being taught in other courses, during the second-year curriculum, into clinical application. Each week, a new case is presented, and students must obtain a history and physical examination on the patient. During the week, students work in groups to determine problem lists, differential diagnoses, and initial treatment plans. Students write SOAP notes, admission notes, admission orders, and
prescriptions based on their clinical case. An in-depth discussion of the case topics, including differential diagnosis, history and physical, lab and x-ray findings, and disease management is provided by faculty the following week.

1 credit

**IMED 1701 General Internal Medicine Core Rotation I**

During the third year, each student will participate in two 4-week rotations in internal medicine. This rotation includes internal medicine learned in hospital ward-based training or department-based training. Rotation-specific reading objectives supplement the clinical experience.

4 credits

**IMED 1702 General Internal Medicine Core Rotation II**

During the third year, each student will participate in two 4-week rotations in internal medicine. This rotation includes internal medicine learned in hospital department-based training or ambulatory internal medicine. Rotation-specific reading objectives supplement the clinical experience.

4 credits

**IMED 1803 Subspecialty Internal Medicine Core 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, Immunology and Endocrinology. Rotation specific reading objectives supplement the clinical experience for each specialty.

4 credits

**IMED 1804 Critical Care Core Rotation**

Each fourth year student will participate in a 4-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 observe and/or perform procedures indicated for each patient.

4 credits

**MICR 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 health, infectious processes, and in immunologic disorders and deficiencies.

3 credits

**MICR 1611 Microbiology I**

This course covers basic morphologic, cultural, physiologic, and antigenic characteristics of microorganisms with special emphasis on factors pertinent to clinical medicine. Topics include the principles of microbial genetics and chemotherapy; an organ system approach to viral, bacterial, fungal, and parasitic agents of disease, and their biologic characteristics, natural history, public health importance, course of infection, and host interaction. Laboratory exercises and demonstrations help students develop the microbiologic skills applicable for clinical practice, acquaint students with available diagnostic laboratory tests and their interpretation.

5 credits

**MICR 1622 Microbiology II**

This course is a continuation of MICR 1611 and also uses an organ system approach with lectures and laboratories.

5 credits

**NEUR 1531 Neuroscience**

This course emphasizes the anatomy of the nervous system and clinical correlations related to the various pathways of the nervous system. The first unit studies surface landmarks, internal anatomy, and blood supply of the spinal cord, brainstem, and forebrain. This provides the framework and terminology for the remaining units, which adopt a systems approach to the study of the nervous system. Throughout the course, basic anatomy is presented in the context of neurological disorders that involve the system or pathway being studied.

6.5 credits

**OBGY 1701 Obstetrics/Gynecology Core Rotation**

This third year, 4-week rotation is designed to provide the student with the fundamental knowledge base in Obstetrics and Gynecology. 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. Practice settings include both hospital ward-based and ambulatory center based sites.

4 credits

**OMED 1511 Osteopathic Medicine I**

This course consists of weekly one-hour lectures followed by three-hour laboratory sessions. Instruction begins with an orientation to the osteopathic profession including the distinctive contribution of the osteopathic profession to the delivery of health care. The laboratory sessions reinforce lecture content and identify and develop the practical skills needed to diagnose and treat patients. Early laboratory
periods emphasize palpation, identification of anatomic landmarks, evaluation of motion, and evaluation of soft tissues. Diagnostic and manipulative treatment procedures are also taught. Normal anatomy and physiology are emphasized. Students are evaluated by midterm and final written examinations and a practical examination.
2.5 credits

**OMED 1522 Osteopathic Medicine II**
This course consists of weekly one-hour lectures followed by three-hour laboratory sessions. Laboratory sessions reinforce material presented in lectures and 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 course progresses into the pathophysiology of the musculoskeletal system and the structural-functional disturbances that can occur. Multiple classifications of technique are taught for clinical practice and to prepare for the national board examination. Students are evaluated by midterm and final written examinations and a practical examination.
2.5 credits

**OMED 1533 Osteopathic Medicine III**
Osteopathic Medicine instruction consists of a weekly one-hour lecture followed by a three-hour laboratory session. Laboratory sessions are designed to reinforce material presented in lectures and to identify and develop the practical skills needed to diagnose and treat patients. Musculoskeletal findings and the somatic components of disease covering all organ systems are presented throughout the year. Students are evaluated by midterm and final written examinations and a practical examination. At the conclusion of the first year, the medical student is expected to demonstrate proficiency in diagnostic palpation and simple, basic manipulative procedures.
2.5 credits

**OMED 1614 Osteopathic Medicine IV**
This course consists of 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 a practical examination.
2.5 credits

**OMED 1625 Osteopathic Medicine V**
This course consists of 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 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 a practical examination.
2.5 credits

**OMED 1636 Osteopathic Medicine VI**
This course consists of 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 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 a practical examination. At the culmination of the six quarters of instruction, there is a “Find It/Fix It” practical examination that tests the student’s ability to diagnose and simulate treatment of an actual patient.
2.5 credits

**PATH 1611 Pathology I**
This course introduces students to the basic concepts of pathology. It stresses altered cellular, genetic, and molecular mechanisms, and attempts to convey the dynamic nature of the 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 the skills necessary to interpret and use laboratory data in describing and recognizing various types of injury to cells, tissues, and organs.
6 credits

**PATH 1622 Pathology II**
A continuation of basic pathology, this course identifies the 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.

6 credits

PATH 1633 Pathology III
A continuation of basic pathology, this course identifies the 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

PEDI 1701 Pediatric Core Rotation
This third year, 4-week rotation is designed to introduce students to the management of common pediatric conditions. Emphasis is placed on obtaining a pediatric history, performing the 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, provide well child examinations and anticipatory guidance, and begin to develop a cost effective management plan that incorporates referrals when necessary.

4 credits

PHAR 1611 Pharmacology I
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.

4 credits

PHAR 1622 Pharmacology II
This course is a continuation of PHAR 1611. Topics covered include the drugs for the central nervous system, hormones and hormone antagonists, gastric drugs, i.e. antacids, digestants, laxatives, and antihistamines. In addition, the course includes 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.

4 credits

PHAR 1633 Pharmacology III
This course is a continuation of PHAR 1622. Topics include the chemotherapy of microbial viral and parasitic diseases, chemotherapy of neoplastic diseases, drugs acting on the immune system and drugs causing birth defects. Course also includes a series of reviews of the most important topics of the previous subjects. In addition, it includes 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.

3 credits

PHYS 1521 Physiology I
This course presents the biophysics, functional properties, and regulation of membrane transport, excitable cells, skeletal muscle, cardiovascular and gastrointestinal 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 and workshops 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.

5.5 credits

PHYS 1532 Physiology II
This course is a sequel to PHYS 1521 and builds on physiologic foundations developed during the preceding semester. This course covers the function, mechanism of action, regulation, and integration of the renal and respiratory systems that maintain body homeostasis through fluid, electrolyte and gas balance. The endocrine section of the course presents the function, mechanism of action, and regulation of specific hormones and several special topics will be explored. Small group discussions 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.

5.5 credits

PSYC 1511 Introduction to Human Behavior I
This module begins with a course introduction which includes philosophy, course goals and ARS instruction. Students will be introduced to the three major medical models of practice followed by a discussion on professionalism in medical practice. The human life cycle is
then covered beginning with childhood progressing through death and dying. Special topics covered during this term include human sexuality, forensic psychiatry and the mental status examination.

1 credit

PSYC 1522 Introduction to Human Behavior II
The second module begins with a discussion and illustration of how to perform a psychiatric evaluation. The major psychiatric disorders covered include: disorders of childhood and adolescence, attention deficit disorder, cognitive disorders, psychotic disorders, personality disorders, anxiety disorders, and concludes with a discussion on suicide.

1 credit

PSYC 1533 Introduction to Human Behavior III
This module will complete the review of the major psychiatric disorders including: somatiform disorders, eating disorders, dissociative disorders, sleep disorders, sexual disorders, psychiatric emergencies, violence and comorbidity, physician/patient boundaries in medical practice, and concludes with a discussion of student/physician well being.

1 credit

PSYC 1634 Psychopathology IV
This course will focus on the treatment of the psychiatric disorders discussed in PSYC 1533. The diagnostic criteria presented in earlier classes will be briefly reviewed. The primary goal of this course will be to develop a biopsychosocial treatment plan for the various psychiatric disorders. This will incorporate psychopharmacology, therapeutic modalities and coordination of care. The course will continue to utilize the ARS system to encourage group participation and enhance critical thinking. Case and video presentation will be used to demonstrate the psychopathology.

1 credit

PSYC 1701 Psychiatry Core Rotation
This 4-week rotation is designed to provide the student with a fundamental knowledge of psychiatry. It will help facilitate an understanding of the approach to clinical problem solving in psychiatry, and promote the acquisition of skills for the diagnosis, management, and prevention of acute and chronic psychiatric conditions. Ambulatory, crisis and inpatient settings are utilized.

4 credits

RURL 1701 Rural/Underserved Medicine
This third-year rotation focuses on the unique challenges faced when caring for patients in a rural or underserved area. Students complete a 4-week rotation in an area where the population is 50,000 or less or an area that qualifies as a federally designated medically underserved area. The rotation may be in any discipline that meets the rural/underserved location. This is a third year required rotation.

4 credits

SURG 1701 General Surgery Core Rotation
This third year, 4-week rotation is designed to provide the student with a fundamental knowledge of surgery and introduce the student to basic procedures relevant to the practice of general surgery. Ward based, department based, and ambulatory based settings are offered. Students are expected to learn how to diagnose and triage basic surgical diseases while giving them the basic technical skills that they will need to be able to function efficiently and confidently in the operative theatres thus maximizing their learning experience. Students are encouraged to complete the reading assignments listed in the Learning Objectives and utilize computerized examination test review questions in preparation for the Surgery Shelf Exam at the completion of the rotation.

4 credits

SURG 1802 Subspecialty Surgery Core Rotation
Students in the fourth year of training will complete a 4-week subspecialty surgery rotation. Building on the skills learned in the third year general surgery rotation, students may choose from a variety of surgical subspecialties such as anesthesia, orthopedic, cardiovascular, plastic, ENT, trauma, urology or surgical oncology. While this is a required rotation, students often utilize this month as a preparation for the subspecialty track they plan on pursuing for a residency. There is no post-rotation exam for this course.

4 credits

COURSE CREDIT
Course credits are generally determined according to the following formulation: one credit is assigned to a course for 3–4 laboratory contact hours per week; two contact hours per week involving interactive group problem-solving or discussion sessions; or one contact hour of formal lecture per week. One credit is given for each week of clinical rotations.

MWU/OPTI: AN OSTEOPATHIC POSTDOCTORAL TRAINING INSTITUTION
AZCOM offers a continuity of osteopathic medical education from the first year of medical school to the final year of postgraduate training. Internship and residency programs cover the spectrum of medical specialties. As one of the nation’s largest postdoctoral programs dedicated to the osteopathic philosophy of medicine, the MWU/OPTI’s curriculum is broad in scope and encompasses a multifaceted approach to graduate medical education that focuses on primary care. With unique learning opportunities at some of
the finest health care facilities in the country, MWU/OPTI's affiliated hospitals consistently lead the nation in terms of cutting-edge technology, treatment, and care. Postdoctoral programs include rotating internships, residencies in all primary disciplines, and fellowship programs in many subspecialties. Programs follow the guidelines of and receive accreditation from the Bureau of Education of the American Osteopathic Association. Some rotations during postgraduate training years may be completed at affiliated hospitals and medical centers.

Residency or fellowship training is offered in the following disciplines:
Cardiology Critical Care
Dermatology
Emergency Medicine
Emergency Medicine/Family Medicine
Emergency Medicine/Internal Medicine
Family Medicine and Osteopathic Manipulative Medicine
Gastroenterology
General Surgery
Hematology/Oncology
Internal Medicine
Interventional Cardiology
Neuromuscular Medicine
Neurosurgery
Obstetrics/Gynecology
Ophthalmology
Orthopedic Surgery
Radiology
Rheumatology
Urological Surgery

**STUDENT ACADEMIC POLICIES**

**Academic Policies**
The following academic policies apply to all AZCOM 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 a result of new accreditation requirements, mandate by the Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

**Academic Review & Progression**
Two faculty committees of the medical school review the academic performance of students: the Preclinical Promotions Committee for the preclinical years and the Clinical Promotions Committee for the clinical years.

**Preclinical Promotions Committee**
This committee is charged with maintaining standards of excellence in the academic preclinical courses. At a minimum, it meets at the end of each academic quarter to assess the academic status of students with an academic failure, an incomplete, or an in progress 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 3 or more failures in an academic year, students with 2 or more failures in a single academic quarter, and students in the extended-study program (ESP) who accumulate 1 or more failures in an academic year are required to meet with the Preclinical Promotions Committee. Notification of the date, time, and place of the committee meeting is sent to the student by priority email or telephone at least 48 hours in advance. Decisions of the committee are mailed to the student. The right to appeal a decision for dismissal or deceleration exists and is described elsewhere in this handbook. Appeals must be filed in writing with the Dean within three working days following official notification of the committee decision. This committee is chaired by the Associate Dean of Academic Affairs.
### Preclinical Promotions Committee Guidelines*

<table>
<thead>
<tr>
<th>Basic Sciences Courses</th>
<th>Usual Action*</th>
<th>Academic Status</th>
<th>Repeat Course Timing**</th>
<th>Action Following Retake*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Passed</td>
<td>Promote</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1 Failure</td>
<td>Retake Course</td>
<td>Warning</td>
<td>Summer or Next Academic Year</td>
<td>Fail-ESP Pass-Promote</td>
</tr>
<tr>
<td>2 Failures (different quarters)</td>
<td>Retake Courses</td>
<td>Warning/or Probation</td>
<td>Summer or Next Academic Year</td>
<td>Fail-ESP Pass-Promote</td>
</tr>
<tr>
<td>2 Failures (same quarter)</td>
<td>ESP or Involuntary Academic Leave of Absence</td>
<td>Probation</td>
<td>Summer or Next Academic Year</td>
<td>Fail-ESP Dismiss Pass-Promote</td>
</tr>
<tr>
<td>3 Failures (over more than one academic year)</td>
<td>ESP or Involuntary Academic Leave of Absence</td>
<td>Probation</td>
<td>Next Academic Year</td>
<td>Fail-Discard Pass-Promote</td>
</tr>
<tr>
<td>3 Failures (one academic year) 4 Cumulative Failures</td>
<td>Dismissal</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Action may be modified by the Preclinical Promotions Committee.

**Course repeat schedule is at the discretion of the Preclinical Promotions Committee.

Failures in elective courses carry the same weight as failures in core curriculum courses.

Withdrawal/Failing may be considered a course failure by the Preclinical Promotions Committee.

### Preclinical Promotions Committee Guidelines for Student on Voluntary Extended Study Program ONLY

<table>
<thead>
<tr>
<th>Basic Science Courses</th>
<th>Usual Action*</th>
<th>Academic Status</th>
<th>Repeat Course Timing**</th>
<th>Action Following Retake*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Passed</td>
<td>Promote</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1 Failure</td>
<td>Retake Course</td>
<td>Academic Warning</td>
<td>Next Academic Year</td>
<td>Fail-Discard Pass-Promote</td>
</tr>
<tr>
<td>2 or more Failures</td>
<td>Recommend Dismissal</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Action may be modified by the Preclinical Promotions Committee.

**Course repeat schedule is at the discretion of Preclinical Promotions Committee.

Failures in elective courses carry the same weight as failures in core curriculum courses.

W/F may be considered as a course failure by the Preclinical Promotions Committee.

### Clinical Promotions Committee

This committee meets as needed to review academic and professional progress of students in the third and fourth years. Students with academic failures, or with identified academic deficiencies, as well as those who have not met the professional standards set forth in the Osteopathic Oath, are required to meet with the 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 or telephone. Decisions of the committee are mailed to the student. The right of appeal exists and is described elsewhere in this catalog. Appeals must be filed in writing with the Dean within three working days following official notification of the committee decision. The Clinical Promotions Committee also recommends to the Faculty Senate for graduation those students who have successfully completed all curriculum requirements, who have passed Level I and Level II CE and PE of the National Board of Osteopathic Medical Examiners examinations, and who have paid all tuition and fees. The Chair of this committee is the Associate Dean of Clinical Education.
Clinical Promotions Committee Guidelines

<table>
<thead>
<tr>
<th>Clinical Rotation or Course</th>
<th>Usual Action*</th>
<th>Academic Status</th>
<th>Action Following Remediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Passed</td>
<td>Promote or Graduate</td>
<td>Academic Warning**</td>
<td>Fail - Probation, Repeat of Academic Year or Dismissal Pass - Promote or Graduate</td>
</tr>
<tr>
<td>One Failure</td>
<td>Repeat Rotation or Course</td>
<td>Academic Warning**</td>
<td>Fail - Probation, Repeat of Academic Year or Dismissal Pass - Promote or Graduate</td>
</tr>
<tr>
<td>Two Failures</td>
<td>Repeat Rotation or Course</td>
<td>Academic Probation</td>
<td>Fail - Repeat Academic Year or Dismissal Pass - Promote or Graduate</td>
</tr>
<tr>
<td>Three Failures</td>
<td>Repeat Academic Year or Dismissal</td>
<td>Academic Probation</td>
<td>Pass - Promote or Graduate</td>
</tr>
</tbody>
</table>

*May be modified by the Clinical Promotions 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.

 unsatisfactory Evaluation in One or More Categories

When an unsatisfactory grade occurs in one or more categories on the evaluation form during a rotation, the student may be tracked for a period of three to twelve months based upon the increasing preponderance of unsatisfactory marks. The number of tracking months will reflect the extent of unsatisfactory marks. Tracking will necessitate notification of all departments receiving the student during the tracking period and the notification will include the areas of deficiencies that have been recognized. A request will be made to each department for close monitoring and any necessary remediation to take place to correct the deficiencies.

Retake

Retake occurs when formal repetition of an entire course or a portion of the course is required due to course failure. A failed course may be retaken due to:
1. Course failure with no reexamination offered by the department.
2. Course failure followed by failure of the reexamination.
3. Course failure and failure to meet eligibility criteria for reexamination.

It is the decision of the Pre-Clinical Promotion Committee to recommend retake of the failed course. The Pre-Clinical Committee, following department approval, will determine the time frame for completion of the repeated course.

Only students with one or two failures in a given academic year may retake courses in the summer. Such courses must fulfill the same performance requirements of the regular academic year and tuition will be billed accordingly. Failures are made up in one of two ways:
1. Students may retake the failed course if it is offered through AZCOM;
2. Students may take the failed course at an accredited institution that offers comparable course content and curriculum as reviewed and approved by the department chair and the dean.

Students will be charged tuition for any failed courses offered for retake on the Glendale Campus by the AZCOM Departments.

Students are limited to the second option if the department does not offer a retake course as outlined in options one and three. Students who are unsuccessful in passing remedial courses are remanded to the Preclinical Promotions Committee before the start of the next academic year.

Upon repetition of a failed course, the original grade of F remains on the transcript but is no longer included in the computation of the GPA. The repeated course and grade are
entered on the transcript. The grade for a course repeated at an outside institution, or at MWU, and passed is recorded as PR with a GPA value equivalent to a grade of C (2.000 quality points per credit). If a repeated course is failed, a grade of F is recorded on the transcript. If the course is retaken at MWU, the student will be required to pay tuition for the course.

**Academic Warning & Probation**

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. The Preclinical Promotions Committee issues academic warnings. For a non ESP student, an academic warning is issued when he/she has failed (less than a grade of C) one class in a single quarter and up to two classes in an academic year, as long as the number of cumulative failures in the current academic year is less than three. For an ESP student, an academic warning is issued when he/she has failed (less than a grade of C) one class in a quarter, as long as there are no other failures in the current academic year. When a student is placed on academic warning, it is noted in the student’s academic file. Subsequently, when the 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 represents notice that continued inadequate academic performance might result in dismissal. If a student on academic probation successfully completes a probationary quarter, his/her 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. Students on academic probation are ineligible to hold student organizational offices.

**Advanced Standing**

All requests for advanced standing by admitted, transfer or enrolled students are processed on a course-by-course basis by the Office of the Dean. A student must submit a letter or petition form of request to the Office of the Dean in which the student lists the course(s) in which he or she is requesting advanced standing. The student must provide an official course description(s), a transcript, and a syllabus(syllabi) of the course(s) previously taken. All requests must be submitted prior to the start of the course being considered. The recommendation to grant or deny advanced standing will be made by the Dean in consultation with the department. It is expected that a minimum grade equal to a “B” would have been achieved in the class being petitioned.

**Appeal Process**

Following notification of a decision by the Preclinical Promotions Committee or Clinical Promotions Committee, a student may appeal the decision in writing within three working days to the Dean. The Dean makes the final decision on appeals. 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.

**COMLEX Exam Policy**

**COMLEX Eligibility**

Students must successfully complete all OMS II course requirements prior to taking COMLEX-USA Level 1, and the initial attempt to pass the Level I examination must occur within 30 days after the completion of all OMS II course requirements. Students begin clinical rotations while awaiting results of the first examination attempt.

**COMLEX Level I Failure**

Any student who fails the COMLEX-USA Level I examination will be allowed to complete the clinical rotation in which he/she is participating at the time of failure notice. The student will be assigned to a minimum one-month involuntary academic leave of absence to study for the next attempt. The student will return to a clinical rotation once he/she has taken the examination for the second time and is awaiting the results of the second examination attempt.

Any student who fails the Level I examination a second time will be allowed to complete the clinical rotation in which he/she is participating at the time of failure notice. The student must meet with the Pre-Clinical Promotions Committee as soon as possible to determine the most appropriate course of action for the third attempt. The student will be placed on involuntary academic leave of absence for a length of time determined by the Dean in order to study for the third attempt.

Beginning with students matriculating in 2009, with an anticipated graduation date of 2013, a student who fails the COMLEX-USA Level 1 examination a third time will be discharged.

**COMLEX Level II CE or PE Failure**

Any student who fails the COMLEX-USA Level II CE or PE examination must meet with the Chair of the Clinical Promotions Committee and the Dean as soon as possible to determine the most appropriate course of action, including
whether clinical rotations may be continued and how to prepare for the second attempt.

Any student who fails either component of the COMLEX-USA Level II examination a second time must appear before the Clinical Promotions Committee to determine the course of action, up to and including involuntary academic leave of absence or dismissal.

Beginning with students matriculating in 2009, with an anticipated graduation date of 2013, any student who fails the COMLEX-USA Level II CE examination three times regardless of their performance on the COMLEX-USA Level II PE examination will be dismissed, and any student who fails the COMLEX-USA Level II PE examination three times regardless of their performance on the COMLEX-USA Level II CE examination will be dismissed.

Course Prerequisites
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 with the course description in the University Catalog. On a case-by-case basis, prerequisites may be waived upon approval by the Department Chair of the Department that delivers the course.

Criminal Background Checks
Some facilities now require criminal background checks of students who are rotating through their system. The criminal background check is valid for one year only, so it must be performed within the year prior to starting the rotation. The Student Services Department of MWU will arrange for the background check. The costs are included in the activity fee.

Some facilities may require the student to meet a different requirement, such as fingerprinting at a designated agency immediately prior to the start of the rotation. If the MWU background check does not meet a facility’s requirement, other procedures must be performed at the student’s expenses. Criminal background information will be shared with clinical sites that are affiliated with MWU educational programs.

Disciplinary Warning/Probation
Disciplinary warning or probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 in the Student Handbook. Disciplinary warning or probation is not noted on 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.

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

1. Failure to exhibit the personal qualifications prerequisite to the practice of medicine.
2. Violation of AZCOM policies that are grounds for dismissal.
3. Failure to achieve minimum academic standards.

Students who fail three or more courses in a single academic year, and Extended Study Program students who accumulate two failures, usually receive a recommendation for dismissal. Students who receive four cumulative course failures in the preclinical years usually receive a recommendation for dismissal. The Committee reserves the right to change its usual actions for reasons of additional consideration. All decisions of the Preclinical Promotions Committee can be appealed to the Dean in accordance with policies found in this handbook.

Extended Study Program (ESP)

Voluntary
Students have the option of voluntarily entering the Extended Study Program (ESP) program. Its purpose is to provide additional time to address 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 to voluntarily become an ESP student no later than the end of the fifth week of a quarter. Requests received after the fifth week are reviewed by the Dean and granted only for reasons of substantiated hardship or medical emergencies. Students who voluntarily enter ESP may be allowed to retake courses over the summer at AZCOM or another approved institution, at the discretion of the Preclinical Promotions Committee.

Academic
A student will be placed in the Extended Study Program (ESP) for academic reasons at the discretion of the Promotions Committee having jurisdiction over the student’s academic progress. 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 on ESP, such action does not modify or limit the Preclinical Promotion Committee’s options for recommendation for dismissal. Thus, the student may be dismissed for academic reasons while in ESP.

Students who accumulate three failures in any single academic year, or two failures in a single quarter are placed immediately in the Extended Studies Program, or on suspension. The student is also placed on academic probation. They are required to retake failed courses during the regular academic year and are not eligible for summer retake courses at AZCOM or any other medical school.

Students will be assessed prorata tuition for any additional years.
Faculty Advisor/Mentor
Students are encouraged to use the advice, expertise, and help of the faculty. The faculty advisor/mentor takes a personal interest in students. Students should feel free to contact a faculty member of their choice for advice, encouragement, and support.

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

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 and 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 cumulative grade point average is computed and recorded by the Office of the Registrar. It is calculated at the end of the end of the academic year, 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.

If a student receives a failing grade, that grade is recorded on the transcript as a letter grade or F entry. Upon repetition of a failed course, the original grade of F remains on the transcript and the repeated course and grade are entered on the transcript. The grade for an MSI or MSII year course repeated at an outside institution or at MWU and passed is recorded on the transcript as P/R with a GPA value equivalent to a grade of C (2.000 quality points per credit). For all repeated clinical rotations at MWU during the MSIII and MSIV years that are passed, a grade of P/R will be recorded on the transcript with a GPA value equivalent to a grade of C (2.000 quality points per credit). For both preclinical coursework and clinical rotations, the original failing grade will remain on the transcript but will not be included in the GPA calculations. If a repeated preclinical course or clinical rotation is failed, a grade of F is recorded on the transcript.

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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent (%)</th>
<th>Quality Points (per credit)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>4.000</td>
<td>--</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.670</td>
<td>--</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.330</td>
<td>--</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.000</td>
<td>--</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.670</td>
<td>--</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.330</td>
<td>--</td>
</tr>
<tr>
<td>C</td>
<td>70-76</td>
<td>2.000</td>
<td>--</td>
</tr>
<tr>
<td>F</td>
<td>&lt;70</td>
<td>0.000</td>
<td>--</td>
</tr>
<tr>
<td>I</td>
<td>--</td>
<td>0.000</td>
<td>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 &quot;I&quot; 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 &quot;F,&quot; which signifies failure of the course.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td></td>
<td>In Progress 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 grade should not extend for more than one quarter with notification of the Registrar.</td>
</tr>
<tr>
<td>P</td>
<td>--</td>
<td>0.000</td>
<td>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.</td>
</tr>
<tr>
<td>Grade</td>
<td>Percent (%)</td>
<td>Quality Points (per credit)</td>
<td>Comments</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td>-----------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>W</td>
<td>--</td>
<td>0.000</td>
<td>Withdrawal/Passing is given between weeks 3 and 8 for single quarter courses if the grade achieved up to the time of the withdrawal is &gt;70% of &gt;C. Withdrawal/Passing is not counted in the GPA calculation, and is not counted in credit hour accrual for graduation. Students are not allowed to withdraw from a course after the end of the eighth week of class.</td>
</tr>
<tr>
<td>W/F</td>
<td>--</td>
<td>0.000</td>
<td>Withdrawal/Failing is given between weeks 3 and 8 if the grade achieved up to the time of withdrawal is &lt;70% or &lt;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. Students are not allowed to withdraw from a course after the end of the eighth week of class.</td>
</tr>
<tr>
<td>PR</td>
<td>70</td>
<td>2.000</td>
<td>Given upon repetition of a failed course. Value equivalent to grade of &quot;C&quot; (2.000 quality points per credit).</td>
</tr>
<tr>
<td>AU</td>
<td>--</td>
<td>0.000</td>
<td>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.</td>
</tr>
<tr>
<td>AP</td>
<td></td>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

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

**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 this catalog. Immunization requirements for AZCOM students are subject to current CDC/applicable state health department protocol and/or affiliated hospital rotation requirements.

**Liaison Structure**

_Student/Faculty Liaisons/Representatives, Preclinical_

Each class elects student liaisons/representatives following the guidelines stated in the current Student Handbook. The student liaisons/representatives serve to bring to discussion any issues pertaining to academic schedules, University policy and academic and nonacademic issues that relate to the teaching environment in the first and second years. The student liaisons/representatives can meet directly with the Associate Dean, the chairpersons, the course directors or the faculty of the departments formally involved in the preclinical curriculum to address the issues noted above.

_Student/Faculty Liaisons/Representatives, Clinical_

Each class elects student liaisons/representatives following the guidelines stated in the current Student Handbook. The student liaisons/representatives serve to bring to discussion any issues pertaining to academic schedules, University policy and academic and nonacademic issues that relate to the teaching environment in the third and fourth years. The student liaisons/representatives can meet directly with the Associate Dean, the chairpersons, the course directors and the faculty of the departments formally involved in the clinical curriculum to address the issues noted above.

**Supervision of Medical Students by Physicians Only**

While on clinical rotations, medical students must have direct, on-premises supervision by a physician (M.D. or D.O.) who is licensed to practice medicine in the state in which care is being provided. Students may not be supervised by other healthcare providers.

**Travel for Clinical Education Rotations**

The professional programs of AZCOM require that the students receive instruction in a clinical setting. As a result, it will be necessary for students to make arrangements for transportation to and lodging near clinical facilities. The University does not provide for the cost of transportation or lodging. Travel arrangements are the sole responsibility of the student. 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 responsible for all expenses associated with clinical education, such as transportation, meals, housing, professional attire, laboratory fees, etc.

**FACULTY**

_Administrative Faculty_

_John R. Burdick, Ph.D._

Iowa State University
Dean of Basic Sciences
Vice President for Clinic Operations
Professor
Lori A. Kemper, D.O., M.S.
AT Still University, Kirksville College of Osteopathic Medicine
Dean, Arizona College of Osteopathic Medicine
Assistant Professor

Dennis J. Paulson, Ph.D.
Texas Tech University
Vice President, Chief Academic Officer for Dental and Medical Education
Professor

Howard M. Shulman, D.O.
Kansas City University of Medicine and Biosciences College of Osteopathic Medicine
Associate Dean, Department of Postdoctoral Education
Chair, Department of Medicine
Associate Professor

Mark R. Speicher, Ph.D.
Arizona State University
Associate Dean, Academic Affairs
Assistant Professor

David M. Steinway, D.O.
Midwestern University, Chicago College of Osteopathic Medicine
Associate Dean, Department of Clinical Education
Assistant Professor

Department of Anatomy
Linda M. Walters, Ph.D., Chair
Loyola University, Stritch School of Medicine
Professor

Mark N. Coleman, Ph.D.
Stony Brook University
Assistant Professor

Justin Georgi, Ph.D.
Stony Brook University
Assistant Professor

Wade Grow, Ph.D.
University of Idaho
Professor

Ari Grossman, Ph.D.
Stony Brook University
Assistant Professor

Christopher Heesy, Ph.D.
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Associate Professor

T. Bucky Jones, Ph.D.
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Assistant Professor

Jason Kaufman, Ph.D.
Washington University, St. Louis
Assistant Professor

Gregory A. Mihailoff, Ph.D.
Ohio State University
Professor

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Associate Professor

Jeffrey Plochoki, Ph.D.
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Assistant Professor

Erin Simons, Ph.D.
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Assistant Professor

Heather Smith, Ph.D.
Arizona State University
Assistant Professor

K. E. Beth Townsend, Ph.D.
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Assistant Professor

Department of Biochemistry
Y. Gloria Yueh, Ph.D., Chair
University of Connecticut
Professor

Jose Hernandez, Ph.D.
University of Zaragoza
Assistant Professor

Ramesh Jeganathan, Ph.D.
University of Madras
Assistant Professor

Kathryn Lawson, Ph.D.
University of Arizona
Assistant Professor

David F. Mann, Ph.D.
Michigan State University
Professor

Alex Kaiser, Ph.D.
University of Berlin
Assistant Professor

Department of Clinical Education
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Associate Dean of Clinical Education
Assistant Professor
Department of Family Medicine  
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Associate Professor  

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Associate Professor  

Department of Medicine  
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Associate Professor  

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Professor  

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Professor  

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Professor  

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University of Mysore, Kasturba Medical College  
Director, Subsection Critical Care and Cardiovascular Research  
Professor  

Department of Obstetrics and Gynecology  
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Assistant Professor  

Department of Osteopathic Manipulative Medicine  
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**Department of Microbiology and Immunology**

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Professor

Richard F. Collins, Ph.D.
University of Oklahoma Health Sciences Center
Professor

Fernando Gonzales, Ph.D.
University of Texas Southwestern - Medical Center of Dallas
Assistant Professor

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Assistant Professor

Tyler A. Kokjohn, Ph.D.
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Associate Professor

Robin R. Parmley, Ph.D.
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Assistant Professor

D. Ellen K. Tarr, Ph.D.
The Johns Hopkins University
Bloomberg School of Public Health
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**Department of Pathology**

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University of Kansas Medical Center
Assistant Professor

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Professor

Latchezar Todorov, Ph.D.
Bulgarian Academy of Sciences
Associate Professor

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Professor

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Meharry Medical College
Assistant Professor

Layla Al-Nakkash, Ph.D.
University of Newcastle-Upon-Tyne
Associate Professor

Chad C. Carroll, Ph.D.
University of Arkansas for Medical Sciences
Assistant Professor

Thomas L. Broderick, Ph.D.
University of Alberta
Professor

Margaret I. Hall, Ph.D.
Stony Brook University
Assistant Professor

Michael C. Quinlan, Ph.D.
Arizona State University
Associate Professor

Johana Vallejo-Elias, Ph.D.
University of Missouri
Assistant Professor
MISSION
The mission of Midwestern University College of Pharmacy–Glendale (MWU-CPG) is to educate students to be highly competent, caring, and ethical pharmacists. Our dynamic curriculum will develop our graduates to be critical thinkers and life-long learners who can successfully practice in a changing healthcare environment. These pharmacists will contribute to the health of patients, the well being of society and the advancement of the profession of pharmacy.

Midwestern University College of Pharmacy–Glendale embodies a spirit of community in which cooperation, trust, and mutual respect are valued elements. In this positive learning environment, the College achieves its mission by striving for excellence in teaching, critical inquiry, service, community outreach, and personal development.

ACCREDITATION
Midwestern University College of Pharmacy-Glendale Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education (ACPE), 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109, Tel 312/664-3575, FAX 312/664-4652, web site 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. Students complete, on a year-round basis, required courses emphasizing the basic and pharmaceutical sciences, social and administrative sciences, pharmacy practice, elective professional courses, and clinical/experiential education.

At the conclusion of the Pharm.D. Program, all graduates will achieve the following outcomes:
- Demonstrate a scientific foundation as related to the pharmacy profession
- Integrate systems management concepts into the pharmacy profession
- Identify and evaluate research methods and practice evidence-based decision making
- Evaluate a patient case
- Implement a pharmaceutical care plan
- Implement public health, wellness, and disease prevention concepts
- Demonstrate oral and written communication skills
- Demonstrate continuous professional development

ADMISSIONS
Midwestern University College of Pharmacy - Glendale 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; approximately 1,551 applications were received for the 2009 entering class. The application deadlines are January 5, 2011 for the PharmCAS application and February 15, 2011 for the MWU-CPG supplemental application (see the Application Process and Deadlines section); however, applicants are strongly encouraged to apply early in the process as the majority of the class is expected to be filled by early January 2011.

Evaluation of completed applications will begin in July 2010 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), Pharmacy College Admission Test (PCAT) scores, 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 MWU–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-)
   - Minimum cumulative GPA and science GPA of 2.50 on a 4.00 scale. The Pharmacy College Application Service (PharmCAS) calculates the cumulative and science GPA. Grades from all nonremedial courses completed post-high school are used to calculate the GPA

2. Completion of prepharmacy coursework requirements by the end of spring semester or spring quarter prior to matriculation to MWU–CPG.

3. Direct submission of PCAT scores to PharmCAS (see Application Process and Deadlines).
   - Only test scores earned in June 2006 or later are acceptable

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 MWU–CPG’s 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.

<table>
<thead>
<tr>
<th>PREREQUISITE COURSES</th>
<th>Course(s)</th>
<th>Semester Hrs</th>
<th>Quarter Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English Composition</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Biology with laboratory (for science majors)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Anatomy (human or vertebrate)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>General Chemistry with laboratory (for science majors)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Organic Chemistry with laboratory (for science majors)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Physics (for science majors - mechanics, heat, force, and motion must be included in the course)</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

International Applicants

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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; Fax 414/289-3411
- World Education Services (WES): 212/966-6311; Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616; Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.
Application Process and Deadlines
MWU-CPG uses a two-step application process. Applicants must submit both a completed PharmCAS application and a College supplemental application and meet both the PharmCAS application deadline and the MWU-CPG supplemental application deadline.

1. PharmCAS Application
Applicants must apply via the online PharmCAS application (www.pharmcas.org) which is available usually in June 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 Admission Requirements).

The deadline for submitting the PharmCAS application is January 5, 2011. 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 January 5th date. PharmCAS will not consider applications complete and will not begin the verification process until all official transcripts have been received.

Due to the large number of applications and the limited number of seats available, students are encouraged to complete their PharmCAS applications and their MWU-CPG supplemental applications early in the cycle. MWU-CPG will consider completed applications on a first-come, first-served basis until all seats are filled.

2. Pharmacy College Admissions Test (PCAT)
Applicants must arrange for sending scores directly from the PCAT to PharmCAS using PCAT code 104. MWU-CPG will only accept test 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. The exam is typically offered four times per year. Only test scores earned in June 2006 or later are acceptable.

Please Note: It is highly recommended that applicants take the June, August, or October PCAT exams in the year prior to their planned matriculation. For first time test takers, PCAT exams taken in January 2011 by applicants planning matriculation in the same year will not be accepted. Please check with Pearson Assessment for more details regarding the exam dates.

3. Letters of Recommendation
Applicants must submit two letters of recommendation from two professionals directly to PharmCAS. MWU-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 February 15, 2011.

4. Supplemental Application
After receiving PharmCAS applications from the application service, the Office of Admissions will send supplemental application forms to applicants who meet the minimum cumulative and science GPA requirement of 2.50 on a 4.00 scale. The deadline for submitting the College supplemental application to the Office of Admissions is February 15, 2011.

5. Completed Applications
All application materials, including the PharmCAS application, verification of transcripts by PharmCAS, PCAT scores (as reported to PharmCAS), two letters of recommendation (submitted to PharmCAS), and the MWU-CPG supplemental application with the application fee must be received in the Office of Admissions by February 15, 2011. Only completed applications received by the Office of Admissions on or before the deadline date will 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 web site. The Office of Admissions will send qualified applicants instructions for creating an account along with their supplemental application. 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 and use GPA and PCAT scores 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 is complete and will not begin the verification process until all official transcripts have been received.
process is complete. Interview invitations typically extend from September through February.

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. The interview panel will also review MWU-CPG supplemental applications to facilitate the interview process. 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 MWU-CPG are processed and reviewed during regular intervals in the admissions cycle until the class is filled.

The Pharm.D. Program at MWU-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:

a. 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 minimum cumulative and science GPA for admission consideration, higher cumulative GPAs are more competitive and recommended. The average overall and science GPAs of applicants admitted in 2009 were 3.35 and 3.31, respectively, on a 4.00 scale.

b. View component and composite PCAT scores below the 50th percentile with particular concern. The average composite PCAT score of applicants admitted in 2009 was in the 77th percentile.

c. 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.

d. 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 for admission set forth by MWU-CPG outline the nonacademic abilities considered essential for students to achieve the level of competence required by the faculty and by the ACPE, the pharmacy-accrediting agency, in order to obtain the Pharm.D. degree.

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the Dean, will identify and discuss what accommodations, if any, the College would need to make that would allow the
candidate to complete the curriculum. 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 in their professional program.

**Matriculation Process**

Applicants accepted for a given year must matriculate during that year. No admission deferments are allowed. Students who fail to matriculate must reapply the following year for admission to the College. The matriculation process begins after students receive notification of their acceptance. Students must return their signed matriculation agreement and their deposit by the deadline date. Students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition;
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. PharmCAS does not forward transcripts to MWU–CPG;
3. Submit a completed medical file as requested by the Office of Student Services;
4. 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;
5. Non-U.S. citizens/nonpermanent residents must provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending MWU–CPG (for non-U.S. citizens/temporary residents who hold student visas);
6. Authorize and pass the Midwestern University criminal background check;
7. Sign and submit a Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement;
8. Complete a physical exam and submit the appropriate form;
9. Sign and submit a Credit Policy Statement;
10. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee have been completed;
11. Submit additional documents as requested by the Office of Admissions;

Students who either fail to satisfy the above matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat at MWU–CPG. Students will not receive further notification from MWU–CPG regarding this forfeiture.

**Reapplication Process**

After receiving either denial or end-of-cycle letters, applicants may reapply to MWU–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**

MWU–CPG may accept transfer students from other ACPE-accredited pharmacy schools or colleges as long as these students remain 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 MWU-CPG’s general requirements for admission. They must also submit the following documents by January 15, 2011:

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 MWU-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 the 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 with the Admissions Committee. The Committee will provide recommendations to the Dean. 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 MWU–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 regionally accredited U.S. colleges or universities;
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 MWU-CPG. Students should obtain their applications from the Office of the Dean and not through PharmCAS. Completed readmission applications must be submitted by February 15, 2011 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.

Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Graduation Requirements

The degree Doctor of Pharmacy 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 MWU-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 MWU-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 program of professional and experiential coursework approved by the MWU-CPG faculty and Dean;
3. Attained a cumulative grade point average of 2.00 (C) for all requisite professional and experiential coursework at MWU-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 MWU-CPG;
7. Been recommended for the degree by a majority vote of the MWU-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;
10. Attended the commencement exercises for conferral of the degree, unless excused by the Dean of MWU-CPG.

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 an ACPE-accredited
Doctor of Pharmacy degree program of a college or school of
pharmacy; and 4) have passed an examination 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).

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.,
MWU–CPG’s Pharm.D. Program.

Publications concerning the NAPLEX licensure examination
and internship experience are available from the NABP
Publications Desk, 1600 Feehanville Drive, Mount Prospect,
IL 60056; 847/391-4406.

For further information regarding licensure, please contact
the Office of the Dean.

**CURRICULUM**

MWU-CPG reserves the right to alter its curriculum however
and whenever it deems appropriate.

### First Professional Year

**Total Quarter Credit Hours Required**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs</th>
</tr>
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<tbody>
<tr>
<td><strong>Summarer</strong></td>
<td>PHYS 1501</td>
<td>Human Physiology 1</td>
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<td>PPRA 1501</td>
<td>Professional Skills Development 1</td>
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<td></td>
<td>PPRA 1533</td>
<td>Patient Decision Making</td>
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<td>PPRA 1571</td>
<td>Health Care Systems</td>
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<td>PPRA 1591</td>
<td>Introduction to Pharmacy Practice</td>
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<td>Pharmaceutical Calculations</td>
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<td><strong>Fall</strong></td>
<td>BIOC 1551</td>
<td>Biochemistry</td>
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<td>PHYS 1502</td>
<td>Human Physiology 2</td>
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<td>PPRA 1524</td>
<td>Pharmacy Law and Public Policy</td>
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<td>Introduction to Public Health</td>
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<td>Molecular Biology and Human Genetics</td>
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<td>Professional Skills Development 3</td>
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<td>PPRA 1535</td>
<td>Comm. Partnership in Public Health (half of class)</td>
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### Spring Quarter

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<td>MICR 1513</td>
<td>Microbiology</td>
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<td>MICR 1553</td>
<td>Immunology</td>
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### Second Professional Year

**Total Quarter Credit Hours Required**

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<td>Introductory Community Experience</td>
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<td>PPRA 1695</td>
<td>Introductory Institutional Experience</td>
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<td><strong>Fall</strong></td>
<td>PHID 1604</td>
<td>Integrated Sequence 4</td>
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<td>PHID 1605</td>
<td>Integrated Sequence 5</td>
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<td>PPRA 1605</td>
<td>Professional Skills Development 5</td>
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<td>PPRA 1665</td>
<td>Ethical Decision Making</td>
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<td>PPRA 1672</td>
<td>Research Methods &amp; Epidemiology for Health Care Professionals</td>
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<td><strong>Winter</strong></td>
<td>PHID 1606</td>
<td>Integrated Sequence 6</td>
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<td>PHID 1607</td>
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<td>PPRA 1606</td>
<td>Professional Skills Development 6</td>
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<td>PPRA 1676</td>
<td>Evidence-Based Health Care Electives</td>
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<td>Integrated Sequence 8</td>
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<td>PHID 1609</td>
<td>Integrated Sequence 9</td>
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<td>PPRA 1607</td>
<td>Professional Skills Development 7</td>
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<td>PPRA 1667</td>
<td>Complementary and Alternative Medicine</td>
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<td>PPRA 1675</td>
<td>Pharmacy Practice Management Electives</td>
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### Third Professional Year

#### Total Quarter Credit Hours Required
69.5

### Summer Quarter

<table>
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<td>PPRA 1701</td>
<td>Acute Care Management</td>
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<td>PPRA 1708</td>
<td>Professional Skills Development</td>
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<td>PPRA 1737</td>
<td>Disease State Management</td>
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<td>PPRA 1776</td>
<td>Human Resource Management</td>
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<td></td>
<td>Electives</td>
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### Fall, Winter, and Spring Quarters

**Advanced Pharmacy Practice Experience Rotations:** 36 weeks for a total of 54 qhrs.

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs</th>
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<td>PPRA 1791</td>
<td>Advanced Pharmacy Practice Experience</td>
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<td>PPRA 1792</td>
<td>Advanced Pharmacy Practice Experience</td>
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<td>PPRA 1793</td>
<td>Advanced Pharmacy Practice Experience</td>
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<tr>
<td>PPRA 1794</td>
<td>Advanced Pharmacy Practice Experience</td>
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<td>Advanced Pharmacy Practice Experience</td>
<td>9</td>
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<tr>
<td>PPRA 1796</td>
<td>Advanced Pharmacy Practice Experience</td>
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### Professional Electives

Students must complete a minimum of 12 hours of elective credit in the program at MWU-CPG. Elective course offerings may include the following:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs</th>
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<tr>
<td>PPRA/PSCI 1301</td>
<td>Special Project/Research</td>
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<tr>
<td>PPRA/PSCI 1302</td>
<td>Special Project/Research</td>
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<tr>
<td>PPRA 1311</td>
<td>Advanced Cardiac Life Support</td>
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<tr>
<td>PPRA 1313</td>
<td>Managing Prescription Benefits</td>
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<tr>
<td>PPRA 1326</td>
<td>Clinical Toxicology</td>
<td>1.5</td>
</tr>
<tr>
<td>PPRA 1329</td>
<td>Clinical Applications of PDA in Healthcare</td>
<td>1.5</td>
</tr>
<tr>
<td>PPRA 1338</td>
<td>Pharmacy-Based Health Screenings</td>
<td>1.5</td>
</tr>
<tr>
<td>PPRA 1346</td>
<td>Diabetes: A Patient’s Perspective</td>
<td>1.5</td>
</tr>
<tr>
<td>PPRA 1348</td>
<td>Personal Finance for the Health Care Professional</td>
<td>1.5</td>
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<tr>
<td>PPRA 1349</td>
<td>Pain and Symptom Management In Terminally Ill Patients</td>
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<tr>
<td>PPRA 1350</td>
<td>Journal Club</td>
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<tr>
<td>PPRA 1355</td>
<td>Applied Healthcare for Spanish Speaking Populations</td>
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<tr>
<td>PPRA 1411</td>
<td>Pharmacological Management of Chronic Pain</td>
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<td>PPRA 1412</td>
<td>Clinical Management of Patients With HIV/AIDS</td>
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<tr>
<td>PPRA 1413</td>
<td>Introduction to Geriatrics</td>
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<tr>
<td>PPRA 1414</td>
<td>Political Advocacy and Leadership</td>
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<tr>
<td>PPRA 1415</td>
<td>Rare and Interesting Diseases</td>
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<tr>
<td>PPRA 1416</td>
<td>Medication Errors-Causes, Cures, and Managing the Risks</td>
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<td>PPRA 1417</td>
<td>Anticoagulation in Clinical Practice</td>
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<td>PPRA 1418</td>
<td>Nuclear Pharmacy</td>
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<td>PPRA 1419</td>
<td>Topics in Women’s Health</td>
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<td>PPRA 1420</td>
<td>Pharmacy Based Immunization</td>
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<td>Dental Health and the Pharmacist</td>
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<td>Dangerous Plants and Animals</td>
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<td>Medical Spanish</td>
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<td>PSCI 1323</td>
<td>Use and Abuse of Drugs</td>
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<td>PSCI 1342</td>
<td>Introduction to Classical Homeopathy</td>
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<td>PSCI 1347</td>
<td>Pharmaceutical Formulation and Analysis</td>
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<td>PSCI 1352</td>
<td>Recent Advances in Pharmacology</td>
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<td>PSCI 1354</td>
<td>Sterile Products</td>
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<td>Nicotinic Receptors as Targets for Novel Therapies</td>
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<td>Nanopharmaceuticals</td>
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<td>Introduction to Forensic Science for Healthcare Professionals</td>
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<tr>
<td>PSCI 1410</td>
<td>Advanced Endocrine Toxicology</td>
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### 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.
DEPARTMENTS

Department of Pharmaceutical Sciences
The Department of Pharmaceutical Sciences (PSCI) subsumes 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, pharmaceutics/pharmacokinetics, medicinal chemistry, and pharmacology/toxicology. The mission of the department is to empower students with the foundational knowledge that is essential to the professional pharmacy curriculum. The faculty provides the highest quality instruction in basic biomedical and pharmaceutical sciences. The faculty serves as role models in leadership, and help future pharmacists develop skills in critical thinking, problem solving, scholarship, and life-long learning. Recruitment, mentoring, and development of faculty with strong research and teaching credentials are essential to maintaining a positive, stimulating, research and instructional environment that fosters excellence in critical inquiry. Research collaboration within the University, with regional clinical and basic research centers, and with pharmaceutical industry will be continually strengthened. The department also endeavors to contribute significantly to Midwestern University by excelling in service both within and outside of the College.

Department of Pharmacy Practice
The Department of Pharmacy Practice is comprised of 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.

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 Courses

BIOC 1551 (PSCI 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

BIOC 1552 (PSCI 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
Prerequisite: BIOC 1551 Biochemistry

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

MICR 1513 (513) 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
MICR 1553 (PSCI 553) 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

PHID 1501-1503, 1604-1609 (501-503, 604-608, 709), 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.

- Prerequisites for PHID 1501 Integrated Sequence 1, 4 credits: PHYS 1501 Human Physiology 1; PHYS 1502 Human Physiology 2; BIOC 1551 Biochemistry; completion of or concurrent enrollment in PPRA 1503 Professional Skills Development 3
- Prerequisites for PHID 1502 Integrated Sequence 2, 4 credits: PHID 1501 Integrated Sequence 1; completion of or concurrent enrollment in PHID 1503 Professional Skills Development 3
- Prerequisites for PHID 1503 Integrated Sequence 3, 4 credits: PHID 1502 Integrated Sequence 2; completion of or concurrent enrollment in PHID 1504 Professional Skills Development 4
- Prerequisites for PHID 1604 Integrated Sequence 4, 5 credits: PHID 1503 Integrated Sequence 3; completion of or concurrent enrollment in PHID 1605 Professional Skills Development 5
- Prerequisites for PHID 1605 Integrated Sequence 5, 3.5 credits: PHID 1604 Integrated Sequence 4; completion of or concurrent enrollment in PHID 1605 Professional Skills Development 5
- Prerequisites for PHID 1606 Integrated Sequence 6, 5.5 credits: PHID 1605 Integrated Sequence 5; completion of or concurrent enrollment in PHID 1606 Professional Skills Development 6
- Prerequisites for PHID 1607 Integrated Sequence 7, 4 credits: PHID 1606 Integrated Sequence 6; completion of or concurrent enrollment in PHID 1606 Professional Skills Development 6
- Prerequisites for PHID 1608 Integrated Sequence 8, 4.5 credits: PHID 1607 Integrated Sequence 7; completion of or concurrent enrollment in PHID 1607 Professional Skills Development 7
- Prerequisites for PHID 1609 Integrated Sequence 9, 4 credits: PHID 1608 Integrated Sequence 8; completion of or concurrent enrollment in PHID 1607 Professional Skills Development 7

PHYS 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

PHYS 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

PPRA 1501-1504, 1605-1607, 1708 Professional Skills Development 1-8
These courses integrate the skills needed to fill the professional responsibilities of pharmacy practice as they relate to patient-centered care and the patient care process, utilizing principles taught in this course and the co-requisite courses to provide the contextual framework for the skills considered.

- Prerequisites for PHID 1501 Integrated Sequence 1, 4 credits: PHYS 1501 Human Physiology 1;  PHYS 1502 Human Physiology 2; BIOC 1551 Biochemistry; completion of or concurrent enrollment in PPRA 1503 Professional Skills Development 3
- Prerequisites for PHID 1502 Integrated Sequence 2, 4 credits: PHID 1501 Integrated Sequence 1; completion of or concurrent enrollment in PHID 1503 Professional Skills Development 3
- Prerequisites for PHID 1503 Integrated Sequence 3, 4 credits: PHID 1502 Integrated Sequence 2; completion of or concurrent enrollment in PHID 1504 Professional Skills Development 4
- Prerequisites for PHID 1604 Integrated Sequence 4, 5 credits: PHID 1503 Integrated Sequence 3; completion of or concurrent enrollment in PHID 1605 Professional Skills Development 5
- Prerequisites for PHID 1605 Integrated Sequence 5, 3.5 credits: PHID 1604 Integrated Sequence 4; completion of or concurrent enrollment in PHID 1605 Professional Skills Development 5
- Prerequisites for PHID 1606 Integrated Sequence 6, 5.5 credits: PHID 1605 Integrated Sequence 5; completion of or concurrent enrollment in PHID 1606 Professional Skills Development 6
- Prerequisites for PHID 1607 Integrated Sequence 7, 4 credits: PHID 1606 Integrated Sequence 6; completion of or concurrent enrollment in PHID 1606 Professional Skills Development 6
- Prerequisites for PHID 1608 Integrated Sequence 8, 4.5 credits: PHID 1607 Integrated Sequence 7; completion of or concurrent enrollment in PHID 1607 Professional Skills Development 7
- Prerequisites for PHID 1609 Integrated Sequence 9, 4 credits: PHID 1608 Integrated Sequence 8; completion of or concurrent enrollment in PHID 1607 Professional Skills Development 7
• Prerequisites for PPRA 1607 Professional Skills Development 7, 1.5 credits: PPRA 1606 Professional Skills Development 6; completion of or concurrent enrollment in PHID 1608 Integrated Sequence 8, PHID 1609 Integrated Sequence 9
• Prerequisites for PPRA 1708 Professional Skills Development 8, 1.5 credits: PPRA 1607 Professional Skills Development 7; completion of or concurrent enrollment in PPRA 1701 Acute Care Management, PPRA 1737 Disease State Management

PPRA 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

PPRA 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 health care professionals. 3 credits

PPRA 1534 Introduction to Public Health
This course presents the basic and critical issues in public health within the context of population healthcare and an in-depth discussion of the role of pharmacy professionals in promoting and protecting the health of the public. In order to address public health needs, pharmacists must understand and address the fundamental determinants of health in a population in order to provide effective health promotion, disease prevention, and quality health services. This course focuses on strategies for the identification and management of the healthcare needs of specific populations. 2 credits

PPRA 1535 Community Partnership in Public Health
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
Prerequisite: PPRA 1534 Introduction to Public Health

PPRA 1571 (571) Healthcare Systems
This course provides the student with a broad 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, other healthcare providers, and the various organizations and institutions that are involved in delivering care to patients. Historical perspective is provided where it contributes to an understanding of contemporary practice. 3 credits

PPRA 1591 Introduction to Pharmacy Practice
This course provides the student with a brief history and evolution of the profession of pharmacy, with a focus on career opportunities for the present and future as the role of the pharmacist continues to change in the 21st century. Students complete a self-evaluation to help determine their primary interests in practice and interact with a number of practitioners from varied practice settings. 1 credit

PPRA 1665 Ethical Decision Making
This course provides students with a guide to a life-long pursuit of ethics in the practice of pharmacy. The course begins with a historical discussion of ethical concepts from Aristotle through modern writers and thinkers on the subject. Students are introduced to the process of ethical decision making through the use of tools, algorithms and decision trees. Students discuss questions confronting pharmacists and other health care professionals in today’s environment. 2 credits

PPRA 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 the common disease states. Students will have the opportunity to research and present a complementary/alternative treatment to the class. 2 credits
Prerequisites: PPRA 1504 Professional Skills Development 4; PPRA 1676 Evidence-Based Health Care
**PPRA 1672 Research Methods & Epidemiology for Healthcare Professionals**
This course introduces students to statistics and research design. The course covers basic statistical concepts, techniques, notations and computations including descriptive and inferential statistics with an emphasis on statistical methods, computerized data analysis and data assessments most commonly associated with pharmaceutical and medical research. Basic descriptive and inferential statistical processes and procedures are presented as well as topics on the development of research protocols, survey research, and clinical drug investigations.
3 credits

**PPRA 1675 Pharmacy Practice Management**
This course introduces students to concepts, principles, and techniques that are applied in contemporary pharmacy practice management. The course is organized into three broad areas of managerial activity and responsibility: financial management, operations management and selected topics in marketing, and entrepreneurship.
3 credits

**PPRA 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. The course focuses on Step 3 (critically evaluate literature) and Step 4 (apply information to patients).
2 credits
Prerequisite: PPRA 1672 Research Methods & Epidemiology for Healthcare Professionals

**PPRA 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
Prerequisite: Passing grades in all PS-1 year didactic courses and an annual grade point average of 2.00 or above

**PPRA 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
Prerequisite: Passing grades in all PS-1 year didactic courses and an annual grade point average of 2.00 or above

**PPRA 1701 Acute Care Management**
This course integrates both the practice and patient care management of patients in the acute care setting. Students enhance their knowledge not only through in depth coursework, but also learn how to interview and triage patients, apply physical and laboratory assessment knowledge and formulate appropriate therapeutic plans for patients in the acute care setting.
4 credits
Prerequisites: PHID 1609 Integrated Sequence 9; PPRA 1607 Professional Skills Development 7; completion of or concurrent enrollment in PPRA 1708 Professional Skills Development 8, PPRA 1737 Disease State Management

**PPRA 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 credits
Prerequisites: PHID 1609 Integrated Sequence 9; PPRA 1607 Professional Skills Development 7; completion of or concurrent enrollment in PPRA 1701 Acute Care Management; PPRA 1708 Professional Skills Development 8

**PPRA 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.
3 credits

**PPRA 1791-1796 Advanced Pharmacy Practice Experiences**
The advanced pharmacy practice experiences build upon the foundation of the introductory pharmacy practice experiences provided in the PS-II year and the didactic curriculum. Under preceptor supervision, the student participates in four required APPE course types: community, health-system, ambulatory care, acute care, and two
additional APPE experiences. Only one experience may be a non-patient care experience.
9 credits each
Prerequisites: Passing grades in all PS-3 summer quarter didactic courses and an annual grade point average of 2.00 or above

PSCI 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
Prerequisite: PSCI 1542 Pharmaceutics 2

Elective Courses

PPRA 1301/1302 (601/602) 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 upon between the student and the mentor. All special projects/research require the approval of the appropriate department chair and Dean.
PPRA 1301, 1.5 credits
PPRA 1302, 3 credits

PPRA 1311 (611) Advanced Cardiac Life Support (ACLS) Certification
This course is designed to provide students with the skills necessary for the management of critically ill patients. Students with an interest in cardiovascular, critical care, emergency, and nutrition support pharmacotherapy are encouraged to participate. After completion of this course, the student will be able to identify relevant life-threatening arrhythmias, list the treatment modalities and medications used during ACLS, develop and evaluate treatment plans for persons with life-threatening emergencies, and receive ACLS certification upon successful completion of the ACLS tests.
3 credits
Prerequisite: PHID 1605 Integrated Sequence 5

PPRA 1313 (613) Managing Prescription Benefits
This course discusses major factors having direct and indirect influence on pharmaceutical benefits in the U.S. External forces (social, political, and economic) affecting medication use and the policy issues surrounding those forces are explored. Specifically, prescription benefits, reimbursement strategies, methods to manage medication use, the role of prescription benefit management organizations, and technology are examined. Where appropriate, guest lecturers address specific topics.
1.5 credits

PPRA 1326 (626) Clinical Toxicology
This elective course provides an overview of basic concepts in clinical toxicology including the diagnosis and treatment of common poisonings. Emphasis is given to the basic concepts
of patient-oriented toxicology. Upon completion of this course, students will have been exposed to critical problem solving skills in toxicology including patient interviewing techniques, differential diagnosis of poisoning, rational therapeutic plans for toxicological problems, and patient monitoring parameters.
1.5 credits

**PPRA 1329 (629) Clinical Applications of PDAs in Healthcare**
This course introduces the pharmacy student to Microsoft Pocket PC database applications and mobile computing that relate to the practice of pharmacy. The course also allows students to learn concepts and techniques for the systematic creation, storage, reproduction, distribution, and retention of patient records using the latest technologies in handheld computing.
1.5 credits

**PPRA 1338 (638) 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 such as OSHA and CLIA and development of policies and procedures for screening programs.
1.5 credits

**PPRA 1346 (646) 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
Prerequisite: PHID 1503 Integrated Sequence 3

**PPRA 1348 (648) 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. Students will complete two assignments and have an in-class final exam.
1.5 credits

**PPRA 1349 (649) Pain and Symptom Management in Terminal 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
Prerequisite: PHID 1607 Integrated Sequence 7

**PPRA 1350 (650) Journal Club**
The goal of this course is for students to improve their ability to find and evaluate recently published information on medications. Each student will give two presentations: one of a newly approved medication and one of a recently published study. Grades will be based on presentations and participation. Enrollment will be limited to 10 to 15 students so the course can be offered as a weekly small group discussion.
1.5 credits
Prerequisite: PPRA 1676 Evidence-Based Healthcare

**PPRA 1355 (655) Applied Healthcare for Spanish Speaking Populations**
This elective course provides an overview of basic concepts and skills required for the care of Spanish speaking patients by focusing on the patient’s perspective in the health care system. Emphasis is given to examine the barriers faced by Spanish speaking patients and potential solutions for addressing them. The classes will use lectures, weekly reading quizzes, workshops (case-studies, role-playing) and a literature review to expand basic knowledge regarding health care and cultural issues in the Spanish speaking population.
1.5 credits
Prerequisite: Conversational high school or college Spanish

**PPRA 1411 (711) 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
Prerequisite: PHID 1607 Integrated Sequence 7
PPRA 1412 (712) Clinical Management of Patients with HIV/AIDS
This course provides a forum for students to learn how to manage HIV/AIDS using patient cases as a point of discussion. Additional information regarding pathophysiology, epidemiology, clinical manifestations and other aspects of HIV/AIDS not covered in Integrated Sequence will also be provided. Student groups will present a topic from a list provided to the class. The majority of the course will be devoted to case discussions of a variety of patient types including those with various opportunistic infections and co-morbidities.
1.5 credits
Prerequisite: Completion of or concurrent enrollment in PHID 1609 Integrated Sequence 9

PPRA 1413 (713) Introduction to Geriatrics
This elective course is designed to enhance students' knowledge and skills in senior care pharmacy. The course will provide an introduction to general principles of aging and an overview of geriatric syndromes. Topics include pharmacokinetic and pharmacodynamic changes, inappropriate medications and Beers Criteria, falls, weight disorders, and syncope. Students are evaluated on weekly drug regimen review assignments along with a senior interview activity and comprehensive final exam.
1.5 credits
Prerequisite: PHID 1503 Integrated Sequence 3

PPRA 1414 (714) Political Advocacy and Leadership
Political advocacy and leadership are highly valued in the profession of pharmacy. This elective course provides the requisite knowledge, develops skills, and models behaviors so students can become political advocates and leaders in the profession. The course has three core areas of interest: 1) the legislative process, 2) the advocacy process, and 3) leadership skills. To meet the learning objectives, students will complete written and verbal activities to assess knowledge, skills, and abilities.
1.5 credits
Prerequisite: PPRA 1591 Introduction to Pharmacy Practice

PPRA 1415 (715) 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. The course simulates clinical practice; professional/respectful/civil behavior is expected of all students and professional dress is encouraged. Activities will simulate patient work up and written/oral presentations in clinical practice.
1.5 credits
Prerequisite: Completion of or concurrent enrollment in PHID 1609 Integrated Sequence 9

PPRA 1416 (716) Medication Errors-Causes, Cures, and Managing the Risks
Examination of medication errors, including the causes and a system of continuous quality improvement. In addition the course examines financial risks, including insurance as a tool for risk shifting. The students are taught how to identify risks of a medication error and how to design and implement a continuous quality improvement program.
1.5 credits
Prerequisites: PPRA 1694 and PPRA 1695 Introductory Community/Institutional Experiences; or – some pharmacy practice experience (community, hospital or long term care) and permission of the coordinator.

PPRA 1417 (717) Anticoagulation in Clinical Practice
This elective course provides students with an overview of the major topics in anticoagulation management encountered in clinical practice. Topics include prophylaxis and treatment of venous thromboembolism (VTE), anticoagulation in various disease states, anticoagulation in special patient populations, and treatment plans requiring modification of anticoagulation. Students will develop a working knowledge and skill set helpful in providing pharmacy-managed anticoagulation services in both the inpatient and ambulatory/community settings.
1.5 credits
Prerequisite: Completion of or concurrent enrollment in PPRA 1737 Disease State Management

PPRA 1418 (718) 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
Prerequisite: PSCI 1564 Pharmacokinetics and Biopharmaceutics

PPRA 1419 (719) Topics in Women's Health
The purpose of this course is to provide an overview of advanced topics in women’s health. Expanded information in topics such as contraception, sexually transmitted infections and vaccines, infertility, mood disorders related to pregnancy and menses 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
Prerequisite: PHID 1503 Integrated Sequence 3
PPRA 1420 (720) 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 are responsible for the required fee (currently $90). Students must complete 12 hours of self-study prior to the class and must submit the completed material upon arrival to class. If s/he has not completed the study materials, the student will not be allowed to attend the workshop and will not be given a refund.
1.5 credits
Prerequisite: MICR 1553 (PSCI 553) Immunology; and blood borne pathogen training.

PPRA 1421 (721) 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

PSCI 1301/1302 (601/602) 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.
PSCI 1301, 1.5 credits
PSCI 1302, 3 credits

PSCI 1306 (606) Dangerous Plants and Animals
This course focuses on the recognition and identification of dangerous plants and animals found primarily, but not exclusively, in Arizona. Students learn to assess poisoning situations and recommend management scenarios. Lectures and workshops involving case studies and field trips are utilized.
1.5 credits

PSCI 1319 (619) Medical Spanish
This course provides students with the communication skills necessary to provide care to the Spanish-speaking patient. Upon completion, students will have an expanded general Spanish vocabulary (selected nouns, verbs, adjectives, phrases, etc.) plus one related specifically to the practice of pharmacy (i.e., parts of the body, drug formulations, selected disease conditions, etc.). Group interaction and role-playing are utilized. The course is directed at students not fluent in Spanish.
1.5 credits

PSCI 1323 (623) Use and Abuse of Drugs
This elective course provides an in-depth review of neuropharmacology of substances of abuse. 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 are covered.
3 credits
Prerequisite: PHID 1503 Integrated Sequence 3

PSCI 1342 (642) Introduction to Classical Homeopathy
The use of complimentary and alternative medicine (CAM) is rapidly growing in the U.S. This elective provides an overview of the CAM, homeopathy. Topics include history, philosophy, research, pharmacy, and acute case taking. Students will learn OTC usages for common remedies. Student participation and class discussion are strongly emphasized.
1.5 credits

PSCI 1347 (647) Pharmaceutical Formulation and Analysis
Pharmaceutical Formulation and Analysis is a supplement to Pharmaceutics 1 & 2. This elective course is a hands-on, lab-based course that integrates the fundamental pharmaceutics concepts underlying drug product formulation and analysis with the practice of pharmacy compounding. This integration is critical in helping pharmacy compounders understand the importance of product quality and how multiple variables may affect the quality of their products.
1.5 credits
Prerequisite: PSCI 1542 Pharmaceutics 2

PSCI 1352 (652) Recent Advances in Pharmacology
This elective course explores recent advances in pharmacodynamics published in the scientific literature. Emphasis is placed on topics related to new drug targets and the use of innovative research techniques to enhance the drug development process. The therapeutic implications of this research are discussed in relation to the pharmacotherapy of major disease states. This discussion-oriented course will offer the student opportunities to present topics to the class and lead a dialogue on cutting-edge pharmacological studies.
1.5 credits
Prerequisite: PHID 1501 Integrated Sequence 1

PSCI 1354 (654) 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
Prerequisite: PSCI 1542 Pharmaceutics 2

PSCI 1355 (655) Nicotinic Receptors as Targets for Novel Therapies
This course provides an in-depth review of nicotinic receptors (AChRs) and the process from pharmacological investigation to clinical tools for treatment. The course will cover aspects regarding the pathological involvement of AChRs in disease and as targets for pharmacotherapy, as well as the physiological functions that they play throughout the body. Diseases that will be covered include, drug addiction with special emphasis in nicotine addiction, depression, Alzheimer’s disease and schizophrenia, cancer and wound healing. 1.5 credits
Prerequisite: PHID 1502 Integrated Sequence 2

PSCI 1356 (656) 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
Prerequisite: PSCI 1542 Pharmaceutics 2

PSCI 1357 (357) 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
Prerequisite: PPRA 1524 Pharmacy Law and Public Policy

PSCI 1410 (710) Advanced Endocrine Toxicology
The course will integrate toxicology, pharmacology and physiology to understand 1) why endocrine organs are particularly susceptible to chemical toxicity, 2) what kinds of damage can be expected as a result of the unique metabolism and cellular makeup of those tissues, 3) what types of animal models are used to evaluate toxic potential of drugs to endocrine tissues, and 4) to what extent can results from animal studies be extrapolated to human risk. 1.5 credits
Prerequisite: PHID 1503 Integrated Sequence 3

Student Academic Policies
The following academic policies apply to all MWU-CPG 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 Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

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 in relation to institutional academic policies. At the end of the academic year, the Committee assesses the academic progress and performance of students enrolled in the program in relation to College academic policies. 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 appropriate action to correct the deficiency(ies). In instances involving failure of a student to maintain satisfactory academic/professional progress, the Committee may recommend dismissal.

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
A student must maintain an annual grade point average of 2.00 in their professional program to remain in good academic standing. A student is placed on academic probation for any of the following reasons:
1. A student’s annual grade point average is below 2.00;
2. A student earns a grade of F in one or more courses;
3. A student earns a grade of D in two or more courses in an academic year;
4. A student fails to earn a grade of C or better on a pharmacy practice experience.

A student is notified, in writing, that he/she is being placed on academic probation for the remainder of the academic year. Academic probation represents notice that continued inadequate academic performance may result in dismissal from the College. Additionally, he/she will be reminded to the SPGC. The SPGC will make a recommendation on a course of action. The recommendation may include, but not be limited to remediation, 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 grades of D or F are received. 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 raise his/her annual grade point average to 2.00 or above at the end of the repeated year. 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 raises an annual grade point average below 2.00, a grade of F in one or more courses, a grade of D in two or more courses in an academic year, fails to earn a grade of C or better on a 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) grades before beginning pharmacy practice experiences.
2. To proceed to pharmacy practice experiences, a student must have earned a passing grade in all didactic courses with an annual grade point average of 2.00 or above. Eligibility for introductory pharmacy practice experiences is determined by the annual grade point average calculated from all courses in the PS-1 year. Eligibility for advanced pharmacy practice experiences is determined by the annual grade point average calculated from all courses in the PS-3 summer quarter.

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 and applies to all students who matriculate in fall 2007 and thereafter.

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. Students dismissed for poor academic performance may reapply for admission to the College.

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 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
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 and WF 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 rotation requirements must be approved first by the course coordinator responsible for the course or rotation. Unless otherwise specified, a grade of I must be resolved within 10 days from the end of the quarter or rotation or the incomplete grade is automatically converted into a grade of F, which signifies failure of the course. 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, that grade will be recorded on his/her transcript. This deficiency may be corrected as recommended by the Student Promotion and Graduation Committee in 1 of 2 ways: repetition or remediation of the course. The decision to permit a student to repeat or remediate the course rests with the department offering the course and the committee. Following either successful remediation or repetition of the course, the permanent record of the student will be updated to indicate that the failing grade has been successfully corrected.

If course remediation was completed, a grade of D 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 remediation, 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.

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.

Grades 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**

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Graduation Honor</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 3.90</td>
<td>Summa cum laude</td>
</tr>
<tr>
<td>3.75 – 3.89</td>
<td>Magna cum laude</td>
</tr>
<tr>
<td>3.50 – 3.74</td>
<td>Cum laude</td>
</tr>
</tbody>
</table>

**Re-examination (Retest)**

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

If a student qualified for a re-examination, a grade of “I” or “IP” should be submitted to the Registrar at the end of the quarter. If the student passes the re-examination, a grade of “I” or “IP” will be converted to the minimal passing grade of the college/program. If the student fails the re-examination, the grade of “I” or “IP” will be converted to a grade of “F.”

**Retake**

Retake occurs when formal repetition of an entire course or a portion of the course is required due to course failure, or in some programs when a D letter grade has been earned. A course may be retaken when:

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

It is the decision of the Student Promotion and Graduation Committee to recommend a retake of a course. The committee following department approval will determine the nature of the retake and the time frame for completion of the repeated course. The course may be repeated at MWU or at an outside institution. The options for repeating a course at MWU may include a directed remedial course with examinations to repeating the course in its entirety the next academic year. In either case, the student must be registered for the course and will be charged the appropriate tuition. A repeated course at an outside institution must be approved by the department/program 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 in order to apply the credit toward MWU degree requirements. Students are responsible for all costs associated with repeating a failed course at another institution.

**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: MWU-CPG’s Office of the Dean, MWU-CPG department head, or course coordinator. 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 MWU-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 coordinators 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 coordinator 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 Dean’s office. Completion of the form by the student does not imply the student is excused from classes until the faculty 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, 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.
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.

Course Credit
Course credits are generally determined according to the following formula: 1 credit is assigned to a course for 3 laboratory contact hours per week; 2 case discussion or workshop contact hours per week; 1 contact hour of formal lecture per week; or 3 contact hours of other activities per week. 1.5 credits are assigned for 1 week of introductory or advanced practice experiences.

Course Prerequisites
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 with the course description in the University catalog. On a case-by-case basis, prerequisites may be waived upon approval by the chair of the department that delivers the course.

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
MWU-CPG assigns a faculty advisor to students in each entering class. In addition to these faculty advisors, the MWU-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 MWU-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. MWU-CPG faculty advisors act as liaisons between the faculty and students.

Transportation and Housing for Experiential Education
It is the student’s responsibility to assure that he/she has appropriate arrangements for transportation to/from rotation sites throughout the curriculum. Rotations begin in the first quarter of the professional program. Transportation is not provided by the College. 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. The College does not guarantee that all required rotations will take place in the Phoenix metropolitan area and students may be required to complete rotations in other cities in Arizona or states. Transportation and housing costs are the student’s responsibility.

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 senior 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, pharmaceutics, pharmacology, therapeutics, and pharmacy administration.

Facts and Comparisons Award of Excellence in Clinical Communication
A set of reference texts and marble bookends are presented to the graduating student who has demonstrated superior verbal and written clinical communication skills.

GlaxoSmithKline Patient Care Award
A plaque and a selection of reference texts are 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.

Lilly Achievement 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.

Mylan Excellence in Pharmacy Award
A reference text 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.

Perrigo Award of Excellence in Nonprescription Medication Studies
A plaque and a monetary award are presented to the graduating student who has excelled in courses involving over-the-counter medications.

Roche Pharmaceuticals Communications Award
A plaque 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

Albertsons Sav-On SUPERVALU Scholarships
The Albertsons Stores Foundation provides scholarships to students with a desire to enter community pharmacy practice.

CVS Charitable Trust, Inc. Scholarship
The CVS Charitable Trust, Inc. provides scholarships to students interested in entering community pharmacy practice.

The Kmart Scholarship
A scholarship is awarded annually to an outstanding student interested in community pharmacy practice.

J.M. Long Foundation Scholarships
The J.M. Long Foundation presents scholarships to students interested in entering community pharmacy practice.

The MWU–CPG Heritage of Pharmacy Scholarships
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.

Walgreens Pharmacy Scholarship
The Walgreens 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.

Faculty
Pharmacy Practice

Jane W. Abrams, Pharm.D.
West Virginia University
School of Pharmacy
Assistant Professor

Melinda J. Burnworth, Pharm.D., BCPS
University of Missouri-Kansas City
School of Pharmacy
Associate Professor
Kim Cauthon, Pharm.D., CGP
St. Louis College of Pharmacy
Assistant Professor

Stephanie J. Counts, Pharm.D.
University of Arizona
Associate Professor

Michael A. Dietrich, Pharm.D., BCPS
Xavier University of Louisiana
College of Pharmacy
Assistant Dean of Professional Programs and Associate Professor

Shareen El-Ibiary, Pharm.D., BCPS
University of South Carolina
College of Pharmacy
Associate Professor

Mary Gurney, Ph.D.
University of Wisconsin-Madison
School of Pharmacy
Assistant Professor

Stacy L. Haber, Pharm.D.
South Carolina College of Pharmacy
Associate Professor

Erin Johanson, M.Ed.
Northern Arizona University
Assistant Director and Adjunct Assistant Professor
Office of Experiential Education

Samantha Karr, Pharm.D., BCPS
University of Florida
College of Pharmacy
Assistant Professor

Todd A. Kociancic, Pharm.D., BCPS
Ohio Northern University
Rudolph H. Raabe College of Pharmacy
Assistant Professor

Dawn S. Knudsen, Pharm.D., CGP
Drake University
College of Pharmacy and Health Sciences
Assistant Professor

Sam Mahrous, Ph.D.
Northeast Louisiana University
Associate Professor

Dennis J. McCallian, Pharm.D., FACA
Purdue University
School of Pharmacy and Pharmaceutical Sciences
Dean and Professor

Lynn R. Patton, M.S., BCNSP
St. John’s University
College of Pharmacy and Allied Health Professions
Department Chair and Professor

Elizabeth Pogge, Pharm.D., BCPS
University of Nebraska Medical Center
College of Pharmacy
Assistant Professor

Erin C. Raney, Pharm.D., BCPS
University of Arizona
College of Pharmacy
Associate Professor

Michael T. Rupp, Ph.D.
Ohio State University
College of Pharmacy
Professor

Luz Dalia Sanchez, MD, Ph.D.
University of Minnesota
College of Pharmacy
Assistant Professor

Lisa M. Sims, Pharm.D.
Midwestern University
College of Pharmacy-Glendale
Assistant Professor

Ronald Woodbeck, B.S.
Long Island University
Arnold and Marie Schwartz College of Pharmacy
Director and Adjunct Assistant Professor
Office of Experiential Education

FACULTY
Pharmaceutical Sciences

Hugo Arias, BS, MS, Ph.D.
National Southern University
Associate Professor

Bill J. Bowman, Ph.D.
University of the Sciences of Philadelphia
Philadelphia College of Pharmacy
Associate Professor

Tamer Elbayoumi, M.S., Ph.D.
Northeastern University
Assistant Professor

Mitchell R. Emerson, Ph.D.
University of Kansas Medical Center
School of Medicine
Assistant Dean of Academic Programs and Associate Professor

Craig A. Johnston, Ph.D.
Michigan State University
College of Human Medicine
Department Chair and Professor
Melanie A. Jordan, Ph.D.
Virginia Commonwealth University
Medical College of Virginia
Assistant Professor

Mark Olsen, Ph.D.
University of Texas
Associate Professor

Joie C. Rowles, Ph.D.
University of Texas Southwestern Medical School
Assistant Professor

Volkmar Weissig, B.S., M.S., Ph.D., Sc.D.
Martin Luther University -Halle
College of Advanced Technology
Associate Professor
MISSION
The College of Health Sciences is dedicated to the highest standards of excellence in the education of professionals who will meet the health care and service needs of the community in a wide range of academic and practice settings. 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 College of Health Sciences (CHS) 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 Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

Academic Review and Progression

Academic Monitoring
All students enrolled in the College are expected to:
1. Maintain satisfactory academic progress in their course of study; and
2. Meet all academic and professional standards established by the faculty of their program and the College.

Students enrolled in the CHS professional education programs are responsible for:
1. Understanding and meeting all established program academic requirements and standards as described in the course syllabi, University catalog, and Student Handbook;
2. Self-monitoring their academic performance in all required courses;
3. Completing all course-related requirements in a timely and satisfactory manner;
4. Seeking assistance if encountering academic difficulty;
5. Contacting the appropriate Program Director and/or course coordinator when performance has been unsatisfactory; and
6. Regularly checking home or campus mailbox and e-mail at least twice a week and daily, respectively, 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.

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/College. The academic review process occurs at three levels: the program-based Student Academic Review Committee, the college-based CHS Student Promotion and Graduation Committee, and the CHS Dean.

Student Academic Review Committees
The Student Academic Review Committee of each program is appointed annually by the University Faculty Senate with the recommendation of the Program Director. Membership consists of three or more program faculty members and the Program Director (or his/her designee) who is the chair of this committee. The CHS Dean, a representative of the Department of Student Services, and the Registrar are ex officio members without vote.

At the end of each quarter, 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, administrative probation, academic leave of absence, or academic dismissal. These recommendations are forwarded to the chair of the CHS Student Promotion and Graduation Committee and 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 and notifies the student.

The committee also recommends for graduation all students who have satisfactorily completed all degree requirements specified by the program. 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 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 Directors, two faculty members from each program within CHS and four faculty members from the basic science departments (2 representatives from each campus). The Registrar, the Dean of Students, and the CHS Dean are ex officio members without vote. The CHS Dean appoints the co-chairs, one from each campus, of this committee. Each campus will have a subcommittee that is chaired by the co-chair from each respective campus.

A campus-based subcommittee of at least three members of the CHS Promotion and Graduation Committee will review student appeals from their respective campus. At the end of each academic year, each subcommittee 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 subcommittees meet each spring and fall to recommend for graduation all students who have satisfactorily completed all degree requirements specified by their program. Its recommendations are forwarded to the CHS Dean and the University Faculty Senate for approval. The co-chairpersons of the committee are responsible for submitting minutes of each meeting to the CHS Dean.

**Satisfactory Academic Progress**

*Undergraduate Degree Programs:* The academic standing of a student is determined by the student's cumulative grade point average. A student enrolled in an undergraduate degree program must pass all courses and maintain a cumulative grade point average of 2.25 or higher to have made satisfactory academic progress.

*Professional Graduate Degree Programs:* The academic standing of a student is determined by the student’s cumulative grade point average. Unless otherwise indicated, a student enrolled in a graduate degree program must pass all courses and maintain a cumulative grade point average of 2.75 or higher to have achieved satisfactory academic progress.

*Arizona School of Podiatric Medicine (AZPod):* The academic standing of a student is determined by the student’s cumulative grade point average. A student enrolled in AZPod must pass all courses and maintain a cumulative grade point average of 2.00 or higher to have achieved satisfactory academic progress.

*Clinical Psychology Program:* The academic standing of a student is determined by the student’s cumulative grade point average. A student enrolled in the Clinical Psychology Program must pass all courses and maintain a cumulative grade point average of 3.00 or higher to have achieved satisfactory academic progress.

*Nurse Anesthesia Program:* The academic standing of a student is determined by the student’s cumulative grade point average. A student enrolled in the Nurse Anesthesia Program must pass all courses and maintain a cumulative grade point average of 3.00 or higher to have achieved satisfactory academic progress. In addition, a student must achieve a “B” or higher in all clinical anesthesia courses including, NAAP 432, 433, 434, 444, 520, 521, 522, 523, and 524.

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### Academic Progress

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Usual Action*</th>
<th>Transcript Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory professional behavior; no course failures; and cumulative GPA ≥ 3.00 (Nurse Anesthesia, Clinical Psychology) or ≥ 2.75 (graduate programs) or ≥ 2.25 (undergrad. programs) or ≥ 2.00 (AZPod)</td>
<td>Allowed to progress to the next quarter</td>
<td>—</td>
</tr>
<tr>
<td>Satisfactory professional behavior; no course failures; and one quarter of cumulative GPA &lt; 3.00 (Nurse Anesthesia, Clinical Psychology) or &lt; 2.75 (graduate programs) or &lt; 2.25 (undergrad. programs) or &lt; 2.00 (AZPod)</td>
<td>Academic warning for the subsequent quarter</td>
<td>Academic warning is not noted on the transcript.</td>
</tr>
<tr>
<td>Outcome</td>
<td>Usual Action*</td>
<td>Transcript Notation</td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Satisfactory professional behavior; one course failure**; and/or two quarters of cumulative GPA &lt; 3.00 (Nurse Anesthesia, Clinical Psychology) or &lt; 2.75 (graduate programs) or &lt; 2.25 (undergrad. programs) or &lt; 2.00 (AZPod)</td>
<td>Academic probation for the subsequent quarter and one or more of the following: 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) Administrative probation</td>
<td>“F” grade is listed on transcript and is counted toward GPA calculation. 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 is not noted on transcript. Academic leave of absence, administrative probation, and dismissal are noted on transcript.</td>
</tr>
<tr>
<td>Satisfactory professional behavior; two course failures**; and/or three quarters of cumulative GPA &lt; 3.00 (Nurse Anesthesia, Clinical Psychology) or &lt; 2.75 (graduate programs) or &lt; 2.25 (undergrad. programs) or &lt; 2.00 (AZPod)</td>
<td>a) Academic leave of absence*** and academic probation, or b) Administrative probation and academic probation, or c) Dismissal Note: Two or more course failures will typically result in dismissal.</td>
<td>Academic leave of absence, administrative probation, and dismissal are noted on transcript.</td>
</tr>
</tbody>
</table>

* May be modified by the Student Academic Review Committee or the CHS Student Promotion and Graduation Committee.  
** W/F may be considered as a course failure by a Student Academic Review Committee.  
*** 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, administrative probation, academic leave of absence, or is dismissed. Each Student Academic Review Committee reserves the right to modify its usual actions.

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. 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., 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) in order 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.

Within two working days following the committee meeting, the chair of the Program Student Academic Review Committee is responsible for providing notification in writing with a delivery confirmation (i.e., next-day express mail, e-mail, 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 of each recommendation made by the committee. The 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 and is responsible for providing written notification 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 when a student earns a cumulative GPA below the minimum GPA required by their 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 one quarter. Academic warning is not noted in 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 their 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, which, if continued, will necessitate an academic leave of absence, administrative probation, or dismissal from the program and the College. 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 a second quarter. Academic probation is noted on the student’s transcript but is noted in the student’s academic file in the program office. To return to good academic standing, a student must correct deficiencies and incur no further failures. Subsequently, when the student is returned to good academic standing, this is also noted in the student’s file.

A second course failure during the probationary period and/or a third quarter in which the cumulative GPA is below the minimum required by the program will typically result in dismissal. The course failures and/or the three-quarters with less than the required minimum cumulative GPA do not have to be consecutive.

**Administrative Probation**

Administrative probation may occur when a student is not allowed to progress in the standard program curriculum due to course failures and/or failure to maintain the required cumulative GPA for two or more quarters. When students are placed on administrative probation by the Student Academic Review Committee, they 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.

Administrative probation is noted on the student’s transcript. Administrative probation/leave of absence will be noted on the transcript for periods of non-enrollment during the administrative probation period.

**Academic Leave of Absence**

Academic leave of absence may occur when a student has failed one or more courses or has accumulated two or more quarters when the cumulative GPA is less than required by his/her program. Academic leave of absence may or may not be preceded by academic probation. This action entails 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 deficient 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 Student Academic Review Committee. The dismissal is based on the determination 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. Students who accumulate two or more failures or three quarters below the minimum required grade point average usually receive a recommendation for dismissal.

**Re-examination (Retest)**

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

If a student qualifies for a re-examination, a grade of "I" should be submitted to the Registrar at the end of the quarter. If the student passes the re-examination, the grade of "I" will be converted to the minimal passing grade of the college/program. If the student fails the re-examination, the grade of "I" will be converted to a grade of "F".

**Retake**

Retake occurs when formal repetition of an entire course or a portion of the course is required due to course failure, or in some programs when a "D" letter grade has been earned. A course may be retaken when:

1. no re-examination is offered by the course director.
2. the student has failed the re-examination.
3. the student fails to meet eligibility criteria for re-examination, if offered by the course director.

It is the decision of the Student Academic Review Committee of each program to recommend retake of a course. The committee following department approval will determine the nature of the retake and the time frame for completion of the repeated course. The course may be repeated at MWU or at an outside institution. The options for repeating a course at MWU may range from a directed readings remedial course with examinations to repeating the course in its entirety the next academic year. In either case, the student must be registered for the course and will be charged the appropriate tuition. A repeated course at an outside institution must be approved by the program and basic science department (if applicable) as a satisfactory substitute for the failed course. A student must earn a minimum grade of "C" (not C-) in a substitute course completed at an outside institution in order to apply the credit toward MWU degree requirements. Students are responsible for all costs associated with repeating a failed course at another institution.
If the student passes a repeated course, the original failure remains on the transcript as an "F" 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 new grade will be factored into the overall GPA.

Under exceptional circumstances, such as academic probation or administrative probation, a student may retake a Midwestern University course in which they have received a grade of "C." The Program Director and CHS Dean must approve this retake option. Typically, a maximum of three "C" courses 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.

Advanced Placement/Exemption from Coursework

All requests for advanced standing by newly admitted, transfer, or enrolled students are processed on a course-by-course basis by the program’s Admissions Committee. 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 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 Admissions Committee will share the submitted course materials with the appropriate basic science department (of applicable) to determine if the course(s) is an appropriate substitute. All requests must be submitted at least three weeks prior to the start of the course being considered. Advanced standing will only be considered for coursework in which a letter grade of "C" or better has been earned. A "C-" letter grade is not acceptable for advanced standing consideration. Some programs may have additional requirements. If the Admissions Committee denies the request for advanced standing, the student may appeal this decision to the CHS Dean.

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 appropriate campus co-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 premises:

1. Bias of one or more members of the Student Academic Review Committee.
2. Material, documentable information not available to the committee at the time of its initial decision.
3. Procedural error.

The CHS Student Promotion and Graduation campus subcommittees will review student appeals from their respective campus. A majority of faculty members on each subcommittee must be from outside the program from which the student is appealing. One member of the appeal subcommittee must be from the student’s program and is a non-voting member. The subcommittee will review and assess the student’s appeal. Any student requesting an appeal shall be notified in writing with a delivery confirmation (i.e., e-mail or hand-delivery) by the co-chair of the subcommittee 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 subcommittee (in person or via telephone) in order to present his/her case. In such instances, the student shall inform the co-chair of the subcommittee, in writing (i.e., e-mail or hand-delivery), of his/her desire to appear before the subcommittee or his/her intent to waive this right. If the student chooses to appear before the subcommittee, this prerogative extends to the involved student only and not to any other individuals. The subcommittee co-chair submits the recommendation to the Dean and notifies the chair of the Student Academic Review Committee. The Student Academic Review Committee may also appeal the recommendation of the Student Promotion and Graduation Subcommittee to the CHS Dean which must be submitted within three working days of the notification. Upon receipt of the Student Promotion and Graduation Subcommittee’s recommendation, the Dean makes the final decision, typically within ten working days, and then notifies the student and chairs of the Student Academic Review Committee and the CHS Student Promotion and Graduation Subcommittee. The student must attend all didactic classes in which they are registered until the appeal process is complete. 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 previously taken course work on a temporary, audit basis. Under these circumstances, a student is enabled to attend classes and labs, receive handouts, and participate in exams to assess learning on an informal, non-graded basis. No course credits or grades 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 of the College, students must have completed all academic requirements for the preceding year of the professional program curriculum.

Course Credit
Course credits are generally determined according to the following formula: one credit is assigned to a course for 2–4 laboratory contact hours per week; two contact hours per week involving interactive group problem-solving or discussion sessions; or one contact hour of formal lecture per week. One credit is given for each week of clinical rotations.

Course Prerequisites
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 with the course description in the University catalog. On a case-by-case basis, prerequisites may be waived upon approval by the chair of the department that delivers the course.

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. Criminal background checks are conducted through the Office of Student Services of Midwestern University.

Some facilities now require criminal background checks of students who are rotating through their system. The criminal background check is typically considered valid for one year only, so it must be performed within the year prior to the rotation. Some facilities may require the student to meet a different requirement, such as fingerprinting by a designated agency immediately prior to the start of the rotation. If the Midwestern University background check does not meet a facility’s requirement, other procedures must be performed at the student’s expense. Criminal background information will be shared with clinical sites that are affiliated with Midwestern University educational programs.

Please refer to the Midwestern University Student Handbook for a complete description of the criminal background check policy.

Faculty Mentor Program
The CHS academic programs assign a faculty mentor to students in each entering class. The faculty mentor assists with academic and non-academic problems. In addition to these faculty mentors, the CHS Dean and the Dean of Students are also available to assist students with academic advising, counseling, enrichment, and non-academic problems. The faculty members volunteer their time and their effort to the success of this program. It is, however, the student who determines the amount of interaction.

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
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 for all students admitted prior to or in Summer Quarter 2007:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent (%)</th>
<th>Quality Points (per credit)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93–100</td>
<td>4.000</td>
<td>—</td>
</tr>
<tr>
<td>A–</td>
<td>90–92</td>
<td>3.750</td>
<td>—</td>
</tr>
<tr>
<td>B+</td>
<td>87–89</td>
<td>3.250</td>
<td>—</td>
</tr>
<tr>
<td>B</td>
<td>83–86</td>
<td>3.000</td>
<td>—</td>
</tr>
<tr>
<td>B–</td>
<td>80–82</td>
<td>2.750</td>
<td>—</td>
</tr>
<tr>
<td>C+</td>
<td>77–79</td>
<td>2.250</td>
<td>—</td>
</tr>
<tr>
<td>C</td>
<td>70–76</td>
<td>2.000</td>
<td>—</td>
</tr>
<tr>
<td>D</td>
<td>60–69</td>
<td>1.000</td>
<td>“D” grades are only given in the Bachelor of Biomedical Science program.</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
<td>0.000</td>
<td>Only for Bachelor of Biomedical Science program.</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 70</td>
<td>0.000</td>
<td>For professional programs</td>
</tr>
</tbody>
</table>

86
<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent (%)</th>
<th>Quality Points (per credit)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>—</td>
<td>0.000</td>
<td>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 (10 days or less) to complete required coursework.</td>
</tr>
<tr>
<td>IP</td>
<td>—</td>
<td>0.000</td>
<td>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).</td>
</tr>
<tr>
<td>P</td>
<td>—</td>
<td>0.000</td>
<td>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 is not counted in any GPA calculations.</td>
</tr>
<tr>
<td>F</td>
<td>—</td>
<td>0.000</td>
<td>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).</td>
</tr>
<tr>
<td>W</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal is given between the start of the third week and the end of the eight week of the quarter 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.</td>
</tr>
<tr>
<td>W/F</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal/Failing is given between the start of the third week and the end of the eight week of the quarter if the work completed up to the time of withdrawal is below a “C” level (“D” for Bachelor of Biomedical Science students). 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. Unless there are exceptional circumstances, students are not allowed to withdraw from a course after the end of the eighth week of the quarter. Withdrawal after the eighth week requires approval of the Dean.</td>
</tr>
<tr>
<td>AU</td>
<td>—</td>
<td>0.000</td>
<td>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.</td>
</tr>
<tr>
<td>AP</td>
<td>—</td>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

The letter grades, percent ranges, and quality points per credit are as follows for all students admitted in Summer Quarter 2008 or thereafter:

<table>
<thead>
<tr>
<th>Grade</th>
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</tr>
<tr>
<td>A−</td>
<td>90–92</td>
<td>3.670</td>
<td>—</td>
</tr>
<tr>
<td>B+</td>
<td>87–89</td>
<td>3.330</td>
<td>—</td>
</tr>
<tr>
<td>B</td>
<td>83–86</td>
<td>3.000</td>
<td>—</td>
</tr>
<tr>
<td>B−</td>
<td>80–82</td>
<td>2.670</td>
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</tr>
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<td>F</td>
<td>—</td>
<td>0.000</td>
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</tr>
<tr>
<td>W</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal is given between the start of the third week and the end of the eighth week of the quarter 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.</td>
</tr>
<tr>
<td>W/F</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal/Failing is given between the start of the third week and the end of the eighth week of the quarter if the work completed up to the time of withdrawal is below a &quot;C&quot; level (&quot;D&quot; for Bachelor of Biomedical Science students). 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. Unless there are exceptional circumstances, students are not allowed to withdraw from a course after the end of the eighth week of the quarter. Withdrawal after the eighth week requires approval of the Dean.</td>
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</tr>
</tbody>
</table>

**Grade Point Average**

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. 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 for courses with a grade of withdrawal (W), withdrawal failing (W/F), pass (P) or fail (F) that were repeated. 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 grade remains on the transcript but only the new grade is used in the computation of the GPA.
Graduation

The degrees of Bachelor of Biomedical Science, Master of Biomedical Science, Master of Arts in Biomedical Science, Master of Science in Biomedical Sciences, Master of Arts in Bioethics, Master of Health Professions Education, Master of Occupational Therapy, Master of Medical Science in Physician Assistant Studies, Master of Science in Cardiovascular Science, Master of Science in Nurse Anesthesia, Master of Arts in Clinical Psychology, Doctor of Psychology in Clinical Psychology, Doctor of Physical Therapy, Doctor of Health Science, or Doctor of Podiatric Medicine will be conferred upon candidates who have completed all academic requirements, satisfied all financial obligations, and completed all graduation requirements.

Graduation Honors

Graduation honors are awarded to candidates for all undergraduate degrees who have distinguished themselves by virtue of high academic achievement while enrolled in a professional program at Midwestern University. Only grades from academic courses taken at the University will be included in determining graduation honors. Degrees with honor are awarded based on the level of academic achievement as follows:

<table>
<thead>
<tr>
<th>Grade Point Average</th>
<th>Graduation Honor</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;3.75</td>
<td>Summa cum laude</td>
</tr>
<tr>
<td>3.50–3.74</td>
<td>Magna cum laude</td>
</tr>
<tr>
<td>3.25–3.49</td>
<td>Cum laude</td>
</tr>
</tbody>
</table>

Immunization Policy

Full-time students enrolled in a program with a clinical component are required to have all immunizations as outlined in the general policy section of the Student Handbook. Full-time students enrolled in a program without a clinical component are required to have all immunizations but are not required to have titer. Part-time and at-large students enrolled in a program without a clinical component are not required to have immunizations or titer.

Leave of Absence

Leaves of absence consist of two types: mandatory and voluntary. Voluntary leaves of absence include four types: medical, maternity, personal, and military. Mandatory leaves of absence include three types: academic, medical, and administrative probation.

Students requesting a voluntary leave of absence must comply with the following:

1. Make an appointment with the appropriate Program Director and the Dean’s Office to discuss the leave of absence;
2. A student must provide written notification and documentation, if applicable, to the Dean stating the reason for the leave of absence from MWU.

For mandatory leaves of absence, students must make an appointment with the appropriate Program Director and the Dean’s Office to discuss the implications of the leave of absence and a revised program of study if applicable.

All leaves of absence are granted for specific periods of time and require that the student submit written notification of an intention to return prior to the end of the leave period. 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. Typically, a leave of absence will not exceed twelve months. This time limit is cumulative and applies to either consecutive or multiple, interrupted leave periods. Please refer to the Midwestern University Student Handbook for a complete description of the Leave of Absence Policy.

Professional Conduct

Students are expected to emulate the legal, moral, and ethical standards expected of professionals in their respective areas 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 in a number of areas 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. Issues concerning student misconduct may be resolved utilizing the Office of the Dean of Students. A student who is found to have engaged in improper conduct is subject to disciplinary action which includes, but is not limited to, disciplinary probation, disciplinary suspension, or disciplinary dismissal. Disciplinary probation is not noted on the transcript but is kept in the student’s disciplinary file. Disciplinary suspension and disciplinary dismissal 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

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 in accordance with the procedures described below.

Intercampus transfer requests will be considered only if the addition of a student to the class at the corresponding campus will not cause enrollment to exceed the capacity and enrollment limit established for that campus. To be eligible for intercampus transfer consideration, the student must be...
in good academic standing at the time of the request. Prior to accepting a transfer request for consideration, the student shall be required to document that he/she has sought and received financial aid counseling about the implications of a campus transfer.

No request for transfer shall be considered if the request is received by the program after clinical placement assignments have been completed for that student. Any approved transfer that is executed by the student is final; requests to return to the original campus will not be considered. Approved transfers may be executed only at the conclusion of an academic quarter; however, it is strongly recommended that they occur at the end of academic year, rather than during the academic year.

Procedure

1. A student seeking an intercampus transfer is encouraged to submit his/her written transfer request and supporting documentation to the Program Director prior to January 15th. The request must specify the intended date of the transfer. The supporting documentation must also include evidence of financial aid counseling and understanding of any financial aid implications of a transfer. Students must meet with the Program Director to discuss their intent to request a transfer prior to doing so.

2. All requests will be reviewed and acted upon within 10 working days of receipt.

3. The Program Director shall inform the CHS Dean of the intercampus transfer request.

4. The Program Director shall review and assess the merits and advisability of the transfer based on the governing principles of this policy.

5. The Program Director shall present his/her findings and conclusions to the CHS Dean and submit a written response to the student within this 10-day period.

6. All approved requests will be signed by the Program Director and countersigned by the CHS Dean prior to distribution to the student.

7. Denial of an intercampus transfer request may be appealed to the CHS Dean, only if the existence of an enrollment vacancy at the intended campus can be demonstrated.

8. Following receipt of the letter from the Program Director informing the student of the decision to deny the transfer request, the student has 5 working days to submit a written appeal to the CHS Dean.

9. To be considered, an appeal must be based on substantial new information, documentable evidence of bias, or procedural error by the program.

10. The CHS Dean shall review and act upon on appeal within 10 working days after receipt of the written appeal.

11. The CHS Dean shall review and assess the appeal of the intercampus transfer request based on the governing principles of this policy.

12. The CHS Dean shall prepare a written response to the student concerning the appeal decision with a copy to the Program Director.

13. The decision of the CHS Dean is final.

Travel for Clinical Education/Fieldwork

The professional programs of CHS require that the students receive instruction in a clinical setting. As a result, it will be necessary for students to make arrangements for transportation and lodging to clinical facilities. The University does not generally provide for the cost of transportation or lodging. Travel arrangements are the sole responsibility of the student. 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 responsible for all expenses associated with clinical education, such as transportation, meals, housing, professional attire, laboratory fees, etc.
MISSION
The Midwestern University Physician Assistant (PA) Program in Glendale is committed to training and mentoring Physician Assistant students in an educational environment that cultivates excellence in professionalism, compassion, competence, service, and teamwork in the practice of medicine.

ACCREDITATION
The Midwestern University PA Program was previously accredited by the Committee on Allied Health Education and Accreditation and by the Commission on Accreditation of Allied Health Education Programs. It is currently accredited by its successor agency, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). This accreditation status enables graduating students to take the national certifying examination administered by the National Commission on Certification of Physician Assistants (NCCPA). The Midwestern University PA Program is a member of the Physician Assistant Education Association, the national organization representing PA educational programs.

DEGREE DESCRIPTION
The professional curriculum leads to a Master of Medical Science in Physician Assistant Studies. 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. 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 12 months covering a variety of didactic courses.

The didactic coursework includes basic science coursework in anatomy, physiology, biochemistry, neuroscience, pharmacology, pharmacotherapeutics and microbiology. It also includes clinical coursework in clinical medicine, pediatrics, behavioral medicine, psychiatry, women’s health, emergency medicine and surgery. During the remaining 15 months, students rotate through eight required core clinical rotations and two master’s curriculum 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 health care delivery system of this country. Sites include ambulatory practice settings, small and large office-based group practices, community and migrant health centers, in-patient settings involving large and small hospitals, as well as federal and state facilities. These sites are in urban, suburban, and rural communities located throughout Arizona. In addition, the program has established formal affiliations with clinical facilities and practitioners in 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.

The master’s curriculum augments the PA professional education by providing the student with additional academic coursework. Within the M.M.S. curriculum, students may choose from among a Clinical Specialty Emphasis, a Research Emphasis, a Bioethics Emphasis, or a Health Professions Education Emphasis.

M.M.S. Clinical Specialty Track integrates academic work within a professional degree program. Students are provided the opportunity to design and complete a portfolio of activities in a chosen specialty field over the course of the clinical year, including medical presentations, continuing
education, case reports, and workshops. Following successful completion of the portfolio, the clinical master’s student enters a three-month clinical master’s practicum in his or her chosen specialty field, allowing the clinical master’s student the opportunity to apply their expertise in an advanced clinical setting.

M.M.S. Research Track is designed to broaden the student’s scientific knowledge and academic skills while creating a foundation for life-long scholarly inquiry and professional contributions to the medical literature. The Master’s Research Practicum and the Research Project are central components of the M.M.S. Research Track and require the student to complete an original research project in clinical medicine, health policy, health education, and/or basic science.

M.M.S. Bioethics Track is designed to provide the student with a deeper understanding of the ethical issues related to patient care and healthcare practice, as well as methods for addressing these issues. Graduates will receive interdisciplinary training that will expose them to a wide range of issues and perspectives.

M.M.S. Health Professions Education Track is designed to prepare the student with the background necessary to become an effective educator in the classroom, clinic, and community. The track is taught in a blended fashion using online components in combination with face-to-face classes. There are also several online elective courses offered during years 2 and 3 to allow greater flexibility in completing the track requirements.

The PA program does not offer an extended course of study beyond the usual length of the program.

ADMISSIONS
The Midwestern University PA Program considers applicants who possess the academic and professional promise necessary for development as competent, caring members of the health care community. The admissions environment is highly selective with more than 1000 applications received each year. The application deadline is October 1, 2010; however, applicants are encouraged to apply early.

Completed applications received on or before the application deadline are reviewed to determine applicant eligibility for interviews. Interviews are typically held between September 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:

1. All applicants must apply through the Centralized Application Service for Physician Assistants (CASPA) and meet the published admission criteria (see MWU catalog).
2. Minimum cumulative science and overall GPA of 2.75 on a 4.00 scale.
3. Scores from the Graduate Record Examination (GRE) general test to the Office of Admissions by December 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 866/473-4373 or visit www.gre.org
4. Completion of prerequisite courses as listed below from regionally accredited colleges or universities.
   • All prerequisite courses must be completed with a grade of C or better
   • Grades of C- are NOT acceptable for any prerequisite courses
   • Life experience credits do not count toward fulfillment of any prerequisite courses
   • Courses in which “credit” or a grade of “pass” is 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)
5. Completion of prerequisite courses prior to matriculation.
6. Applicants must determine which prerequisites are missing and which courses must be taken to fulfill any outstanding prerequisites.
7. Completion of a bachelor’s degree from a regionally accredited college or university before matriculation.
8. Motivation for and commitment to health care as demonstrated by previous work, volunteer work, or other life experiences.
9. Demonstration of service and leadership through community service or extracurricular activities.
10. Oral and written communication skills necessary to interact with patients and colleagues.
11. Satisfactory Midwestern University criminal background check.
12. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
13. Successful completion of all required immunizations prior to matriculation.
# PREREQUISITE COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Biology with lab (must include at least 4 hours of Anatomy)</td>
<td>8 Sem/12 Qtr hours</td>
</tr>
<tr>
<td>*General Chemistry with lab</td>
<td>8 Sem/12 Qtr hours</td>
</tr>
<tr>
<td>*Organic Chemistry with lab</td>
<td>4 Sem/6 Qtr hours</td>
</tr>
<tr>
<td>Math (college algebra or above)</td>
<td>3 Sem/4 Qtr hours</td>
</tr>
<tr>
<td>English Composition</td>
<td>6 Sem/9 Qtr hours</td>
</tr>
<tr>
<td>Social and Behavioral Sciences (sociology, psychology, anthropology, etc.)</td>
<td>6 Sem/9 Qtr hours</td>
</tr>
<tr>
<td>*Biochemistry (not required, but strongly recommended)</td>
<td>4-8 Sem/6-12 Qtr hours</td>
</tr>
</tbody>
</table>

* All science prerequisites must be courses designed for science majors. No survey courses will fulfill science prerequisites.

## International Applicants

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411 (www.ece.org, e-mail: info@ece.org)
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US or Canadian course/degree equivalency will not receive credit, and will not 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.

## Application Process and Deadlines

1. **CASPA Application**
   
   Completed applications with all required materials must be submitted to the Centralized Application Service for Physician Assistants (CASPA) at www.caspaonline.org by **October 1, 2010**. Please refer to the CASPA application instructions for specific details about completing the application, required documents, and processing time. CASPA applications are typically available beginning in June 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.

2. **Letters of Recommendation**
   
   Applicants are required to submit two letters of recommendation from professionals to CASPA (www.caspaonline.org). The Office of Admissions will only accept letters of recommendation received directly from CASPA. It is preferred that one letter be written by a science professor who has actually taught the student or a prehealth advisory committee. The second letter can be written by any one of the following: prehealth advisory committee, prehealth advisor, college professor, or health care professional (preferably a PA) who knows the applicant well. Please refer to the CASPA application instructions for specific guidelines and requirements for submitting letters of recommendation. Letters of recommendation must be received by the Office of Admissions no later than December 1, 2010.

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. Official GRE scores must be received by the Office of Admissions no later than December 1, 2010.

4. **Completed Applications**
   
   The Office of Admissions will send letters verifying receipt of the CASPA application to all applicants who meet the minimum cumulative science and overall GPA requirement of 2.75. 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. Only applicants who submit all required application materials will be considered for potential entrance into the Program. Applications will only be considered when all required application materials have been received by the Office of Admissions no later than December 1, 2010. In-progress prerequisite courses must be completed prior to matriculation.

5. **Advanced placement credit**
   
   Advanced placement credit may be awarded for comparable Midwestern University courses. 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 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).

**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

**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, health care experience, knowledge of the profession, and motivation for a PA career. Evaluation of completed applications will begin in September and continue until all seats in the class are filled. Eligible candidates are typically invited to interview during the months of September, October, November, December, January, and 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 day on campus involves participation in the following activities, which are coordinated by the Office of Admissions: a presentation by the PA Program Director, interaction with faculty members, meetings with current Midwestern University students, a campus tour, and meetings with an admissions counselor and the financial aid office. 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 approximately one to two weeks after interviews have concluded. The Committee reviews complete application files for all applicants who were interviewed, formulates recommendations, and then submits recommendations to the Program Director for action. The CHS Dean, via the Office of Admissions, notifies applicants in writing of their admissions status. All applicants receive notification regarding their status by the end of March, but many will be offered seats following their interviews and subsequent Admissions Committee meetings.

**Technical Standards**

The Technical Standards set forth by the Physician Assistant Program establish the expectations and requisite abilities considered essential for students admitted to this Program to achieve the levels of competency stipulated for graduation by faculty, the professional program accrediting agency ARC-PA, and the state of Arizona.

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College(Pro)gram would need to make that would allow the candidate to complete the curriculum. The College(Pro)gram 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 in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the PA Program. Students must return both their signed matriculation agreement and their initial deposit to the Office of Admissions. Student must also:
1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. Successfully complete all outstanding prerequisites with the grade of C or better. Grades of C- are NOT acceptable for prerequisite courses
4. Submit completed medical files as requested by the Department of Student Services.
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
6. If an international student, provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending CHS (for F-1 visa students only)
7. Provide documentation that any additional coursework or service requirements stipulated by the PA Admissions Committee have been completed
8. Submit additional documents as required by the Office of Admissions
9. Authorize and pass Midwestern University’s criminal background check
10. Sign and submit the MWU Drug-Free Workplace and Substance Abuse Policy Statement
11. Complete a physical exam and submit form
12. Sign and submit a Credit Policy Statement
13. Provide proof of completed required immunizations
14. Satisfy Technical Standards for the Program

Students who either fail to satisfy these matriculation requirements or omits or falsify information required on official admissions documents automatically forfeit their seat in the Program. Individuals accepted for admission to the PA Program who do not comply with stated timelines for submission of all required materials receive no further notification from the College regarding forfeiture of their seat.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Reapplication Process
After receiving either denial or end-of-cycle letters, prospective students 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 new applications and proceed through the standard application procedures.
GRADUATION REQUIREMENTS

Students usually complete the Master of Medical Science in Physician Assistant Studies degree in nine consecutive quarters, 27 months.

To qualify for graduation with the master’s degree, 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 2.75; and no course or rotation grade below a C;
3. Satisfactorily complete the Senior Summative examinations;
4. Satisfactorily complete the required credit hours in the overall course of study;
5. Receive a favorable recommendation for master’s degree conferred from the PA Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee;
6. Be recommended for conferred 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 200, Duluth, GA. 30097-1409; [678/417-8100]; www.nccpa.net

CURRICULUM

Master of Medical Science (M.M.S.)

First Professional Year

Total Quarter Credit Hours Required: 83.5

<table>
<thead>
<tr>
<th>Summer Quarter</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAT 1551 Human Anatomy/Embryology</td>
<td>7.0</td>
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<tr>
<td>BIOC 551 Human Biochemistry</td>
<td>4.0</td>
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<tr>
<td>PASS 550 Health Professionalism</td>
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<tr>
<td>PASS 551 Behavioral Medicine</td>
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</tr>
<tr>
<td>PASS 556 Medical Interviewing and Documentation</td>
<td>2.0</td>
</tr>
<tr>
<td>PASS 576 Clinical Nutrition</td>
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<tr>
<td>PASS 561 Master’s Skills &amp; Topics</td>
<td>1.0</td>
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<tr>
<td>Total</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ANAT 563 Human Neurosciences</td>
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<tr>
<td>CORE 1560 Interdisciplinary Healthcare</td>
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<tr>
<td>PASS 560 Epidemiology &amp; Evidence-Based Medicine</td>
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<tr>
<td>PASS 565 Clinical Medicine I</td>
<td>4.0</td>
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<tr>
<td>PASS 586 Pediatrics</td>
<td>2.0</td>
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<tr>
<td>PASS 1569 Physical Diagnosis</td>
<td>4.0</td>
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<tr>
<td>PHAR 560 Pharmacology &amp; Pharmacotherapeutics</td>
<td>2.0</td>
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<tr>
<td>PHYS 1571 Human Physiology I</td>
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<tr>
<td>Required Master’s Course</td>
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<table>
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<tbody>
<tr>
<td>CORE 1570 Interdisciplinary Healthcare</td>
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<tr>
<td>MICR 570 Microbiology</td>
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<tr>
<td>PASS 570 Clinical Medicine II</td>
<td>4.0</td>
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<tr>
<td>PASS 573 Electrocardiography</td>
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<tr>
<td>PASS 574 Clinical Laboratory Medicine I</td>
<td>2.0</td>
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<td>PASS 575 Women’s Health</td>
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<tr>
<td>PHAR 570 Pharmacology &amp; Pharmacotherapeutics II</td>
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<tr>
<td>PHYS 1582 Human Physiology II</td>
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<td>Required Master’s Course</td>
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<table>
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<th>Spring Quarter</th>
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<tbody>
<tr>
<td>CORE 1580 Interdisciplinary Healthcare</td>
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<tr>
<td>PASS 571 Therapeutic and Diagnostic Skills</td>
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<tr>
<td>PASS 580 Clinical Medicine III</td>
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<tr>
<td>PASS 581 ACLS</td>
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</tr>
<tr>
<td>PASS 582 Emergency Medicine &amp; Surgical Principles</td>
<td>3.0</td>
</tr>
<tr>
<td>PASS 583 Psychiatric Principles</td>
<td>1.5</td>
</tr>
<tr>
<td>PASS 585 Clinical Laboratory Medicine II</td>
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<tr>
<td>PHAR 580 Pharmacology &amp; Pharmacotherapeutics III</td>
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<td>Required Master’s Course</td>
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<td>Total</td>
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</table>

*details of Master’s curricula and tracks may be subject to change

Electives

<table>
<thead>
<tr>
<th>Electives</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS 800 Medical Spanish</td>
<td>2.0</td>
</tr>
<tr>
<td>PASS 880 End of Life Care</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Second Professional Year

Total Quarter Credit Hours Required: 63.5

During clinical years 2 and 3, students must complete 24 hours of masters’ related coursework, depending on which track the student has selected. Students register for these credits on a quarterly basis based on the timelines approved by the coordinator of their chosen track. The total credits for years 1, 2, and 3 are 159.

<table>
<thead>
<tr>
<th>Summer Quarter Hrs</th>
<th>Required Clinical Rotations</th>
<th>12.0</th>
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</table>
Required Master’s Coursework* 3.0
Total 16.5

**Fall Quarter Hrs**
Required and Elective Clinical Rotations 12.0
Required Master’s Coursework* 3.0
PASS 691 Middle of the Year Exam 1.0
Total 16.0

**Winter Quarter**
Required and Elective Clinical Rotations 12.0
Required Master’s Coursework* 3.0
Total 15.0

**Spring Quarter**
Required and Elective Clinical Rotations 12.0
Required Master’s Coursework* 3.0
PASS 692 End of the Year Evaluation 1.0
Total 16.0

**Third Professional Year**
Total Quarter Credit Hours Required: 12

**Summer Quarter Hrs.**
Required Master’s Coursework* 6.0
Required Master’s Coursework* 6.0
Total 12.0

*depending on track in the 2nd year

**Master of Medical Science Specialty Tracks**

<table>
<thead>
<tr>
<th></th>
<th>Clinical Track</th>
<th>Research Track</th>
<th>Bioethics Track</th>
<th>Health Professions Education Track</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td>4 Core Courses</td>
<td>4 Core Courses</td>
<td>4 Core Courses</td>
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<tr>
<td>Summer</td>
<td>PASS 561 Master’s Skills and Topics</td>
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<td>Fall</td>
<td>PASS 562 Advanced Master’s Skills and Application</td>
<td>PASS 562 Advanced Master’s Skills and Application</td>
<td>ETHC 501 Introduction to Bioethics</td>
<td>MHPE 501 Teaching and Learning Styles</td>
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<td>Winter</td>
<td>PASS 563 Independent Study I: Literature Review</td>
<td>PASS 563 Independent Study I: Literature Review</td>
<td>ETHC 502 Foundations of Medical Ethics</td>
<td>MHPE 503 Instructional Design and Methods</td>
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<td><strong>Year 2</strong></td>
<td>PASS 665A-D Clinical Master’s Portfolio</td>
<td>PASS 665A-D Research Master’s Thesis</td>
<td>ETHC 503 Philosophy of Medicine</td>
<td>PASS 665A-D Education Portfolio</td>
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<td>PASS 666 and PASS 667 Research Practicum Rotations</td>
<td>PASS 666 and PASS 667 Master Practicum I and II</td>
<td>PASS 666 and PASS 667 Master Practicum I and II</td>
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<td><strong>Year 3</strong></td>
<td>PASS 666 and PASS 667 Master’s Practicum I and II</td>
<td>PASS 666 and PASS 667 Master’s Practicum I and II</td>
<td>PASS 666 and PASS 667 Master’s Practicum I and II</td>
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*details of Master’s curricula and tracks may be subject to change

The CHS PA Program reserves the right to alter its curriculum however and whenever it deems appropriate.
**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.

**Year 1: Required Preclinical Courses**

**ANAT 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 (including laboratory sessions)

**ANAT 563 Human Neurosciences**
The primary focus of the course is to provide the fundamental neuroscience information required for use in clinical training. Occasionally case presentations will be utilized to foster familiarity with some of the more typical presentations seen in clinical neurology, and to learn how to approach these cases from a clinical as well as a basic science perspective.

2 credits
Prerequisites: ANAT 1551 Human Anatomy and Embryology; BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing & Documentation; PASS 576 Clinical Nutrition; BIOC 551 Human Biochemistry

**BIOC 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, complete blood count, anemias, diabetes, and hemostasis tests.

4 credits

**CORE 1560, 1570, 1580 Interdisciplinary Healthcare**
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.

0.5 credits per quarter

**MICR 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
Prerequisites: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I

**PASS 550 Health Professionalism**
The purpose of this course is to provide the student with a holistic understanding and perspective of the PA profession. Various 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. Various topics in professionalism include communication techniques with patients, confidentiality issues, ethical issues, and cultural sensitivity. The goal of this course is to offer students a glimpse into the future to better prepare them for the PA profession.

1 credit

**PASS 551 Behavioral Medicine**
This course presents a biopsychosocial and family systems approach for understanding individual and family developmental stages throughout the life cycle. Topics covered include behavioral problems of childhood, domestic violence, clinician well-being and stress management, normal and abnormal sexuality, features and treatment of anxiety, depression, and substance-related disorders, chronic illness, aging, and end of life care. Lectures are supplemented by video vignettes and in-class small group interaction.

2.5 credits

**PASS 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. The course focuses on creating a medical record that accurately reflects the medical interview and establishes the competency of the PA. The course also emphasizes the importance of
maintaining proper medical records as a means of communicating details of patient care and as defense against claims of medical malpractice.

2 credits

PASS 560 Epidemiology and Evidence Based Medicine
Clinical epidemiological studies are used to determine disease causation, treatment efficacy, diagnostic and screening test reliability, risk factors for disease and other information fundamental to the practice of health care. The goal of this course is to provide the basic concepts and terminology necessary to be an intelligent consumer of the epidemiological literature.

1 credit
Prerequisites: ANAT 1551 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing and Documentation; PASS 576 Clinical Nutrition

PASS 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, usual presentation and course, plus diagnostic and treatment modalities of each disease presented. Students participate in weekly problem-based learning sessions. In these sessions, students have the opportunity to develop competence in taking histories, to practice writing SOAP (Subjective, Objective, Assessment and Plan) notes and to integrate pertinent physical examination skills. Students gain experience in formulating a differential diagnosis and creating an effective management plan, including prescription writing.

4 credits per quarter

- Prerequisites for PASS 565 Clinical Medicine I: ANAT 1551 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing & Documentation; PASS 576 Clinical Nutrition;
- Prerequisites for PASS 570 Clinical Medicine II: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I;
- Prerequisites for PASS 580 Clinical Medicine III: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 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.

1.5 credits
Prerequisites: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 573 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 infaracts, 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, ectopy, and heart block.

1.5 credits
Prerequisites: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I

PASS 574 Clinical Laboratory Medicine I
The purpose of Clinical Laboratory Medicine I 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
Prerequisites: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I

PASS 575 Women’s Health
The purpose of this course is to introduce the first-year PA student to the principles of women’s health, including topics such as sexually transmitted infections, breast disease,
menstrual abnormalities, gynecology/oncology and normal and abnormal labor and delivery. This course will provide the PA student with fundamental knowledge and skills relevant to gynecology and obstetrics.

2 credits
Prerequisites: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I

PASS 576 Clinical Nutrition
The purpose of this course is to provide the student with an introduction to the principles of clinical nutrition. Principles of nutrition assessment across the lifespan, nutritional abnormalities in specific populations and an introduction to enteral and parenteral feeding will be introduced. These concepts will introduce the student to basic concepts in clinical assessment, and prepare the future physician assistant for clinical practice in the outpatient and inpatient settings.

1 credit

PASS 581 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
Prerequisites: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 582 Emergency Medicine and Surgical Principles
This course provides the history and development of emergency medicine and surgery as a specialty, and considers some of the medicolegal issues unique to those specialties. It provides an overview of the approach and management of chest pain, abdominal pain, musculoskeletal injuries and common complaints by system.

3 credits
Prerequisites: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 583 Psychiatric Principles
This course is designed to introduce the PA student to the major psychopathologies encountered in clinical practice. Emphasis is placed on diagnosis and treatment. Case histories and audio-visual presentations will enhance the student’s understanding. The student is expected to read assigned text chapters in conjunction with the handouts. Key concepts of psychiatry will be discussed.

1.5 credits
Prerequisites: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 585 Clinical Laboratory Medicine II
The purpose of Clinical Laboratory Medicine II is to further 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
Prerequisites: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PASS 586 Pediatrics
This course will provide overall instruction in the evaluation and management of the common conditions seen in pediatric patients. Well-child examinations and screenings will be addressed for neonates, toddlers, school-aged children and adolescents. The emphasis will be on problems commonly encountered in an ambulatory care pediatric setting.

2 credits
Prerequisites: ANAT 1551 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing and Documentation; PASS 576 Clinical Nutrition

PASS 590 Preparation for Clinical Phase (PCP)
PCP is designed to prepare students for the 15 months of clinical training they will undergo as part of the PA Program. PCP is made up of five clinical-year sessions and a one-week symposium. Students will learn about the clinical-year and how they can actively participate in setting up their rotations. Students will work on clinical skills obtained during the didactic year. Information on professional issues, such as
confidentiality of patient information, proper conduct on rotations, and documentation will also be presented.

1.5 credits
Prerequisite: Successful completion of all didactic courses

PASS 691 Mid-Year Evaluation
The mid year evaluation is designed to evaluate students in the middle of the clinical-year of the PA program. The mid-year evaluation is a two day evaluation process comprised of an individual practical exam, SOAP write-up, end of rotation exam and a comprehensive multiple choice exam. It is designed to assess progress through the clinical year and identify potential areas of weakness. Additionally, lecture sessions are scheduled each day to enhance medical knowledge in preparation for the PANCE and for clinical practice.
1 credit
Prerequisite: Successful completion of assigned rotations

PASS 692 End-of-Year Evaluation
The end of the year evaluation is designed to evaluate students prior to graduating from the PA program. The Cumulative Review and Evaluation Week (CREW) has two components: 1) the two day EYE course, and 2) the four day BOARD REVIEW course which occurs near the end of a student’s clinical training. CREW is meant to serve as a summative evaluation of the clinical phase for each student and to assess their readiness to sit for the PANCE and to enter clinical practice.
1 credit
Prerequisite: Successful completion of assigned rotations

PASS 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.
4 credits
Prerequisites: ANAT 1551 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing and Documentation; PASS 576 Clinical Nutrition

PHAR 560, 570, 580 Pharmacology & 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 in man, 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.
PHAR 560: 2 credits
PHAR 570: 3 credits
PHAR 580: 3 credits

• Prerequisites for PHAR 560 Pharmacology & Pharmacotherapeutics I: ANAT 1551 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing & Documentation; PASS 576 Clinical Nutrition;

• Prerequisites for PHAR 570 Pharmacology & Pharmacotherapeutics II: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I;

• Prerequisites for PHAR 580 Pharmacology & Pharmacotherapeutics III: CORE 1570 Interdisciplinary Healthcare; MICR 570 Microbiology; PASS 570 Clinical Medicine II; PASS 573 Electrocardiography; PASS 574 Clinical Laboratory Medicine I; PASS 575 Women’s Health; PHAR 570 Pharmacology & Pharmacotherapeutics II; and PHYS 1582 Human Physiology II

PHYS 1571, 1582 Human Physiology I, II
In this two-quarter series, students are introduced through didactic instruction, work shops, and clinical case discussions to the basic physiologic principles that underly 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. 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.
4 credits per quarter

• Prerequisites for PHYS 1571 Human Physiology I: ANAT 1551 Human Anatomy and Embryology (with
Gross Anatomy Lab); BIOC 551 Human Biochemistry; PASS 550 Health Professionalism; PASS 551 Behavioral Medicine; PASS 556 Medical Interviewing and Documentation; PASS 576 Clinical Nutrition;

- Prerequisites for PHYS 1582 Human Physiology II: ANAT 563 Human Neurosciences; CORE 1560 Interdisciplinary Healthcare; PASS 560 Epidemiology & Evidence-Based Medicine; PASS 565 Clinical Medicine I; PASS 586 Pediatrics; PASS 1569 Physical Diagnosis; PHAR 560 Pharmacology & Pharmacotherapeutics I; PHYS 1571 Human Physiology I

**Required Masters Courses for Specialty Tracks**

**ETHC 501 Introduction to Bioethics**
This course aims 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.
3 credits
Prerequisite: PASS 561 Master’s Skills & Topics

**ETHC 502 Foundations of Medical Ethics**
This course explores the theoretical underpinnings of bioethical evaluation. Various philosophical theories are examined including consequentialism, deontological theories, principlism, ethics of care, casuistry, narrative ethics, and pragmatism, with an eye on the relationship between theory and practice.
3 credits
Prerequisite: ETHC 501 Introduction to Medical Ethics

**ETHC 503 Philosophy of Medicine**
This course focuses on questions about the nature and goals of medicine, as well as on concepts of health, disease and illness. The effect of value judgments on research agendas, public health, clinical decisions, and the patient–doctor experience of illness are also examined.
3 credits
Prerequisite: ETHC 502 Foundations of Medical Ethics

**ETHC 537 Ethical Challenges in Medicine: A Case Study Approach**
This course utilizes cases to explore a variety of ethical dilemmas present in the day-to-day practice of health care. An emphasis is placed on developing a practical approach to identifying, understanding, and resolving ethical issues. Goals include demonstrating the relevance of ethics to everyday medicine, and providing a bridge between the systematic, theoretical concerns of ethics and the realities of clinical medicine.
3 credits
Prerequisite: PASS 561 Master’s Skills & Topics

**MHPE 501 Teaching and Learning Styles**
This course is designed to give students a specialized knowledge and understanding of the major learning style theories and their application within educational practice. Students identify their predominant learning and teaching styles and explore how to incorporate various strategies to improve teaching effectiveness.
3 credits
Prerequisite: PASS 561 Master’s Skills & Topics

**MHPE 502 Educational Technology**
This course is designed to provide the student with an introduction to using educational technology in the classroom and to assist the student with developing skills in applying various educational technologies to meet instructional needs. This course includes computer-assisted instruction.
3 credits
Prerequisite: MHPE 501 Teaching and Learning Styles

**MHPE 503 Instructional Design and Methods**
In this course, students examine the use of instructional design models to create educational materials that focus on the needs of learners in the health professions. Students design and carry out an instructional design plan related to their health profession or area of expertise.
3 credits
Prerequisite: MHPE 501 Teaching and Learning Styles

**MHPE 534 Patient Education: Improving Health Outcomes**
This course focuses on methods for developing educational materials that will assist the patient in acquiring knowledge that addresses their health care needs. Emphasis will be placed on the integration of instructional design and learning theories to develop educational materials related to health and wellness, and disease and disease prevention. The impact of health literacy, as well as legal and ethical considerations for patient education will also be explored.
3 credits
Prerequisite: MHPE 503 Instructional Design

**PASS 561 Master’s Skills & Topics**
This required course is the initial preparatory course for Master’s of Medical Science students in the Physician Assistant Program. The student will be exposed to core content appropriate to all Master’s students, such as searching the literature, critiquing web sites and professional writing.
1 credit

**PASS 562 Advanced Master’s Skills and Application**
The purpose of this course is to introduce the student to the concepts and skills in evidence-based medicine and the clinical application of these tools. This course also introduces
students to topics such as clinical case series and specific case studies, and continuing medical education (CME). These tools will ultimately assist the student in the preparation for the clinical year and in the development of their Master’s thesis or portfolio.

3 credits
Prerequisite: PASS 561 Master’s Skills & Topics

PASS 563 Independent Study I: Literature Review
The purpose of this course is to help students refine their topic of study for their Master’s research thesis or clinical Master’s portfolio. The course coordinators will assist students as they work independently in the selection of a research or clinical topic of study and facilitate an in-depth approach to the topic through the annotated bibliography and literature review.

3 credits
Prerequisite: PASS 562 Advanced Master’s Skills & Topics

PASS 564 Independent Study II: Learning Plan
This independent study course is designed to allow the preparation of the final research project proposal for the students in the research MMS track or the learning plan for those students in the clinical MMS track. The students are expected to outline their master’s work that will be completed in their second year of study.

3 credits
Prerequisite: PASS 563 Independent Study I: Literature Review

PASS 665 A-D Master’s Portfolio or Thesis
The second-year master’s curriculum serves largely as an independent study, allowing the second-year physician assistant student to develop a portfolio of professional and scholarly activities (Clinical, Bioethics and Health Professions Education Track students) or complete their master’s thesis (Research Track students). Bioethics and Health Professions Education Track students may complete elective courses offered through their respective Biomedical Sciences Department.

3 credits per quarter
Prerequisite: Completion of all first-year master’s courses specific to the student’s track

PASS 666-667 Master’s Practicum I, II
Following successful progress on the master’s portfolio, third-year clinical master’s students enter the 12-week master’s rotations. These students work with their chosen preceptor to develop practicum-specific learning objectives. Bioethics and Health Professions Education master’s students may take elective rotations during their third year to fulfill these credits. Research track students must collect their thesis data during their second year for PASS 666 and 667.

6 credits per rotation (12 credits total)

Year 2: Required Clinical Courses

CLRO 698 Selective Rotation
The Selective rotation is a six week training experience in an elective setting. The overall goal of the experience 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.

6 credits
Prerequisite: Successful completion of all didactic courses

EMED 691 Emergency Medicine
The Emergency Medicine rotation is a six week training experience in an emergency room or urgent care setting. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with emergent pathologies. Students will utilize both diagnostic and treatment modalities for various emergent and traumatic conditions that are present in the emergency room setting.

6 credits
Prerequisite: Successful completion of all didactic courses

FMED 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. The overall goal of the experience 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 family medicine/primary care setting.

6 credits
Prerequisite: Successful completion of all didactic courses

IMED 693 Internal Medicine
The Internal Medicine rotation is a six week training experience in an internal medicine setting. The overall goal of the experience 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 internal medicine setting.

6 credits
Prerequisite: Successful completion of all didactic courses

OBGY 697 Women’s Health
The Women’s Health rotation is a six week training experience in a women’s health setting. The overall goal of the experience 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 obstetric and
gynecologic conditions that are present in the women’s
health setting.
6 credits
Prerequisite: Successful completion of all didactic courses

**PEDI 694 Pediatrics**
The Pediatrics rotation is a six week training experience in a
pediatric medicine setting. The overall goal of the experience
is for the student to develop fundamental skills in evaluating
and managing pediatric patients with pathologies that require
clinician intervention. Students will utilize both diagnostic
and treatment modalities for various conditions that are
present in the pediatric medicine setting.
6 credits
Prerequisite: Successful completion of all didactic courses

**PSYC 695 Psychiatry/Behavioral Medicine**
The Psychiatric/Behavioral Medicine rotation is a six week
training experience in a psychiatric setting. The overall goal
of the experience 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 psychiatric
conditions that are present in the psychiatric setting.
6 credits
Prerequisite: Successful completion of all didactic courses

**SURG 696 Surgery**
The Surgery rotation is a six week training experience on a
surgical service, i.e., orthopedics, vascular, general, neurology
or plastics. The overall goal of the experience is for the student to develop fundamental
skills in evaluating and managing patients with pathologies
that warrant surgical intervention. Students will utilize diagnostic and treatment modalities throughout the pre-operative, inter-operative and post-operative periods.
6 credits
Prerequisite: Successful completion of all didactic courses

**ELECTIVES**

**PASS 800 Medical Spanish**
Medical Spanish is devoted to the study of the Spanish
language encountered in the provider-patient interaction and
the cultural issues that arise with the Spanish-speaking
patient. This course will give providers the tools to
successfully navigate these patient encounters. The
introduction of basic medical and language concepts and
more in-depth medical and language topics specific to the
different clinical specialties will be covered. Students will
have the opportunity to develop competence in carrying out
the medical interview and physical examination of a Spanish-
speaking patient.
2 credits

**PASS 880 End-of-Life Care**
The purpose of “End of Life Care” is to provide current
information on the optimum way of managing end-of-life
issues for patients and their families. Our society has shown
increased interest in caring for the terminally ill. American
medical schools and PA programs, in general, have not been
providing sufficient information for their students on this
topic, and many physicians and PA’s in practice are
uncomfortable discussing these topics with patients and their
families.
2 credits

**FACULTY**

**Ilona Bleaman, M.H.P.E., PA-C**
Midwestern University-Glendale
College of Health Sciences
Clinical Assistant Professor

**Bettie Coplan, M.P.A.S., PA-C**
University of Nebraska
College of Medicine
Instructor

**Alison Essary, M.H.P.E., PA-C**
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College of Health Sciences
Associate Program Director and Associate Professor

**Kevin Lohenry, M.P.A.S., PA-C**
University of Nebraska
College of Medicine
Director and Associate Professor

**Danielle Kempton, M.P.A.S., PA-C**
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Clinical Coordinator and Instructor

**James Meyer, M.D., F.A.C.P.**
University of Michigan
Medical School
Medical Director and Associate Professor

**James Roch, M.P.A.S., PA-C**
University of Nebraska
College of Medicine
Assistant Professor

**James Stoehr, Ph.D.**
Dartmouth College
Dartmouth Medical School
Associate Director of Master’s Education and Professor

**Jennifer Williams, M.M.S., PA-C**
Midwestern University-Glendale
College of Health Sciences
Clinical Instructor
MISSION
The mission of the Occupational Therapy Program is to educate and graduate highly competent and dedicated occupational therapists who possess the skills and expertise to embrace the occupational needs of individuals and communities. The Program develops self-directed, responsive occupational therapists who are eager to advocate for their clients and the profession as a whole. To this end, the Occupational Therapy Program will:

- Support the University through teaching, scholarship, and service
- Serve others through academic, scholarly, and experiential opportunities
- Foster innovative and empathic practitioners devoted to holistic and ethical practice

ACCREDITATION
Midwestern University’s Occupational Therapy Program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD 20824-1220; Phone: 301/652-2682. 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).

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 for the health care team and as integral practitioners in the health care 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 is extensive and rich in the types of experiences offered 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 Occupational Therapy Program is open on a competitive admission basis to applicants who have received a bachelor’s degree in any field, but who have not completed an accredited occupational therapy program. 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, health care, and the profession through leadership activities and collaborative efforts with others in occupational therapy and interdisciplinary education, practice, and research.

Program Objectives
The Occupational Therapy Program is guided by the following educational objectives:

1. To integrate liberal arts and science foundations and professional coursework to prepare graduates to provide and manage a wide range of professional occupational therapy services in a competent, responsive, and caring manner for clients from diverse backgrounds in a wide range of health care settings;

2. To instill an appropriate professional sensibility and response to the impact of altered health and occupational performance on clients and their significant others;

3. To cultivate the fundamental ethical and moral attitudes, principles, and behaviors that are essential to acquiring and sustaining the confidence of clients and their significant others, colleagues, and other health care personnel in the professional or practice setting, and the support of the community at large;

4. To learn and apply clinical reasoning and critical thinking skills consistently to the occupational therapy process (receiving appropriate client referrals, performing appropriate client evaluations, establishing goals and client outcomes, developing treatment plans, providing appropriate treatments based on these plans and outcomes, re-evaluating the client and course of therapy, and client discharge planning);

5. To provide theoretical, analytical, and experiential foundations that prepare students to perform tasks, functions, and duties commensurate with the dynamic nature of occupational therapy and the changing role and responsibilities of the occupational therapist in a wide range of professional settings that depend on a strong clinical knowledge base but do not necessarily involve direct client care;

6. To educate practitioners who will assume leadership roles in the development and/or implementation of new and innovative approaches intended to minimize the severity and impact of physical and psychological conditions on occupational performance;

7. To develop clinical reasoning and critical thinking skills that will prepare students to design and implement preliminary research studies that evaluate clinical practice and/or service delivery;

8. To prepare practitioners who will engage in systematic and comprehensive planning of client care services leading to more cost-effective care and more efficient utilization of health care resources;

9. To provide theoretical and experiential constructs for expanded professional contributions, including enhanced management skills, advocacy, and leadership roles in occupational therapy and interdisciplinary education, practice, and research;

10. To integrate and coordinate occupational therapy skills with those of other health care service providers to meet the needs of clients within an increasingly more complex and diverse health care delivery system;

11. To instill the desire for continued personal and professional growth through the development of and active participation in continuing educational experiences; and

12. To cultivate the fundamental ethical and moral attitudes and behaviors so that graduates are knowledgeable and adhere to the occupational therapy professional code of ethics and the profession’s rules, regulations and scope of practice.

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 health care community. 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. 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 1, 2011. 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 applicant eligibility for interviews. Applications received are reviewed by the Director of Admissions in conjunction with the Occupational Therapy Program Admissions Committee to determine the applicant eligibility for interviews. Interviews are typically conducted during the winter and spring quarters. Admissions decisions are made approximately one to two weeks after interviews have concluded.

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 students).
5. Completion of the Occupational Therapy Program’s interview process; on-campus interviews are by invitation only.
6. Completion of a first aid course within the three years prior to enrollment.
7. Current certification in cardiopulmonary resuscitation (CPR) Level C/Health Care Provider or Basic Life Support of the American Heart Association or the American Red Cross. Students are responsible for maintaining CPR certification at this level while enrolled in the Program.
8. Demonstration of a people or service orientation through community service or extracurricular activities.
9. Motivation for and commitment to health care as demonstrated by previous work, volunteer work, or other life experiences.
10. Oral and written communication skills necessary to interact with clients and colleagues.
11. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
12. 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Anatomy</td>
<td>One course*</td>
</tr>
<tr>
<td>Physiology</td>
<td>One course*</td>
</tr>
<tr>
<td>Statistics</td>
<td>One course</td>
</tr>
<tr>
<td>Human Development</td>
<td>One course†</td>
</tr>
<tr>
<td>Abnormal Psychology</td>
<td>One course</td>
</tr>
<tr>
<td>Social and Behavioral Science</td>
<td>One course</td>
</tr>
</tbody>
</table>

*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.

†The Human Development course requirement refers to at least one course which includes the physical, social, and psychological development throughout the lifespan.

Additional courses in the sciences and mathematics are recommended, including chemistry, physiology, physics, and biology.

General education electives are also recommended to demonstrate competency in English composition, oral communication, problem-solving behavior, logic, and ethical theories.

**International Applicants**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**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 at http://www.otcas.org by February 1, 2011. 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 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 OTCAS application early in the cycle. Midwestern University operates on a rolling admissions basis where applications are reviewed throughout the admissions 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 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

**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 office and the financial aid office.

During each interview session, the interviewers question applicant about their academic, personal, and professional aspirations and preparedness for admission to the Occupational Therapy Program, and rate 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 for action. Each applicant will be notified in writing of the admission action/decision.

**Technical Standards**

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner. Specific technical standards are specified in the Occupational Therapy Program Manual. The technical standards listed below are a summary of the Program specific technical standards that apply to classroom, laboratory and fieldwork environments.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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. The Occupational Therapy Program requires a candidate to be able to move at least 50 pounds vertically and horizontally.

IV. 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.
V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program is not able to grant accommodations that alter the educational standards of the Occupational Therapy curriculum. Students must meet the Technical Standards for the duration of enrollment in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Occupational Therapy Program. Students must return both a signed matriculation agreement and deposit to the Office of Admissions by the deadline date. Students must also:
1. Submit deposit monies by the date designated in their matriculation agreement. Deposits are applied toward the first quarter’s tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. Complete a medical file as requested by the Office of Student Services.
4. Submit proof of medical 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.
5. For non-U.S. citizens/nonpermanent residents only, provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending CHS.
6. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee of the Program have been completed.
7. Authorize and pass the Midwestern University criminal background check.
8. Submit additional documents as required by the Office of Admissions.
10. Complete a physical exam and submit form.
11. Sign and submit a Credit Policy Statement.
12. Meet the Technical Standards for the Program.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents will automatically forfeit their seat in the Program. Individuals accepted for admission to the Occupational Therapy Program who do not comply with stated timelines for submission of all required materials will not receive further notification from CHS regarding forfeiture of their seat.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

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.
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 and the Midwestern University Student Handbook. 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 tenure.

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 graduation, 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 131.5 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;
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.

CURRICULUM

The professional master’s curriculum is composed of 46 required course credits (quarter hours) for the first calendar year, 60.5 required course credits for the second calendar year, and 25 required course credits for the third calendar year, for a total of 131.5 quarter credits. Fieldwork courses are placed in the first, second, and third years of the curriculum and include two 1-credit Level I experiences and two 12-credit Level II Fieldwork 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 (24 required credits). 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.

First Professional Year

<table>
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<tr>
<th>Total Quarter Credit Hours Required:</th>
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<table>
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<tbody>
<tr>
<td>CORE 1560 Interdisciplinary Healthcare</td>
<td>0.5</td>
</tr>
<tr>
<td>OTHE 505 Human Conditions I</td>
<td>3.0</td>
</tr>
<tr>
<td>OTHE 510 OT Foundations</td>
<td>2.0</td>
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<tr>
<td>OTHE 520 Theoretical Constructs I</td>
<td>3.0</td>
</tr>
<tr>
<td>OTHE 540 OT Analysis I</td>
<td>2.0</td>
</tr>
<tr>
<td>ANAT 583 Neuroscience I</td>
<td>3.0</td>
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<tr>
<td>Total</td>
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</table>

<table>
<thead>
<tr>
<th>Winter Quarter</th>
<th>Hrs</th>
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</thead>
<tbody>
<tr>
<td>CORE 1570 Interdisciplinary Healthcare</td>
<td>0.5</td>
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<tr>
<td>ANAT 502 Anatomy</td>
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</table>
OTHE 525  Human Conditions II  3.0
OTHE 541  OT Analysis II  2.0
OTHE 550  Fieldwork Foundations I  1.0
OTHE 560  Occupational Roles and Participation  2.0
OTHE 584  Neuroscience II  3.0
Total  15.5

Spring Quarter
CORE 1580  Interdisciplinary Healthcare  0.5
OTHE 526  Human Conditions III  3.0
OTHE 528  Research I  2.0
OTHE 535  OT Group Process  2.0
OTHE 536  Fieldwork I-A  1.0
OTHE 551  Fieldwork Foundations II  0.5
OTHE 581  Kinesiology  3.0
OTHE 585  Evaluation and Treatment I: Foundations  5.0
Total  17.0

Second Professional Year
Total Quarter Credit Hours Required:  60.5

Summer Quarter
OTHE 626  Human Conditions IV  3.0
OTHE 630  Research II  3.0
OTHE 641  Orthotics I  2.0
OTHE 655  Evaluation and Treatment II: Children  5.0
OTHE 661  OT Analysis III  2.0
Total  15.0

Fall Quarter
OTHE 636  Fieldwork I-B  1.0
OTHE 642  Orthotics II  2.0
OTHE 650  Fieldwork Foundations III  0.5
OTHE 652  Upper Extremity Rehabilitation  4.0
OTHE 657  Pediatric Practice  2.0
OTHE 675  Evaluation and Treatment III: Adult  5.0
OTHE 678  Administration & Leadership  3.0
Total  17.5

Winter Quarter
OTHE 631  Research III  3.0
OTHE 662  Physical Agents  2.0
OTHE 667  Psychosocial Practice  3.0
OTHE 685  Evaluation and Treatment IV: Seniors  5.0
OTHE 687  Adult Practice  3.0
Total  16.0

Spring Quarter
OTHE 695  Fieldwork II-A  12.0

Third Professional Year
Total Quarter Credit Hours Required:  25.0

Summer Quarter
OTHE 720  Theoretical Constructs II  3.0
OTHE 733  Research IV  3.0
OTHE 751  Seminar on Clinical Practice  1.0
OTHE 789  Work Rehabilitation & Health Promotion  3.0
OTHE 794  Program Development  3.0
Total  13.0

Fall Quarter
OTHE 796  Fieldwork II-B  12.0

Total Quarter Credits for Years 1, 2, and 3  131.5

Note: The Midwestern University College of Health Sciences Occupational Therapy Program reserves the right to alter its curriculum however and whenever it deems appropriate.

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.

ANAT 502 Anatomy
This course provides fundamental knowledge of human structure and function. The entire human body is reviewed in both lecture and laboratory formats with an emphasis on the upper and lower extremities. Laboratory sessions include study of human cadaver prosections. Student progress is evaluated through written and practical examinations. 4 credits

ANAT 583 Neuroscience I
This is the first of two courses designed to develop the student’s knowledge base of neuroscience to a level required for clinical practice. Throughout the two courses there will be an intertwining of information about principal structural components, corresponding functions of the nervous system and the impact of neurological dysfunction on human occupation. 3 credits

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an
interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

**OTHE 505 Human Conditions I**
This course is designed to introduce students to issues pertaining to clients with psychiatric disorders, to techniques used in psychiatry to evaluate and diagnose clients, and finally to present an overview of psychiatric conditions within the Diagnostic and Statistical Manual-IV-TR classification system. Implications for occupational therapy practice are introduced.
3 credits

**OTHE 510 OT Foundations**
This is an introductory course that focuses on the foundations and scope of occupational therapy practice. The philosophy of the profession, with its emphasis on occupation and adaptation will be presented from both historical and current perspectives. The characteristics of the profession, including service delivery models and settings for occupational therapy practice, role delineations and professional ethics will be included.
2 credits

**OTHE 520 Theoretical Constructs I**
This course is the first of a two course series that introduces the philosophical assumptions, theories, models of practice, and frames of reference within occupational therapy practice. Applications to one’s life and previous exposure to occupational therapy will be incorporated.
3 credits

**OTHE 525 Human Conditions II**
This course addresses the risk factors, clinical signs and symptoms, pathogenesis, medical tests and treatments, and differential diagnosis of selected diseases/problems most common to the adult population. The impact on function is addressed. Prevention of the diseases/problems is emphasized, and current research in etiology and treatment will be discussed.
3 credits

**OTHE 528 Research I**
This course provides content foundational to understanding and applying current research that affects practice and the provision of occupational therapy services. The importance of research, analysis of current professional literature, understanding and interpreting basic research methodologies/designs will be highlighted. The process of choosing an area of research focus, developing appropriate questions, and beginning the literature review will be emphasized.
2 credits

**OTHE 535 OT Group Process**
This course provides students with opportunities to learn basic principles of group process and is presented in a laboratory format. Occupational therapy and group application, conflict resolution, problem solving, working with others, and phases of group development are emphasized.
2 credits

**OTHE 536 Fieldwork I-A**
Fieldwork experience consisting of guided learning experiences in various health care 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 and documentation skills are emphasized.
1 credit

**OTHE 540 OT Analysis I**
This introductory course emphasizes the value and use of purposeful activities in occupational therapy. The development of occupational performance skills in work, self-care, and play/leisure is highlighted. Activity analysis, problem solving and teaching processes are emphasized.
2 credits

**OTHE 541 OT Analysis II**
This introductory course emphasizes the recognition, assessment, measurement, and description of normal and abnormal movement in static and dynamic activities. The development of skills necessary to accurately measure and assess joint range of motion and muscle strength is emphasized.
2 credits

**OTHE 550 Fieldwork Foundations I**
This course introduces the student to the clinical education program, including its goals and objectives, the types of
clinical education experiences provided, and the expectations for student participation. Students will also begin to focus on increasing self-awareness through reflective exercises to foster development of professional behaviors.

1 credit

**OTHE 551 Fieldwork Foundations II**
This course focuses on the clinical education program, including the types of clinical education experiences recently provided, and the outcomes of student participation. The focus of this course is to facilitate student development of “therapeutic attitude” witnessed during fieldwork, and to increase self-awareness through self-reflective and experiential exercises to foster development of professional behaviors.

0.5 credit

**OTHE 560 Occupational Roles and Participation**
This course provides students with an in-depth inquiry into the essential principle of the profession – occupation – and the ways in which everyday occupation provides meaning, continuity, and perspective to our lives. Occupational engagement, experience, and performance will be addressed, and ways in which occupation contributes to well-being and participation in daily life will be highlighted.

2 credits

**OTHE 581 Kinesiology**
Basic biomechanical concepts are addressed in this course and their application to occupational therapy treatment in relation to force analysis and its implications on functional movement and activity. The structure and function of joints, connective tissue and muscle are addressed. Components of normal movement in the trunk and extremities are discussed in relation to static and dynamic movement and activity. The influence of task and pathology on function of the musculoskeletal system is discussed.

3 credits
Prerequisite: ANAT 502 Anatomy

**OTHE 584 Neuroscience II**
This course continues to develop the students’ knowledge base of neuroscience to a level required for clinical practice. It provides opportunities to apply neuroscience principles to the evaluation and treatment of occupational performance. Throughout the two neuroscience courses there is an intertwining of information about principal structural components, corresponding functions of the nervous system and the impact of neurological dysfunction upon human occupation.

3 credits
Prerequisite: ANAT 583 Neuroscience I

**OTHE 585 Evaluation and Treatment I: Foundations**
This course is an introduction to the occupational therapy process, with learning opportunities designed to develop essential skills required for effective therapeutic intervention. This course emphasizes client-centered approaches to evaluation and intervention with clients throughout the lifespan. Clinical reasoning and critical thinking skill development are emphasized.

5 credits

**OTHE 626 Human Conditions IV**
This course addresses the risk factors, clinical signs and symptoms, pathogenesis, medical tests and treatments, and differential diagnosis of selected diseases/problems most common to the elderly population. The impact on function is addressed. Prevention of the diseases/problems is emphasized, and current research in etiology and treatment will be discussed.

3 credits

**OTHE 630 Research II**
Self-directed learning is emphasized in the development of beginning research skills for individual and small group research projects. The development of a research proposal, including the introduction, research questions, research design, and anticipated outcomes will result in a completed project submitted for institutional (IRB) approval.

3 credits
Prerequisite: OTHE 528 Research I

**OTHE 631 Research III**
Self-directed learning builds upon work completed in prerequisite courses to carry out research studies that evaluate clinical practice and/or service delivery. Institutional Review Board (IRB) approval initiates the processes of subject recruitment, data collection, and the initial analysis of results.

3 credits
Prerequisite: OTHE 630 Research II

**OTHE 636 Fieldwork I-B**
Fieldwork experience consisting of guided learning experiences in various health care 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 and documentation skills are emphasized.

1 credit

**OTHE 641 Orthotics I**
This course will introduce the fundamental principles involved in the application of basic orthotic devices within the practice of occupational therapy. Emphasis will be placed
on anatomical and biomechanical principles as they pertain to orthotic design and utilization, principles of orthotic selection/application and the fabrication process of three basic orthoses.

2 credits

OTHE 642 Orthotics II
This course emphasizes the design and fabrication of complex orthotic devices and adaptive equipment to enhance an individual’s ability to perform work, self-care, and play/leisure activities. The refinement of psychomotor and reasoning skills are highlighted.
2 credits
Prerequisite: OTHE 641 Orthotics I

OTHE 650 Fieldwork Foundations III
This course focuses on the clinical education program, including the types of clinical education experiences recently provided, and the outcomes of student participation. The focus of this course is to facilitate student development of “therapeutic attitude” witnessed during fieldwork, and to increase self-awareness through self-reflective and experiential exercises to foster development of professional behaviors.
0.5 credit

OTHE 652 Upper Extremity Rehabilitation
This course focuses on advanced evaluation and intervention strategies for the remediation of physical limitations that are primarily musculoskeletal in nature. Emphasis will be placed on impairments of the upper extremity and their effect on functional performance.
4 credits

OTHE 655 Evaluation and Treatment II: Children
This course emphasizes the application of selected models of practice and strategies for occupational therapy practice with children who have occupational performance dysfunction related to developmental, neuromotor, psychosocial, or medical disabilities. Therapeutic approaches and clinical skills for working with children and families within the home, community, and clinical settings will be emphasized.
5 credits
Prerequisite: OTHE 585 Evaluation and Treatment I: Foundations

OTHE 657 Pediatric Practice
The focus of this course is on the application of occupational therapy evaluation and intervention to practice with children in various settings. Problem-based and case-based methodologies are utilized to facilitate students’ ability to generate applications to occupational therapy practice.
2 credits
Prerequisite: OTHE 655 Evaluation and Treatment II: Children

OTHE 661 OT Analysis III
This course emphasizes the use of activities to facilitate independence in functional living including performance in self-care, work, and play/leisure. Selected assessment procedures and therapeutic adaptations are emphasized.
2 credits

OTHE 662 Physical Agents
This course addresses the theoretical principles and physiological, neurophysiological and electrophysical changes that occur as a result of the application of selected physical modalities. Course content includes information on pain control theories, wound healing principles, and the response of tissue to the application of physical modalities. Therapeutic hydrotherapy, thermotherapy, and electrotherapy, when used as an adjunct to, or in preparation for, therapeutic occupation, is highlighted.
2 credits

OTHE 667 Psychosocial Practice
This course provides an in-depth analysis of the use of occupational therapy in psychosocial settings. Analysis of current models of practice, philosophical and theoretical frameworks, and occupational therapy practice are critiqued. Analytical thought, clinical reasoning, logic, and critical thinking are emphasized.
3 credits

OTHE 675 Evaluation and Treatment III: Adult
This course emphasizes 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 neuromotor disabilities. Therapeutic approaches and clinical skills for working with individuals within the home, community, and clinical settings will be emphasized.
5 credits
Prerequisite: OTHE 655 Evaluation and Treatment II: Children

OTHE 678 Administration & Leadership
Basic management skills are emphasized, including strategic planning, business plans, legal issues, fiscal management, reimbursement, organization, personnel management, and grant writing. These applications will provide the tools for the development of occupational therapy service delivery.
3 credits

OTHE 685 Evaluation and Treatment IV: Seniors
This course emphasizes the application of selected models of practice and strategies for occupational therapy practice with older adults who have occupational performance dysfunction related to cognitive, psychosocial, neuromotor, and medical
OTHE 675 Evaluation and Treatment III: Adult Rehabilitation and Clinical Skills for Working with Individuals with Disabilities

This course focuses on the application of occupational therapy evaluation and intervention to practice with adults in various settings. Problem-based and case-based methodologies are utilized to facilitate students’ ability to generate advanced applications to occupational therapy practice.

3 credits
Prerequisite: OTHE 675 Evaluation and Treatment III: Adult

OTHE 687 Adult Practice

The focus of this course is on the application of occupational therapy evaluation and intervention to practice with adults in various settings. Problem-based and case-based methodologies are utilized to facilitate students’ ability to generate advanced applications to occupational therapy practice.

3 credits
Prerequisite: OTHE 675 Evaluation and Treatment III: Adult

OTHE 695 Fieldwork II-A

Three months 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

OTHE 720 Theoretical Constructs II

This course focuses on the synthesis and evaluation of specific models of practice and frames of reference as related to occupational therapy practice and education. Application to fieldwork and experiential learning opportunities will be highlighted.

3 credits
Prerequisite: OTHE 520 Theoretical Constructs I

OTHE 733 Research IV

This is the fourth course of four courses in the research course series. Results from the previous coursework are subjected to descriptive or statistical analysis and integrated with the current literature in occupational therapy. Projects ultimately relate theory to practice, demonstrate synthesis of advanced knowledge in a practice area, with an outcome of a completed manuscript appropriate for publication in a peer-reviewed journal.

3 credits
Prerequisite: OTHE 631 Research III

OTHE 751 Seminar on Clinical Practice

This course provides an opportunity for students who have completed Fieldwork II-A to focus on, and refine aspects of clinical practice to enhance their experience and performance in Fieldwork II-B, as well as prepare for their transition from student to entry level practitioner.

1 credit

OTHE 789 Work Rehabilitation & Health Promotion

This course focuses on the application of occupational therapy evaluation and treatment approaches to work rehabilitation. The application of ergonomic principles and functional capacity evaluations to varied work settings is emphasized. Health promotion and prevention throughout the lifespan are also highlighted.

3 credits

OTHE 794 Program Development

Using skills from the previous administration course, students work in small groups to develop a realistic model for occupational therapy service provision in an agency or institution not currently accessing such services. Emerging and non-traditional areas of practice are highlighted for the student groups’ end product: the development of a program model for occupational therapy services.

3 credits
Prerequisite: OTHE 678 Administration & Leadership

OTHE 796 Fieldwork II-B

Three months 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

OTHE 800 Independent Study

This course is designed to facilitate scholarly inquiry into a topic related to a specific component of occupational therapy 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
Prerequisite: Permission of the Instructor

FACULTY

Evelyn Andersson, Ph.D., OT
Texas Women’s University
School of Occupational Therapy
Assistant Professor
Kimberly A. Bryze, Ph.D., OT
University of Illinois at Chicago
College of Education
Director and Associate Professor

Froma Cummings, M.ED., OT
Arizona State University
College of Education
Assistant Professor

Christine Merchant, Ph.D., OT
Touro University International
College of Education
Associate Director and Assistant Professor

Katherine Schofield, M.H.S., OT, CHT
University of Indianapolis
School of Occupational Therapy
Instructor

Brenda K. Taubman, M.A., OT
University of Phoenix
Assistant Professor
COLLEGE OF HEALTH SCIENCES

BIOMEDICAL SCIENCES PROGRAM

MASTER OF ARTS IN BIOMEDICAL SCIENCE DEGREE PROGRAM

MISSION
The mission of the Master of Arts in Biomedical Science Program is to help students with a Bachelor’s degree improve their academic foundation in the biomedical sciences and to graduate students who are competitive applicants for admission into medical school and other professional programs in healthcare (e.g. dentistry, podiatry, and pharmacy).

DEGREE DESCRIPTION
The Master of Arts in Biomedical Science (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 and medical ethics. Courses include: biochemistry, molecular cell biology, genetics, histology, human anatomy (with lab), human physiology I & II, microbiology, immunology and virology I & II, pharmacology I & II, learning styles and assessments, introduction to ethics and a capstone course. The capstone course includes preparation of a scholarly, literature-based portfolio on a topic of the student’s choice (usually a disease condition) and a presentation of their topic in a research poster. In addition, the students are required to take elective credits each quarter to bring the total quarter credits to 15 or more credits. The elective credits, offered in a variety of disciplines, include other biomedical science courses and professional preparation courses (e.g. MCAT or PCAT Preparation, Health Career Planning, Medical Terminology, etc.). These electives improve critical thinking skills, study skills and enhance the student’s preparation for professional school application.

ADMISSIONS
Admission Requirements
To be considered for admission to the Master of Arts in Biomedical Science 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 for their bachelor’s or higher degree program.
3. Two letters of recommendation (or one committee letter from the applicant’s college or university).
4. Official transcripts from each college or university attended.
5. Test scores from one of the following: Graduate Record Examination (GRE), Medical College Admissions Tests (MCAT), Pharmacy College Admissions Test (PCAT), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions test.
6. Completion of the typical prerequisite coursework for admission into medical, dental or pharmacy schools, including biology, general chemistry, organic chemistry, physics, mathematics, and English; 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

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<th>Course</th>
<th>Sem. Hrs.</th>
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<td>English Composition</td>
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<td>General Biology with laboratory</td>
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<td>Mathematics</td>
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A limited number of transfer credits from other institutions are allowed: 6 semester (9 quarter) hours for the Master of Arts in Biomedical Science. However, this does not remove the requirement to enroll in a minimum of 15 credit hours per quarter.

Application Process and Deadlines
Individuals interested in applying for admission to the Master of Arts in Biomedical Sciences Program must complete an application online from: www.midwestern.edu.

To be considered for admission, applicants must submit an application packet that includes:

1. A completed Application for Admission to the Master of Arts in Biomedical Science Program
2. A nonrefundable, nonwaivable application fee ($50 for the Master’s degree program)
3. Two letters of recommendation (or one committee letter); the Office of Admissions will accept signed and sealed letters from prehealth advisors or committees, science professors, and health professionals
4. Official transcripts from each college or university attended. Applicants must enclose official transcripts from every undergraduate, graduate, or professional school that they have attended or are currently attending. These transcripts must be sealed and signed by the registrar at each institution.
5. Scores from the Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), Optometry Admissions Test (OAT), or other professional program admissions tests

The Biomedical Science 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 Science Program begins in the Fall Quarter. Admission to the Biomedical Science Program is considered on a competitive basis for applicants who have achieved 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 Science Program Admissions Committee with the approval of the Program Director and the Dean of the College of Health Sciences 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.

International Applicants
International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

Interview and Selection Process
After receiving completed application packets, the information provided is verified to determine whether all prerequisite coursework has been completed satisfactorily or will be completed prior to potential matriculation and also to verify the cumulative GPAs for applicants for all completed courses. The application materials are reviewed to determine eligibility for interviews, which are offered by invitation only. A phone interview is possible for those applicants who are unable to schedule an interview in person. Completed applications and interview summaries are forwarded to the Biomedical Sciences Program Admissions Committee. Applicants will receive notification in writing 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 your 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

Technical Standards
A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Biomedical Sciences Program. Students must return both their signed matriculation agreement and an initial deposit to the Office of Admissions. Students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.

2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. Successfully complete all outstanding prerequisites with grades of C or better (grades of C- are not acceptable for any prerequisite course).

4. 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.

6. Meet the Technical Standards for the Program.

7. If a non-U.S. citizen/nonpermanent resident, provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending the College of Health Science.

8. Provide documentation that any additional coursework or service requirements stipulated by the Program have been completed.

9. Submit additional documents as required by the Office of Admissions.
10. Authorize and pass the Midwestern University criminal background check.
11. Sign and submit the Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement.
12. Complete a physical exam and submit this form and a completed medical file as requested by the Office of Student Services.
13. Sign and submit a Credit Policy Statement.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat in the Program. Students accepted for admission who do not comply with stated timelines for submission of all required materials will not receive further notification from the College regarding forfeiture of their seat.

Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

GRADUATION REQUIREMENTS

To qualify for graduation, students must:
1. Follow an approved course of study acceptable to the Biomedical Science Program Student Academic Review Committee;
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 for the Master of Arts in Biomedical Science degree;
3. Satisfactorily complete the required minimum of 45 quarter hour credits for the Master of Arts in Biomedical Science degree program.
4. Receive a favorable recommendation for Master’s degree conferral from the Program faculty to the Program Student Academic Review Committee and from this committee, 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.

CURRICULUM

Sample curriculum, course credits, and sequencing
Not all electives are offered every year.

Fall Quarter, (15 credits minimum)

Required Courses:
- HIST 1502 Histology 3 credits
- BMED 508 Learning Styles and Assessment 1 credit
- BMED 550 Biochemistry 3 credits
- BMED 554 Molecular Cell Biology 3 credits
- PHYS 571 Human Physiology I 4 credits
Total 14 credits

Elective Course Options: 1 Elective Credit Required
- BMED 805 Medical Terminology 2 credits
- BMED 806 Pre-Professional Exam Prep I Sections A, B, C, D, E 0.5 credits per section
- BMED 821 Emerging Infectious Diseases 1 credit
- BMED 834 Embryology 2 credits
- BMED 845 Oncology 3 credits
- BMED 871 Medicinal Chemistry I 1.5 credits

Winter Quarter, (15 credits minimum)

Required Courses:
- ANAT 503 Human Anatomy with Laboratory 4 credits
- BMED 500 Introduction to Capstone Course 1 credit
- BMED 522 Microbiology, Immunology, Virology I 3 credits
- BMED 574 Pharmacology I 3 credits
- PHYS 582 Human Physiology II 4 credits
Total 15 credits

Elective Course Options:
- BIOC 550 Nutritional Biochemistry with Laboratory 4 credits
- BMED 807 Pre-Professional Exam Preparation II Sections A, B, C, D, E per section
- BMED 824 Issues in Bioterrorism 1 credit
- BMED 870 Drug Literature Evaluation 1.5 credits
- BMED 872 Medicinal Chemistry II 1.5 credits
- BMED 876 Pharmacognosy 2 credits
- BMED 878 Drugs of Addiction 2 credits

Spring Quarter, (15 credits minimum)

Required Courses:
- BMED 516 Introduction to Medical Ethics 3 credits
- BMED 523 Microbiology, Immunology, Virology II 3 credits
- BMED 541 Genetics 3 credits
- BMED 575 Pharmacology II 3 credits
BMED 590  Capstone Course  3 credits
Total  15 credits

**Elective Course Options:**
BMED 801  Health Career Planning  2 credits
BMED 511  Research Design and Statistics  3 credits
BMED 860  Cardiovascular Biophysics  4 credits
BMED 860L  Cardiovascular Biophysics Laboratory  2 credits
BMED 863  Neuroscience  3 credits
BMED 865  Pathophysiology  4 credits
BMED 873  Medicinal Chemistry III  1.5 credits
BMED 877  Dangerous Plants and Animals  2 credits
CLMD 1343  Evolution, Medicine, and the Natural History of Disease  2 credits

**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.

*ANAT 503 Human Anatomy with Laboratory*
This course provides an introduction to the study of human anatomy in a lecture and laboratory format. The course focuses on the gross anatomy of the body cavities, upper extremity, and head. Relevant embryological development of these regions is also included. Laboratory sessions include study of human cadaver prosections and dissection of cat and portions of other vertebrate specimens. Student progress is evaluated through written and practical examinations.
4 credits
Prerequisite: HIST 1502 Histology

*BMED 500 Introduction to Capstone Course*
This course is designed to help the student begin the necessary preparation for the Capstone course. Topics covered will include: introduction to research topics acceptable for the capstone course, the process of scientific writing, writing and reviewing case studies, literature discovery, and the format of the Capstone project.
1 credit

*BMED 508 Learning Styles and Assessment*
In this course, students will identify their predominant learning styles and explore methods to improve study habits and learning effectiveness. The course will also explore barriers to learning and how they can be assessed and treated.
1 credit

*BMED 516 Introduction to Medical Ethics*
This course aims to improve critical thinking skills, introduce argumentation and argumentative writing, and to familiarize

BMED 522, 523 Microbiology, Immunology and Virology I, II
This two-quarter course series provides a fundamental understanding of bacteria, animal viruses, and the mammalian immune system. Concepts in microbiology are integrated to provide context for the study of interactions between organisms, from commensal to parasitic. Topics include morphology, population dynamics, genetics and control of microbes, and the components and functions of the immune system. Second quarter examines current topics. 3 credits each course
Prerequisite for BMED 523 Microbiology, Immunology and Virology II: BMED 522 Microbiology, Immunology and Virology I

*BMED 541 Genetics*
This course introduces the principles of genetics as they apply to biological function at the level of molecules, cells, and organisms. Topics may include: the foundations of the normal transmission of dominant and recessive genetic traits, risk factors, and genetic mapping structure and function of genes, chromosomes and genomes, biological variation resulting from recombination, mutation, and selection, population genetics, use of genetic methods to analyze protein function, gene regulation and inherited disease.
3 credits

*BMED 550 Biochemistry*
This course covers the structures, properties, chemistry, and metabolism of proteins, nucleic acids, carbohydrates, and lipids within the context of human biochemistry. The regulation and integration of metabolism at the cellular and tissue levels within the human body during the fed and fasting states will be emphasized. Correlations to disease processes are used to illustrate clinical applications of biochemical concepts. Critical thinking and problem solving skills are developed with problems sets.
3 credits

*BMED 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, gene transcription, translation, regulation of gene expression, DNA replication, cell signaling, regulation of cell growth and differentiation. Critical thinking and problem solving skills are developed using problem sets.
3 credits
**BMED 574, 575 Pharmacology I, II**
These courses introduce students to the general principles of drug action, drug dynamics and kinetics, toxicities, and therapeutic uses as related to humans. Students learn about common drugs affecting major organ systems of the body, namely, the autonomic nervous system, central nervous system, cardiovascular and renal systems. Specific drugs for the treatment of arrhythmias, angina, congestive heart failure, hypertension and hyperlipidemias will be discussed.
3 credits each course
Prerequisite for BMED 575 Pharmacology II: BMED 574 Pharmacology I

**BMED 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 portfolio on a topic of the student’s choice (usually a disease condition) 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 portfolio and poster presentation.
3 credits
Prerequisite: Successful completion of the first two quarters of the MA curriculum

**HIST 1502 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.
3 credits

**PHYS 571, 582 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.
4 credits each course

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**ELECTIVES**
Not all electives are offered every year.

**BIOC 550 Nutritional Biochemistry with Laboratory**
This course examines the impact of nutrition, exercise, and wellness in both healthy and debilitated patient populations. Students gain exposure to various teaching and diagnostic tools that aid in assessing wellness.
4 credits

**BMED 511 Research Design and Statistics**
This course provides an overview of research designs and basic statistical approaches used in basic science, applied and descriptive research. The course teaches basic research skills used in all disciplines of the health professions, lays the groundwork for each student’s master’s project, and aids in the interpretation of research presented in the literature.
3 credits

**BMED 801 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).
2 credits

**BMED 805 Medical Terminology**
This course is intended to broaden the student’s understanding of the lexicon for the medical sciences. The course format includes lectures, readings, and discussions designed to facilitate an understanding of the roots of medical terms. Upon completion of the course, students are expected to describe and apply the basic principles of root words, suffixes, and prefixes of medical terms.
2 credits

**BMED 806, 807 Pre-Professional Exam Preparation A, B, C, D, E**
This course serves as a preparation for health career related professional exams. Relevant equations, concepts, and material are reviewed throughout this course. Mock exams and weekly quizzes help prepare students for the actual test.
Section A: Biology; Section B: General Chemistry; Section C: Organic Chemistry; Section D: Physics; Section E: Math 0.5 credits each section
Prerequisite for BMED 807 Pre-Professional Exam Preparation II: BMED 806 Pre-Professional Exam Preparation I
**BMED 821 Emerging Infectious Diseases**
This in-depth review of information from current research emphasizes the biological aspects of emerging and re-emerging diseases at the molecular, organ, and population level. Selected methods of diagnosis and therapy will be discussed.
1 credit

**BMED 824 Issues in Bioterrorism**
This course examines many aspects of the bioterrorism threat, including history, agents, response preparation and incident management. Facets of bioterrorism are presented by experts in government and academia and integrated by the class in a final tabletop incident exercise.
1 credit

**BMED 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.
2 credits

**BMED 845 Oncology**
This course is an introduction to cancer and the biological aspects of tumor growth with emphasis on the development and progression of cancer. Selected methods of cancer diagnosis and therapy are discussed based on reviews of current literature.
3 credits

**BMED 860 Cardiovascular Biophysics**
This course examines the fundamental principles underlying the study of physiology, biochemistry, and medicine. The main focus will be on the principles of fluid flow in the respiratory and cardiovascular systems. Electrophysiology, thermodynamics, and thermal regulation will also be studied.
4 credits

**BMED 860L Cardiovascular Biophysics Laboratory**
Laboratory associated with BMED 860 Cardiovascular Biophysics
2 credits

**BMED 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 cognitive and neurodegenerative 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

**BMED 865 Pathophysiology**
This course emphasizes the etiology, pathogenesis, and pathophysiology of selected disease states in humans. The normal and abnormal histology of each organ is also discussed. The course is designed to build on the skills learned in anatomy and physiology.
4 credits
Prerequisites: HIST 1502 Histology; PHYS 571 Human Physiology I

**BMED 870 Drug Literature Evaluation**
This course introduces, discusses and applies primary, secondary and tertiary references commonly encountered in medical/pharmaceutical education.
1.5 credits

**BMED 871, 872, 873 Medicinal Chemistry I, II, III**
These courses discuss the chemistry of therapeutic agents – drugs. BMED 871 focuses on functional chemical groups and drug metabolism. BMED 872 and BMED 873 are coupled to the two pharmacology core courses by integrating the importance of chemical structure-activity relationships on a topic per topic basis.
1.5 credits each course

**BMED 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, the 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

**BMED 877 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.
2 credits

**BMED 878 Drugs of Addiction**
This course will provide students with an understanding of the psychological, as well as the pharmacological, effects of the common drugs of addiction. The following drugs and
drug classes will be reviewed: alcohol, stimulants, nicotine, hallucinogenics, inhalants, sedatives, and opioids. Topics covered include preferred routes of administration, absorption, distribution, mechanisms of action, tolerance and withdrawal. Particular emphasis will be placed on abuse potential, addictive behaviors and societal impact associated with each substance.

2 credits

CLMD 1343 Evolution, Medicine and the Natural History of Disease

This course focuses on the intersection of evolution and clinical medicine by examining the natural history of several pathologies. Human pathology is usually approached by focusing on causes such as genetic, developmental, physiological, or behavioral mechanisms. But pathology can also be studied by investigating causes that depend on evolulational mechanisms. The objectives of this course are: 1) to introduce basic concepts of evolutionary biology, 2) develop an understanding of human evolution, and 3) examine human pathology in terms of evolution and natural history.

2 credits

MASTER OF BIOMEDICAL SCIENCE DEGREE PROGRAM

MISSION

The mission of the Master of Biomedical Science Program is two-fold: 1) to graduate students who are competitive applicants for admission into postbaccalaureate programs in the health sciences (medicine, dentistry, pharmacy, or other health professional programs), and 2) to graduate students who are competitive for admission into Ph.D. programs or to pursue careers in teaching and research. Graduates will also be prepared to pursue careers in the pharmaceutical, biotechnology and biosafety industries, as well as government regulatory agencies.

DEGREE DESCRIPTION

The Master of Biomedical Science (MBS) Program is designed as a full-time, 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 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 72-quarter-hour (minimum) master's degree curriculum is usually completed in 21-24 months. All students must complete the program within four 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, immunology and virology; pharmacology; and/or histology and anatomy. 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, Advanced Research Design and Statistics, Good Laboratory Practice, Journal Club, Laboratory Rotations, Ethics of Research and Experimentation, Research Literature Review, Research Protocol, Research Seminar, 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 to better prepare them for a career in their chosen field.

ADMISSIONS

Admission Requirements

To be considered for admission to the Master of Biomedical Science 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 for their bachelor’s or higher degree program.

3. Two letters of recommendation (or one committee letter from applicant’s college or university).

4. Official transcripts from each college or university attended.

5. 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.

6. Completion of the typical prerequisite coursework for admission into medical, dental or pharmacy schools, such as: biology, general chemistry, organic chemistry, physics, mathematics, and English are strongly recommended; 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).
Applications early in the admission cycle should be considered. To maximize their competitiveness within our rolling admission process, applications are allowed: 6 semester (9 quarter) hours for the Master in Biomedical Science.

**Application Process and Deadlines**

Individuals interested in applying for admission to the Master of Biomedical Sciences Program must complete an application online from: www.midwestern.edu/Programs_and_Admission/AZ_Master_of_Biomedical_Sciences/AdmissionApply.html

To be considered for admission, applicants must submit an application packet that includes the following:

1. A completed Application for Admission to the Master of Biomedical Science Program
2. A nonrefundable, nonwaivable application fee ($50 for the Master’s degree program)
3. Two letters of recommendation (or one committee letter): the Office of Admissions will accept signed and sealed letters from prehealth advisors or committees, science professors, and health professionals
4. Official transcripts from each college or university attended. Applicants must enclose official transcripts from every undergraduate, graduate, or professional school they have attended or are currently attending. These transcripts must be signed and sealed by the registrar at each institution.
5. Scores from the Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), Optometry Admissions Test (OAT) or other professional program admissions tests

The Biomedical Science 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 Science Program begins in the Fall Quarter. Admission to the Biomedical Science Program is considered on a competitive basis for applicants who have achieved 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 Science Program Admissions Committee with the approval of the Program Director and the Dean of the College of Health Sciences 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.

**International Applicants**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**Interview and Selection Process**

After receiving completed application packets, the information provided is verified to determine whether all prerequisites have been completed satisfactorily or will be completed prior to potential matriculation and also to verify the cumulative GPAs for all completed courses. The application materials are reviewed to determine eligibility for interviews, which are offered by invitation only. A phone interview is possible for those applicants who are unable to schedule an interview in person. Completed applications and interview summaries are forwarded to the Biomedical Sciences Program Admissions Committee. Applicants will receive notification in writing 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

Technical Standards
A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Biomedical Sciences Program. Students must return both their signed matriculation agreement and an initial deposit to the Office of Admissions. Students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. Successfully complete all outstanding prerequisites with grades of C or better (grades of C- are not acceptable for any prerequisite course).
4. Submit proof of completed required immunizations.
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.
6. Meet the Technical Standards for the Program.
7. If a non-U.S. citizen/nonpermanent resident, provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending the College of Health Sciences.
8. Provide documentation that any additional coursework or service requirements stipulated by the Program have been completed.
9. Submit additional documents as required by the Office of Admissions.
10. Authorize and pass the Midwestern University criminal background check.
11. Sign and submit the Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement.
12. Complete a physical exam and submit this form and a completed medical file as requested by the Office of Student Services.
13. Sign and submit a Credit Policy Statement.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat in the Program. Students accepted for admission who do not comply with stated timelines for submission of all required materials will not receive further notification from the College regarding forfeiture to their seat.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Graduation Requirements
To qualify for graduation, students must:
1. Follow an approved course of study acceptable to the Biomedical Science Program Student Academic Review Committee;
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 for the Master in Biomedical Science degree;
3. Satisfactorily complete the required minimum of 72 quarter hour credits for the Master of Biomedical Science degree program.
4. Receive a favorable recommendation for Master’s degree conferral from the Program faculty to the Program Student Academic Review Committee and from this committee, 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.

Curriculum
Sample curriculum, course credits, and sequencing. Not all electives are offered every year.

First Year

Fall Quarter
Core Requirements
HIST 1502 Histology (Core Sequence 1) 3 credits
BMED 510 Research Topics and Methods 2 credits
BMED 519 Laboratory Rotation 1.5 credits
BMED 550 Biochemistry 3 credits
BMED 554 Molecular Cell Biology 3 credits
PHYS 571 Human Physiology I 4 credits
Total 13.5-23 credits

Elective Course Options
BMED 508 Learning Styles and Assessment 1 credit
BMED 805 Medical Terminology 2 credits
BMED 806 Pre-professional Exam Preparation I Sections A, B, C, D, E 0.5 credits per section
BMED 821 Emerging Infectious Diseases 1 credit
BMED 834 Embryology 2 credits
BMED 845 Oncology 3 credits
BMED 871 Medicinal Chemistry I 1.5 credits

Winter Quarter
Core Requirements
ANAT 503 Human Anatomy with Laboratory (Core Sequence 1) 4 credits
BMED 511 Research Design and Statistics 3 credits
BMED 512 Research Literature Review 2 credits
BMED 522 Microbiology, Immunology and Virology I (Core Sequence 2) 3 credits
BMED 574 Pharmacology I (Core Sequence 3) 3 credits
BMED 605 Journal Club 1 credit
BMED 680 Laboratory Research 1 credit
PHYS 582 Human Physiology II 4 credits
Total 14-23 credits

Elective Course Options
BIOC 550 Nutritional Biochemistry with Laboratory 4 credits
BMED 807 Pre-professional Exam Preparation II Sections A, B, C, D, E 0.5 credit per section
BMED 824 Issues in Bioterrorism 1 credit
BMED 872 Medicinal Chemistry II 1.5 credits
BMED 876 Pharmacognosy 2 credits
BMED 878 Drugs of Addiction 2 credits

**Spring Quarter**

**Core Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 515</td>
<td>Research Protocol</td>
<td>2</td>
</tr>
<tr>
<td>BMED 517</td>
<td>Ethics of Research and Experimentation</td>
<td>3</td>
</tr>
<tr>
<td>BMED 523</td>
<td>Microbiology, Immunology and Virology II (Core Sequence 2)</td>
<td>3</td>
</tr>
<tr>
<td>BMED 541</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BMED 575</td>
<td>Pharmacology II (Core Sequence 3)</td>
<td>3</td>
</tr>
<tr>
<td>BMED 681</td>
<td>Laboratory Research</td>
<td>1-5</td>
</tr>
<tr>
<td>BMED 606</td>
<td>Journal Club</td>
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**Total** 12-23 credits

**Elective Course Options**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BMED 516</td>
<td>Introduction to Medical Ethics</td>
<td>3</td>
</tr>
<tr>
<td>BMED 801</td>
<td>Health Career Planning</td>
<td>2</td>
</tr>
<tr>
<td>BMED 860</td>
<td>Cardiovascular Biophysics</td>
<td>4</td>
</tr>
<tr>
<td>BMED 860L</td>
<td>Cardiovascular Biophysics Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BMED 863</td>
<td>Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>BMED 865</td>
<td>Pathophysiology</td>
<td>4</td>
</tr>
<tr>
<td>BMED 873</td>
<td>Medicinal Chemistry III</td>
<td>1.5</td>
</tr>
<tr>
<td>BMED 877</td>
<td>Dangerous Plants and Animals</td>
<td>2</td>
</tr>
<tr>
<td>CLMD 1343</td>
<td>Evolution, Medicine, and the Natural History of Disease</td>
<td>2</td>
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**Second Year**

**Summer Quarter**

**Core Requirements**

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>BMED 607</td>
<td>Journal Club</td>
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<tr>
<td>BMED 612</td>
<td>Good Laboratory Practice</td>
<td>3</td>
</tr>
<tr>
<td>BMED 682</td>
<td>Laboratory Research</td>
<td>6-10</td>
</tr>
<tr>
<td>BMED 686</td>
<td>Laboratory Research</td>
<td>6-10</td>
</tr>
<tr>
<td>BMED 693</td>
<td>Research Thesis</td>
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<tr>
<td>BMED 697</td>
<td>Research Thesis</td>
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**Total** 12-17 credits

**Fall Quarter**

**Core Requirements**

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<tbody>
<tr>
<td>BMED 608</td>
<td>Journal Club</td>
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<td>BMED 683</td>
<td>Laboratory Research</td>
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<tr>
<td>BMED 687</td>
<td>Laboratory Research</td>
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<tr>
<td>BMED 690</td>
<td>Research Thesis</td>
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<tr>
<td>BMED 694</td>
<td>Research Thesis</td>
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**Total** 12-17 credits

**Winter Quarter**

**Core Requirements**

<table>
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<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 594</td>
<td>Research Seminar</td>
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</tr>
<tr>
<td>BMED 609</td>
<td>Journal Club</td>
<td>1</td>
</tr>
<tr>
<td>BMED 614</td>
<td>Advanced Research Design and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>BMED 684</td>
<td>Laboratory Research</td>
<td>6-10</td>
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**Spring Quarter**

**Core Requirements**

<table>
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<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BMED 685</td>
<td>Laboratory Research</td>
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</tr>
<tr>
<td>BMED 689</td>
<td>Laboratory Research</td>
<td>6-10</td>
</tr>
<tr>
<td>BMED 692</td>
<td>Research Thesis</td>
<td>1-2</td>
</tr>
<tr>
<td>BMED 696</td>
<td>Research Thesis</td>
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**Total** 8-16 credits

**Elective courses with quarters to be determined**

<table>
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<tr>
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<tr>
<td>BMED 813</td>
<td>Writing for Publications</td>
<td>3</td>
</tr>
<tr>
<td>BMED 818</td>
<td>Grant Writing in the Health Sciences</td>
<td>3</td>
</tr>
<tr>
<td>BMED 891</td>
<td>Advanced Topics I</td>
<td>1-3</td>
</tr>
<tr>
<td>BMED 892</td>
<td>Advanced Topics II</td>
<td>1-3</td>
</tr>
<tr>
<td>BMED 893</td>
<td>Special Topics</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Students must take at least one of Sequence 1, 2 or 3.

First year elective courses are also available to second year students.

MWU/CHS Biomedical Science Program reserves the right to alter its curriculum however and whenever it deems appropriate.

**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.

**ANAT 503 Human Anatomy with Laboratory**

This course provides an introduction to the study of human anatomy in a lecture and laboratory format.

(Core Sequence 1)

4 credits

Prerequisite: HIST 1502 Histology

**BMED 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. Fundamentals of the scientific method and its limitations, research design, descriptive statistics, and information gathering are also discussed. The format of the class includes both lecture and small group discussion. The course is intended to provide each student with a broad understanding of professional research topics and issues with a view toward stimulating ideas for the master’s research project.

2 credits
BMED 511 Research Design and Statistics
This course provides an overview of research designs and basic statistical approaches used in basic science, applied and descriptive research. The course teaches basic research skills used in all disciplines of the health professions, lays the groundwork for each student's master's project, and aids in the interpretation of research presented in the literature. 3 credits

BMED 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 Science degree. 2 credits

BMED 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 Science Degree. 2 credits
Prerequisite: BMED 512 Research Literature Review

BMED 517 Ethics of Research and Experimentation
This class is intended to give students a broad overview of research ethics and regulation, especially as it relates to human research. Students will obtain an understanding of the moral basis of research ethics including scientific integrity, research with human subjects, informed consent, vulnerable populations, privacy and the confidentiality of records, conflicts of interest, and research on animals. 3 credits

BMED 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 of two sections, students will perform a 20-hour rotation in a research laboratory under the supervision of a faculty preceptor. In the third section, students will rotate through the Biomedical Sciences Teaching Laboratory. In this Basic Skills section of the course, students will learn laboratory safety, notebook keeping, and basic laboratory techniques. 1.5 credits

BMED 522, 523 Microbiology, Immunology and Virology I, II
This two-quarter course series provides a fundamental understanding of bacteria, animal viruses, and the mammalian immune system. Concepts in microbiology are integrated to provide context for the study of interactions between organisms, from commensal to parasitic. Topics include morphology, population dynamics, genetics and control of microbes, and the components and functions of the immune system. Second quarter examines current topics. (Core Sequence 2) 3 credits each course
Prerequisite for BMED 523 Microbiology, Immunology and Virology II: BMED 522 Microbiology, Immunology and Virology I

BMED 541 Genetics
This course introduces the principles of genetics as they apply to biological function at the level of molecules, cells, and organisms. Topics may include: the foundations of the normal transmission of dominant and recessive genetic traits, risk factors, and genetic mapping structure and function of genes, chromosomes and genomes, biological variation resulting from recombination, mutation, and selection, population genetics, use of genetic methods to analyze protein function, gene regulation and inherited disease. 3 credits

BMED 550 Biochemistry
This course covers the structures, properties, chemistry, and metabolism of proteins, nucleic acids, carbohydrates, and lipids within the context of human biochemistry. The regulation and integration of metabolism at the cellular and tissue levels within the human body during the fed and fasting states will be emphasized. Correlations to disease processes are used to illustrate clinical applications of biochemical concepts. Critical thinking and problem solving skills are developed with problem sets. 3 credits

BMED 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, gene transcription, translation, regulation of gene expression, DNA replication, cell signaling, regulation of cell growth and differentiation. Critical thinking and problem solving skills are developed using problem sets. 3 credits

BMED 574, 575 Pharmacology I, II
These courses introduce students to the general principles of drug action, drug dynamics and kinetics, toxicities, and therapeutic uses as related to humans. Students learn about common drugs affecting major organ systems of the body, namely, the autonomic nervous system, central nervous system, cardiovascular and renal systems. Specific drugs for the treatment of arrhythmias, angina, congestive heart failure, hypertension and hyperlipidemias will be discussed. (Core Sequence 3)
3 credits each course
Prerequisite for BMED 575 Pharmacology II: BMED 574 Pharmacology I

BMED 594 Research Seminar
This course is designed to expose students to a variety of scientific disciplines and projects, accomplished by attendance at the research faculty seminar series. Additionally, each student will be expected to present a seminar to the faculty on the subject of his or her choice. 1 credit

BMED 605-609 Journal Club
This 5-quarter sequence consists of weekly meetings for in-depth discussions of current research articles. These classes will greatly enhance the opportunities for students to develop their critical thinking skills. In the Winter Quarter, both first-year and second-year students will be in the class, allowing interactions between advanced and beginning students. 1 credit each course

BMED 612 Good Laboratory Practice
This course reviews requirements and regulations of the Food and Drug Administration, Environmental Protection Agency and International Organization for Economic Cooperation and Development. Compliance issues and inspection procedures are covered for organizations involved in product safety testing in animals and the environment. A historical perspective is presented as to the development of the regulations and non-traditional safety testing. Quality assurance programs and management’s responsibility will also be discussed.
3 credits

BMED 614 Advanced Research Design and Statistics
This course follows from BMED 511 and reviews advanced statistics used in biomedical and educational research. Topics covered include two and three-way analysis of variance, multiple regression and correlation analysis, nested designs, post hoc analysis, advanced non-parametric analysis, meta analysis, survey design, etc.
3 credits
Prerequisite: BMED 511 Research Design and Statistics

BMED 680-689 Laboratory Research
The program culminates in a laboratory or clinical research project. It is the student’s responsibility to identify a research 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 spring 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 10 credit hours is required for the degree. There is no limit to number of research credits that can be taken.
1-9 credits per quarter
Prerequisites: BMED 510 Research Topics and Methods; BMED 511 Research Design and Statistics; BMED 512 Research Literature Review

BMED 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. Credits taken each quarter will depend on the research project, laboratory research, elective courses, credits needed to retain full time status. A minimum of 4 credit hours is required for the degree. There is no limit to the number of thesis credits that can be taken.
1-4 credits per quarter
Prerequisites: BMED 510 Research Topics and Methods; BMED 511 Research Design and Statistics; BMED 512 Research Literature Review; BMED 515 Research Protocol

HIST 1502 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)
3 credits

PHYS 571, 582 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.
4 credits each course
ELECTIVES

Not all electives are offered every year.

**BIOC 550 Nutritional Biochemistry with Laboratory**
This course examines the impact of nutrition, exercise, and wellness in both healthy and debilitated patient populations. Students gain exposure to various teaching and diagnostic tools that aid in assessing wellness.
4 credits

**BMED 508 Learning Styles and Assessment**
In this elective course, students will identify their predominant learning styles and explore methods to improve study habits and learning effectiveness. The course will also explore barriers to learning and how they can be assessed and treated.
1 credit

**BMED 516 Introduction to Medical Ethics**
This course aims 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.
3 credits

**BMED 801 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).
2 credits

**BMED 805 Medical Terminology**
This elective is intended to broaden the students’ understanding of the lexicon for the medical sciences. The course format includes lectures, readings, and discussions designed to facilitate an understanding of the roots of medical terms. Upon completion of the course, students are expected to describe and apply the basic principles of root words, suffixes, and prefixes of medical terms.
2 credits

**BMED 806, 807 Pre-Professional Exam Preparation I, II A, B, C, D, E**
This course serves as a preparation for the Medical College Admissions Test. Relevant equations, concepts, and material are reviewed throughout this course. Mock exams and weekly quizzes help prepare students for the actual test.

Section A: Biology; Section B: General Chemistry; Section C: Organic Chemistry; Section D: Physics; Section E: Math
0.5 credits each section
Prerequisite for BMED 807 Pre-Professional Exam Preparation II: BMED 806 Pre-Professional Exam Preparation I

**BMED 813 Writing for Publication**
This elective course is designed to provide students with the tools necessary to prepare manuscripts for publication. Among the areas practiced and discussed are locating an appropriate venue, performing a literature review, writing a manuscript, and understanding reviewing techniques. The goal of this course is to provide students with the step-by-step instructions to take them from the research process through publication and dissemination.
3 credits

**BMED 818 Grant Writing in the Health Sciences**
This course is designed to teach students the process of writing a complete grant that meets requirements for federal grant applications. Each student learns to identify appropriate funding sources, plan a research project, organize data, write a research project budget, develop specific aims, and reference the most appropriate literature. The course culminates in a written grant proposal suitable for submission.
3 credits

**BMED 821 Emerging Infectious Diseases**
To improve your knowledge of biomedical science (particularly your area of interest) and communication skills. Students will typically write, edit and submit a work in the format of a journal publication. It provides students with a capstone experience to bring prior knowledge together.
1 credit

**BMED 824 Issues in Bioterrorism**
Course examines many aspects of the bioterrorism threat, including history, agents, response preparation and incident management. Facets of bioterrorism are presented by experts in government and academia and integrated by the class in a final tabletop incident exercise.
1 credit

**BMED 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.
2 credits
BMED 845 Oncology
This course is an introduction to cancer and the biological aspects of tumor growth with emphasis on the development and progression of cancer. Selected methods of cancer diagnosis and therapy are discussed based on reviews of current literature.
3 credits

BMED 860 Cardiovascular Biophysics
This course examines the fundamental principles underlying the study of physiology, biochemistry, and medicine. The main focus will be on the principles of fluid flow in the respiratory and cardiovascular systems. Electrophysiology, thermodynamics, and thermal regulation will also be studied.
4 credits

BMED 860L Cardiovascular Biophysics Laboratory
Laboratory associated with BMED 860 Cardiovascular Biophysics
2 credits

BMED 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 cognitive and neurodegenerative 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

BMED 865 Pathophysiology
This course emphasizes the etiology, pathogenesis, and pathophysiology of selected disease states in humans. It is designed to build on the skills learned in the anatomy and physiology sequence.
4 credits

BMED 871, 872, 873 Medicinal Chemistry I, II, III
These courses discuss the chemistry of therapeutic agents – drugs. BMED 871 focuses on functional chemical groups and drug metabolism. BMED 872 and BMED 873 are coupled to the two pharmacology core courses by integrating the importance of chemical structure-activity relationships on a topic per topic basis.
1.5 credits each course

BMED 876 Pharmacognosy
Pharmacognosy is the discipline in pharmacy 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, the alkaloids, proteins, antibiotics and vaccines. In addition, newer sources of natural drugs such as the dynamic marine pharmacognosy and futuristic pharmacobiotechnology will be introduced.
2 credits

BMED 877 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.
2 credits

BMED 878 Drugs of Addiction
This course provides the student with a detailed understanding of the psychological and pharmacological effects of the common drugs of addiction. The following drugs and drug classes will be reviewed: alcohol, stimulants, nicotine, hallucinogens, inhalants, sedatives, and opioids. Topics covered include preferred routes of administration, absorption, distribution, mechanisms of action, tolerance and withdrawal. Particular emphasis is placed on abuse potential, addictive behaviors, and societal impact associated with each substance.
2 credits

BMED 891, 892 Advanced Topics I, II
The Advanced Topic Series is an opportunity for students to receive individualized or small group instruction on selected advanced topics in any of the basic science disciplines. The format for instruction includes mentoring by individual faculty, case study discussion, review of landmark publications, and class presentations. Students are expected to master major concepts specific to the discipline selected. The mentoring faculty individualizes evaluation of the students.
1-3 credits per quarter

BMED 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
This course focuses on the intersection of evolution and clinical medicine by examining the natural history of several pathologies. Human pathology is usually approached by focusing on causes such as genetic, developmental, physiological, or behavioral mechanisms. But pathology can also be studied by investigating causes that depend on evolutional mechanisms. The objectives of this course are: 1) to introduce basic concepts of evolutionary biology, 2) develop an understanding of human evolution, and 3) examine human pathology in terms of evolution and natural history.

2 credits

**Bachelor of Biomedical Sciences Degree Program**

**Mission**
The mission of the Bachelor of Biomedical Science Program is to graduate students who have the requisite knowledge to be highly competitive candidates for admission into postbaccalaureate programs in medicine, dentistry, pharmacy, or other professional programs in the health sciences. In addition, our graduates will have the technical skills to function and excel as research technicians in bioindustry or government agencies.

**Degree Description**
The undergraduate degree program at the MWU Glendale Campus is a full-time, structured degree completion program offering a baccalaureate degree in biomedical sciences. The Bachelor of Biomedical Science (B.B.S.) degree requires four years of study: the first two years must be completed at another accredited college or university to satisfy the prerequisite courses and the final two years are completed at MWU. The curriculum is designed to prepare and graduate students who have demonstrated the requisite knowledge, technical skills, and expertise to be able to function as a laboratory technician, a supervisor in the biotechnology or pharmaceutical industry, or be a competitive candidate for admission to postbaccalaureate professional schools offering degrees in the health sciences or research. The professional role of a researcher, the laboratory worker or future healthcare professional involves a wide range of responsibilities and skills, the ability to relate to people, to deal with stressful situations, and to display sound judgment, intellectual honesty, and an adherence to ethical standards. The intent of this program is to foster and nurture both the cognitive and non-cognitive skills of the student.

**Admissions**
The Bachelor of Biomedical Science Program will no longer be offered. The college accepted its last class in fall 2008.

**Technical Standards**
A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who
may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Graduation Requirements
To qualify for graduation, students must:
1. Follow an approved course of study acceptable to the Biomedical Science Program Student Academic Review Committee;
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.25 for the Bachelor of Biomedical Science degree;
3. Satisfactorily complete the required minimum number of 90 quarter hour credits.
4. Receive a favorable recommendation for Bachelor’s degree conferal from the Program faculty to the Program Student Academic Review Committee and from this committee the CHS Student Promotion and Graduation Committee;
5. Receive a favorable recommendation for Bachelor’s degree conferal 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.

Curriculum
Sample curriculum, course credits, and sequencing. Not all electives are offered every year.

First Year

Fall Quarter
Core Requirements
BMED 307 Medical Terminology 2 credits
BMED 309 Bioethics 3 credits
BMED 312 Histology 2 credits
BMED 330 Human Physiology I 4 credits
MHPE 505 Learning Styles and Assessment 1 credit
Total 12 credits

Electives
BMED 321 Emerging Diseases 1 credit
BMED 428 Public Health 3 credits
BMED 429 Epidemiology 1 credit
BMED 455 Biotechnology 3 credits

Winter Quarter
Core Requirements
BMED 316 Human Anatomy w/ Lab 4 credits
BMED 331 Human Physiology II 4 credits
BMED 351 Molecular Cell Biology 4 credits
Total 12 credits

Electives
BMED 308 Introduction to Hospice Care 1 credit
BMED 322 Issues in Bioterrorism 1 credit
BMED 323 Medical Virology 4 credits
BMED 375 Pharmacognosy 2 credits

Spring Quarter
Core Requirements
BMED 306 Health Career Planning 2 credits
BMED 350 Biochemistry 4 credits
BMED 425 Immunology 2 credits
BMED 511 Research Design and Statistics 3 credits
Total 12 credits with electives

Electives
BMED 303 Understanding Cancer 1 credit
BMED 414 Embryology 2 credits
BMED 419 Neuroanatomy 2 credits
ETHC 505 Ethics of Research and Experimentation 3 credits

Summer Quarter
Electives
BMED 514 Advanced Research Design and Statistics 3 credits
BMED 520 Good Laboratory Practice 3 credits

Second Year

Fall Quarter
Core Requirements
BMED 320 Microbiology I 4 credits
BMED 360 Biophysics 4 credits
BMED 474 Pharmacology I 3 credits
Total 12 credits with electives

**Electives**
BMED 360L Biophysics Laboratory 2 credits
BMED 404 Pre-Professional Exam Prep I 2 credits
BMED 421 Prion Diseases 1 credit
BMED 440 Oncology 3 credits
BMED 510 Research Topics and Methods 3 credits

**Winter Quarter**
**Core Requirements**
BMED 325 Microbiology II 4 credits
BMED 341 Genetics I 3 credits
BMED 475 Pharmacology II 3 credits
Total 12 credits with electives

**Electives**
BMED 401 Biology of Human Aging 1 credit
BMED 402 Medical Spanish 1.5 credits
BMED 405 Pre-Professional Exam Prep II 2 credits
BMED 422 Current Topics in Infectious Disease 1 credit
BMED 450 Nutritional Biochemistry with Lab 4 credits
BMED 512 Information Systems for Research and Education 2 credits
CVSP 551 Applied Cardiovascular Anatomy and Embryology 2 credits

**Spring Quarter**
**Core Requirements**
BMED 408 Research Seminar 1 credit
BMED 435 Pathophysiology 4 credits
BMED 442 Genetics II 3 credits
Total 12 credits with electives

**Electives**
BMED 324 Parasitology 4 credits
BMED 409 Drugs of Addiction 2 credits
BMED 424 Applied Microbiology 3 credits
BMED 448 Genomics & Proteomics 4 credits
BMED 477 Dangerous Plants & Animals 2 credits
CVSP 552 Cardiovascular Pathology 3 credits
PASS 473 Basic Electrocardiography 1 credit

**Electives Available Every Quarter**
BMED 488 Research/Special Projects 1–3 credits
BMED 497 Advanced Topics 1–3 credits
BMED 499 Externship 1–3 credits

The MWU/CHS Biomedical Science Program reserves the right to alter its curriculum however and whenever it deems appropriate.

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**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.

**BMED 306 Health Career Planning**
The purpose of this course is to prepare students to 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). 2 credits

**BMED 307 Medical Terminology**
This course is intended to broaden the student’s understanding of the lexicon for the medical sciences. The course format includes lectures, readings, and discussions designed to facilitate an understanding of the roots of medical terms. Upon completion of the course, students are expected to describe and apply the basic principles of root words, suffixes, and prefixes of medical terms. 2 credits

**BMED 309 Bioethics**
This course aims 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. 3 credits

**BMED 312 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

**BMED 316 Human Anatomy with Laboratory**
The aim of these courses is to introduce students to the structure and formation of the human body. Structure is presented at the macroscopic level and some dissection of cadavers is involved. 4 credits
Prerequisite: BMED 312 Histology
BMED 320, 325 Microbiology I, II
This didactic course covers basic clinical microbiology, pathogenic mechanisms, and antimicrobial agents relating to the understanding, rational management, and control of infectious agents. The course includes hands-on laboratory sessions in clinical microbiology laboratory procedures. Students receive instruction on staining techniques, growth requirements, identification criteria, and antibiotic therapy for commonly occurring infectious agents. Students are introduced to diagnostic tests currently available for rapid diagnosis of infectious disease.
4 credits each course
Prerequisite for BMED 325 Microbiology II: BMED 320 Microbiology I

BMED 330, 331 Human Physiology I, II
In this two-quarter series, students are introduced to the basic physiologic principles that underlie the normal function of various organs and organ systems. 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.
4 credits each course

BMED 341, 442 Genetics I, II
These courses introduce the foundations of the normal transmission of dominant and recessive genetic traits, risk factors, and genetic mapping. Included is an introduction to human genetics and the fundamental principles of inheritance.
3 credits each course
Prerequisite for BMED 442 Genetics II: BMED 341 Genetics I

BMED 350 Biochemistry
This course covers the structures, properties, chemistry, and functions of proteins, nucleic acids, carbohydrates and lipids. The synthesis and degradation of these biomolecules are covered in detail, including an in-depth discussion of the thermodynamics and kinetics of enzyme-catalyzed reactions within these metabolic pathways. The regulation and integration of metabolism at the cellular and tissue levels within the human body will be emphasized. Critical thinking and problem solving skills are developed during the weekly problem sessions.
4 credits

BMED 351 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 transcription, translation, regulation of gene expression, DNA replication, cell signaling, regulation of cell growth and differentiation, the innate and cellular immune systems, and the molecular tools available to investigate these aspects of biology. Critical thinking and problem solving skills are developed during the weekly problem sessions.
4 credits

BMED 360 Biophysics
This course examines the fundamental physics principles underlying the study of physiology, biochemistry, and medicine. The main focus will be on the principles of fluid flow in the respiratory and cardiovascular systems. Electrophysiology, thermodynamics and thermal regulation will also be studied.
4 credits

BMED 408 Research Seminar
This course is designed to expose students to a variety of scientific disciplines and projects, accomplished by attendance at the research faculty seminar series. Additionally, each student will be expected to present a seminar to the faculty on the subject of his or her choice.
1 credit

BMED 425 Immunology
This didactic course introduces students to the fundamental principles of immunology and host defense mechanisms and considers them in relation to defense against common viral, bacterial, fungal, and parasitic agents of disease, immunologic abnormalities, immune-deficiency disorders, immunophrophylaxis, and therapy.
2 credits

BMED 435 Pathophysiology
This course emphasizes the etiology, pathogenesis, and pathophysiology of selected disease states in humans. The normal and abnormal histology of each organ is also discussed. The course is designed to build on the skills learned in anatomy and physiology.
4 credits

BMED 474 Pharmacology I
This course covers principles of pharmacology including pharmacodynamics, pharmacokinetics, pharmaceutics, and toxicology. Students learn about common drug classes affecting major organ systems of the body, namely, the autonomic nervous system, the central nervous system, the cardiovascular and renal systems, and the gastrointestinal and genitourinary systems. Chemotherapy of microbial and parasitic organisms, the chemotherapy of neoplastic disease, drug action on blood-forming organs, and the role of hormones and vitamins are presented.
3 credits
BMED 475 Pharmacology II
This course introduces the major drugs used to treat cardiac conditions. The focus will be on the treatment of arrhythmias, angina, congestive heart failure, hypertension and disorders of coagulation.
3 credits

BMED 511 Research Design and Statistics
Provides an overview of research designs and basic statistical approaches used in basic science, applied and descriptive research. The course teaches basic research skills used in all disciplines of the health professions and aids in the interpretation of research presented in the literature.
3 credits

MHPE 505 Learning Styles and Assessment
In this elective course, students will identify their predominant learning styles and explore methods to improve study habits and learning effectiveness. The course will also explore barriers to learning and how they can be assessed and treated.
1 credit

**ELECTIVES**
Not all electives are offered every year.

BMED 303 Understanding Cancer
This course is an introduction to cancer and the biological aspects of tumor growth. Emphasis will be on the development and progression of cancer. Selected methods of cancer diagnosis and therapy will be discussed based on reviews of current literature. Registered students will receive directions by e-mail the first week of class for accessing the current course materials.
1 credit

BMED 308 Introduction to Hospice Care
This course explores the history and philosophy of hospice care. Interventions to promote symptom control and family coping during end-stage of life are covered with emphasis on volunteer functions and opportunities. Research, legal, ethical issues and implications are discussed.
1 credit

BMED 321 Emerging Diseases
This in-depth review of information from current research emphasizes the biological aspects of emerging and re-emerging diseases at the molecular, organ, and population level. Selected methods of diagnosis and therapy will be discussed.
1 credit

BMED 322 Issues in Bioterrorism
Course examines many aspects of the bioterrorism threat, including history, agents, response preparation and incident management. Facets of bioterrorism are presented by experts in government and academia and integrated by the class in a final tabletop incident exercise.
1 credit

BMED 323 Medical Virology
This course examines the unique aspects of key virus groups and their structural, biochemical, and biophysical properties. The discussions also include viral agents of medical and economic importance, their epidemiology, pathogenesis and control.
4 credits

BMED 324 Parasitology
This course provides the student with an opportunity to study a series of basic concepts within the field of parasitology. This course is designed to be highly interactive.
4 credits

BMED 360L Biophysics Laboratory
Laboratory associated with BMED 360
2 credits

BMED 375 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, the alkaloids, proteins, antibiotics and vaccines. In addition, newer sources of natural drugs such as the dynamic marine pharmacognosy and futuristic pharmacobiototechnology will be introduced.
2 credits

BMED 401 Biology of Human Aging
This course emphasizes in depth discussion of information from current research. Emphasizes the biological aspects of human aging at the molecular, cellular, and system level. Selected methods of diagnosis and therapy will be discussed.
1 credit

BMED 402 Medical Spanish
This course provides the student with communication skills necessary to provide care to Spanish-speaking patients. Students will learn an expanded general Spanish vocabulary (selected nouns, verbs, adjectives, phrases, etc.) plus one related specifically to the practice of clinically oriented healthcare professionals (i.e., parts of the body, SOAP note notation, selected disease conditions, etc.). Group interaction
and role-playing are utilized. This course is for students not fluent in Spanish, but with prior Spanish education.  
1.5 credits

**BMED 404, 405 Pre-Professional Exam Prep I, II**  
The aim of this course is to help prepare the student to take the pre-professional exam required for graduate school. This includes MCAT, PCAT, DAT, and GRE. The course includes mock exams, which simulate an actual professional exam as closely as possible.  
2 credits per quarter  
Prerequisite for BMED 405 Pre-Professional Exam Preparation II: BMED 404 Pre-Professional Exam Preparation I

**BMED 409 Drugs of Addiction**  
This course will provide students with an understanding of the psychological, as well as the pharmacological, effects of the common drugs of addiction. The following drugs and drug classes will be reviewed: alcohol, stimulants, nicotine, hallucinogenics, inhalants, sedatives, and opioids. Topics covered include preferred routes of administration, absorption, distribution, mechanisms of action, tolerance and withdrawal. Particular emphasis will be placed on abuse potential, addictive behaviors and societal impact associated with each substance.  
2 credits

**BMED 414 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.  
2 credits

**BMED 419 Neuroanatomy**  
This is an integrated, interdisciplinary course in which students learn to identify and describe the principal structural components and corresponding functions of the nervous system and correlate underlying lesions involving these structures with neurologic deficits and dysfunctions. Emphasis is given to understanding various aspects of the human neurosciences, such as the anatomy and physiology of pain and commonly occurring disease states likely to be encountered in professional practice.  
2 credits  
Prerequisites: BMED 312 Histology; BMED 316 Human Anatomy with Laboratory

**BMED 421 Prion Diseases**  
This course is an in-depth discussion of information from current research on prions and prion diseases. The focus is on the cellular, biochemical, and genetic aspects of these fascinating and deadly neurodegenerative diseases.  
1 credit

**BMED 422 Current Topics in Infectious Disease**  
To improve your knowledge of biomedical science (particularly your area of interest) and communication skills. Students will typically write, edit and submit a work in the format of a journal publication. It provides students with a capstone experience to bring prior knowledge together.  
1 credit

**BMED 424 Applied Microbiology**  
This course covers the uses of microbes in industrial applications, e.g., fermentation, foods, and pharmaceuticals.  
3 credits

**BMED 428 Public Health**  
This course looks at the protection of health and the promotion of human comfort and well-being through the management of wastewater, potable water and food sanitation. Infectious diseases transmitted by food and water are discussed as well as treatment of other wastes generated by humans such as solid and radiological wastes.  
3 credits

**BMED 429 Epidemiology**  
This course examines the cause, spread, and control of communicable disease. Students are provided with a view of epidemiological methods, the historical content for the effects of global microbe transmission, and the evolution of public health measures in response to epidemics. Health risk factors are identified as students study preventive medicine. Students are also exposed to general epidemiological statistics and their meaning in examining health policy, public health, clinical interventions, and health outcomes.  
1 credit

**BMED 440 Oncology**  
This course is an introduction to cancer and the biological aspects of tumor growth with emphasis on the development and progression of cancer. Selected methods of cancer diagnosis and therapy are discussed based on reviews of current literature.  
3 credits

**BMED 448 Genomics & Proteomics**  
This course details the methods used to generate and interpret genome sequence in the Human Genome Project and the applications of this new genomic data to the diagnosis and treatment of disease.  
4 credits
**BMED 450 Nutritional Biochemistry and Lab**
This course examines the impact of nutrition, exercise, and wellness in both healthy and debilitated patient populations. Students gain exposure to various teaching and diagnostic tools that aid in assessing wellness.
4 credits

**BMED 455 Biotechnology**
This course covers some of the most recent biotechnical techniques and their applications to the biotech industry. Recombinant DNA, monoclonal antibodies, PCR, and other techniques are discussed as well as their relation to production and use.
3 credits

**BMED 477 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.
2 credits

**BMED 488 Research/Special Project**
This course provides an opportunity for students to work with individual faculty mentors on projects of variable scope. Included activities could be library, laboratory, and/or survey-type research; or other activities agreed upon between the student and the mentor. A maximum of 6 credits can be applied toward degree.
1-3 credits (repeatable)

**BMED 497 Advanced Topics**
The Advanced Topics Series is an opportunity for students to receive individualized or small group instruction on selected advanced topics in any of the basic science disciplines. Format for instruction includes mentoring by individual faculty, case study discussion, review of landmark publications, and class presentations. Students will be expected to master major concepts specific to the discipline selected. The mentoring faculty will individualize evaluation of the student.
1-3 credits (repeatable)

**BMED 499 Externship**
This program provides students with hands-on experience in the workplace. Work-to-study opportunities are available in health-related organizations within the local community.
1-3 credits (repeatable)

**BMED 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. Fundamentals of the scientific method and its limitations, research design, descriptive statistics, and information gathering are also discussed. The format of the class includes both lecture and small group discussion. The course is intended to provide each student with a broad understanding of professional research topics and issues with a view toward stimulating ideas for a research project.
3 credits

**BMED 512 Information Systems for Research and Education**
This course is intended to expose students to information management and retrieval methods. Students gain hands-on experience in the use of various computer-based tools (CD-ROMs, library catalogs, databases, Internet/Web, etc.) and learn the fundamental principles of library research. Students also learn how to locate and access information and how to evaluate the quality of the information retrieved.
2 credits

**BMED 514 Advanced Research Design and Statistics**
This course follows from BMED 511 and reviews advanced statistics used in biomedical and educational research. Topics covered include two and three-way analysis of variance, multiple regression and correlation analysis, nested designs, post hoc analysis, advanced non-parametric analysis, meta analysis, survey design, etc.
3 credits
Prerequisite: BMED 511 Research Design and Statistics

**BMED 520 Good Laboratory Practice**
This course reviews the requirements and regulations of the Food and Drug Administration, Environmental Protection Agency and the International Organization for Economic Cooperation and Development. Compliance issues and inspection procedures are covered for organizations involved in product safety testing in animals and the environment. A historical perspective will be presented as to the development of the regulations and non-traditional safety testing. Development of quality assurance programs and management’s responsibility will be discussed.
3 credits

**CVSP 551 Applied Cardiovascular Anatomy and Embryology**
This course focuses on the anatomical relationships germane to the cardiovascular and respiratory systems. Clinical faculty present lectures in both didactic and laboratory formats.
2 credits
CVSP 552 Cardiovascular Pathology
This course is designed to provide a current understanding of the range of cardiovascular disease states, both congenital and acquired, that may be encountered in health care practice. Where applicable, embryologic, genetic, and environmental factors that impact the various disorders are discussed. Presenting signs and symptoms of the most important entities as well as therapeutic strategies are reviewed. 3 credits

ETHC 505 Ethics of Research and Experimentation
This class is intended to give students a broad overview of research ethics and regulation. Students gain an understanding of the moral basis of scientific ethics including scientific integrity, research with human subjects, informed consent, vulnerable populations, privacy and the confidentiality of records, conflicts of interest, and research on animals. 3 credits

PASS 473 Basic Electrocardiography
This course provides instruction in the basic biophysical and physiological principles that provide the foundation for the clinical application and interpretation of the electrocardiogram. Special emphasis is placed on terminology and the ability to perform a systematic analysis of the electrocardiogram. Students are expected to acquire the necessary analytical and problem-solving skills required to distinguish, analyze, and interpret multi-lead electrocardiograms and identify common arrhythmias and conduction disturbances. 1 credit

MASTER OF ARTS IN BIOETHICS
DEGREE PROGRAM AND CERTIFICATE IN BIOETHICS PROGRAM

MISSION
The mission of the Master of Arts Degree and Certificate in Bioethics Program is to augment the professional experience and skills of students by providing substantial training in the theory and practice of ethical decision-making within the healthcare arena. The program should also provide the graduate with credentials needed for increased opportunities and advancement within their current career.

The Master of Arts degree should not be viewed as a terminal degree or a means to secure a job in a subspecialty of healthcare. Rather, this program is designed to enhance the on-going career and/or practice of those already involved in providing therapeutic, legal, and spiritual care to patients.

DEGREE DESCRIPTION
The curriculum leading to the Master of Arts in Bioethics is designed to provide the student with a deeper understanding of the ethical issues related to patient care and healthcare practice, as well as methods for addressing these issues. Students come from a wide variety of backgrounds, including physicians, nurses, chaplains, lawyers, administrators, social workers, pharmacists, physician assistants, allied health personnel, health professions students, and other interested professionals. Applicants usually have a bachelor’s level or higher degree from a regionally accredited college or university, though some individuals with significant undergraduate coursework and relevant professional experience may be admitted.

The 42-quarter-hour curriculum can be completed in as little as 18 months and must be completed within a period of 60 months, excepting approved leaves of absence. The course instruction includes 12 credit hours of required courses, including: Introduction to Medical Ethics, Foundations of Bioethics, Philosophy of Medicine, and Ethics of Research and Experimentation. Beyond these required courses students select a research or didactic track. In the research track, the student is required to perform an approved research project (12 credits). Prerequisite to the research project are two independent studies (one credit each) that enable the student to develop a proposal for the project. The proposal includes the specific objectives and methods of the project. Sixteen additional credits must be taken as electives. In the didactic track, there is no research project and the student is required to take 30 elective hours in addition to the required courses. Students in the Master of Arts in Bioethics program interested in acquiring additional educational skills may take approved electives in the Master of Health Professions Education degree program as well.

CERTIFICATE IN BIOETHICS
The curriculum leading to the Professional Certificate in Bioethics is designed to provide the student with a deeper understanding of the ethical issues related to patient care and healthcare practice, as well as methods for addressing these issues. Students come from a wide variety of backgrounds including physicians, nurses, chaplains, lawyers, administrators, social workers, pharmacists, physician assistants, dietitians, and other interested professionals. There is no degree requirement for entry into this program.

The 30-quarter-hour curriculum may be completed in as little as 12 months, and must be completed within a period of 60 months, excepting approved leaves of absence. To complete the 30-credit hour requirement, students may take any of the required or elective courses in the bioethics curriculum, except for research project credits. Students wishing to switch to an M.A. in Bioethics after completing...
courses in the certificate curriculum will be required to reapply to the Biomedical Sciences Program and meet all admission requirements for the Master of Arts in Bioethics program. Successful completion of the Certificate in Bioethics curriculum does not automatically qualify the student for admission into the Master of Arts in Bioethics program.

ADMISSIONS

The Master of Arts in Bioethics Program will no longer be offered. The college accepted its last class in winter 2009.

Admission Requirements

To be considered for admission to the Master of Arts or Certificate in Bioethics programs, applicants must submit the following documented evidence:

1. Completion of a bachelor’s degree (or its equivalent, i.e., 120 undergraduate hours including the professional program) or higher degree from regionally accredited colleges or universities (not required for the Certificate in Bioethics). Exceptions to this requirement may be made by the Bioethics Program Admissions Committee for applicants who have:
   a. Successfully completed accredited professional programs, such as physician assistant, nursing, dental hygienist, etc.
   b. Completed a minimum of 100 semester hours of undergraduate training (including professional program), 20 of which are in general education courses including humanities, fine arts, social sciences, computer sciences, or business.
   c. Five or more years of experience in a healthcare-related profession.
   d. Demonstrated a record of continuous professional development, and
   e. Submitted one additional letter of reference (i.e., three total) attesting to their ability to perform at a graduate level.

2. A minimum cumulative grade point average (GPA) of 2.75 on a scale of 4.00 for their bachelor’s or higher degree program.

3. Official transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university.

4. Two letters of recommendation.

5. Passage of the Midwestern University criminal background check.

6. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

Technical Standards

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.
Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Graduation Requirements

To qualify for graduation from the Master of Arts in Bioethics degree program, the student must:

1. Follow an approved course of study acceptable to the Biomedical Science Program Student Academic Review Committee;
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 with no course grade below a C;
3. Satisfactorily complete the required 42 minimum number of quarter hour credits in their programs (dual-degree applicants should discuss the credit load needed for their degree with the Program Director);
4. Receive a favorable recommendation for Master’s degree conferral from the Program faculty to the Program Student Academic Review Committee and from this committee 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. Submit a properly completed and signed graduation clearance form to the Office of the Registrar.

Curriculum

Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHC 501</td>
<td>Introduction to Medical Ethics</td>
<td>3 credits</td>
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<tr>
<td>ETHC 502</td>
<td>Foundations of Medical Ethics</td>
<td>3 credits</td>
</tr>
<tr>
<td>ETHC 503</td>
<td>Philosophy of Medicine</td>
<td>3 credits</td>
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<tr>
<td>ETHC 505</td>
<td>Ethics of Research and Experimentation</td>
<td>3 credits</td>
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Elective Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 510</td>
<td>Research Topics and Methods</td>
<td>2 credits</td>
</tr>
<tr>
<td>BMED 511</td>
<td>Research Design and Statistics</td>
<td>3 credits</td>
</tr>
<tr>
<td>BMED 512</td>
<td>Information Systems for Research and Education</td>
<td>2 credits</td>
</tr>
<tr>
<td>BMED 513</td>
<td>Writing for Publication</td>
<td>3 credits</td>
</tr>
<tr>
<td>ETHC 504</td>
<td>Medical Ethics and the Law</td>
<td>3 credits</td>
</tr>
<tr>
<td>ETHC 516</td>
<td>Communication Skills for Healthcare Professionals</td>
<td>3 credits</td>
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<tr>
<td>ETHC 517</td>
<td>Foundations of Managed Care Systems</td>
<td>3 credits</td>
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<tr>
<td>ETHC 520</td>
<td>Ethics of Death and Dying</td>
<td>3 credits</td>
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<tr>
<td>ETHC 521</td>
<td>Healthcare Allocation and Justice</td>
<td>3 credits</td>
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<tr>
<td>ETHC 522</td>
<td>Ethical Issues of Human Reproduction</td>
<td>3 credits</td>
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<tr>
<td>ETHC 523</td>
<td>Bioethics, Culture and Identity</td>
<td>3 credits</td>
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<tr>
<td>ETHC 524</td>
<td>Religion and Bioethics</td>
<td>3 credits</td>
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<tr>
<td>ETHC 525</td>
<td>Ethical Relationships and the Healthcare Team</td>
<td>3 credits</td>
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<td>ETHC 526</td>
<td>Bioethics Committees and Consulting</td>
<td>3 credits</td>
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<tr>
<td>ETHC 527</td>
<td>Ethical Issues in Genetics</td>
<td>3 credits</td>
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<tr>
<td>ETHC 528</td>
<td>Sexuality and Healthcare</td>
<td>3 credits</td>
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<tr>
<td>ETHC 529</td>
<td>Ethics and Pediatric Medicine</td>
<td>3 credits</td>
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<tr>
<td>ETHC 530</td>
<td>Teaching Medical Ethics</td>
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<tr>
<td>ETHC 531</td>
<td>Clinical Ethics Rotations</td>
<td>3 credits</td>
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<tr>
<td>ETHC 532</td>
<td>Christianity and Bioethics</td>
<td>3 credits</td>
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<tr>
<td>ETHC 533</td>
<td>Judaism and Bioethics</td>
<td>3 credits</td>
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<td>ETHC 534</td>
<td>Eastern Religions and Bioethics</td>
<td>3 credits</td>
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<td>ETHC 535</td>
<td>Literature and Medicine</td>
<td>3 credits</td>
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<tr>
<td>ETHC 536</td>
<td>Ethical Challenges in Medicine: A Case Study Approach</td>
<td>3 credits</td>
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<tr>
<td>ETHC 540</td>
<td>Special Topics</td>
<td>1–3 credits</td>
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<tr>
<td>ETHC 542</td>
<td>Contemporary Readings in Bioethics</td>
<td>3 credits</td>
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<tr>
<td>ETHC 550</td>
<td>Independent Study</td>
<td>1–3 credits</td>
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<tr>
<td>ETHC 551</td>
<td>Research Literature Review: Independent Study</td>
<td>1 credit</td>
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<tr>
<td>ETHC 552</td>
<td>Research Project Proposal: Independent Study</td>
<td>1 credit</td>
</tr>
<tr>
<td>ETHC 595-599</td>
<td>Research Thesis</td>
<td>12 credits</td>
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</tbody>
</table>

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.

ETHC 501 Introduction to Medical Ethics

This course aims 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.

3 credits
ETHC 502 Foundations of Medical Ethics
This course explores the theoretical underpinnings of bioethical evaluation. Various philosophical theories are examined including consequentialism, deontological theories, principlism, ethics of care, casuistry, narrative ethics, and pragmatism, with an eye on the relationship between theory and practice.
3 credits

ETHC 503 Philosophy of Medicine
This course focuses on questions about the nature and goals of medicine, as well as on concepts of health, disease and illness. The effect of value judgments on research agendas, public health, clinical decisions, and the patient–doctor experience of illness are also examined.
3 credits

ETHC 505 Ethics of Research and Experimentation
This class is intended to give students a broad overview of research ethics and regulation. Students gain an understanding of the moral basis of scientific ethics including scientific integrity, research with human subjects, informed consent, vulnerable populations, privacy and the confidentiality of records, conflicts of interest, and research on animals.
3 credits

ELECTIVES
With permission from the Program Coordinator, Bioethics students can substitute up to nine credits of electives offered through the Master of Health Professions Education degree program.

Not all electives are offered every year.

BMED 510 Research Topics and Methods
This course explores current topics and established research methods pertinent to the health professional, health educator, and clinical ethicist. Current policy, bioethical and funding issues, and the scientific method are discussed. 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 professional research topics and issues with a view toward stimulating ideas for the master’s research project.
2 credits

BMED 511 Research Design and Statistics
This course is an overview of research designs and basic statistical approaches used in basic science, applied, and descriptive research. The course is intended to teach research skills used in all disciplines of the health professions, lay the groundwork for the student’s master’s project, and aid in interpretation of research presented in the literature.
3 credits
Prerequisite: BMED 510 Research Topics and Methods

BMED 512 Information Systems for Research and Education
This course is intended to expose students to information management and retrieval methods. Students gain hands-on experience in the use of various computer-based tools (CD-ROMs, library catalogs, databases, Internet/Web, etc.) and learn the fundamental principles of library research. Students also learn how to locate and access information and how to evaluate the quality of the information retrieved.
2 credits

BMED 513 Writing for Publication
This elective course is designed to provide students with the tools necessary to prepare manuscripts for publication. Among the areas practiced and discussed are locating an appropriate venue, performing a literature review, writing a manuscript, and understanding reviewing techniques. The goal of this course is to provide students with the step-by-step instructions to take them from the research process through publication and dissemination.
3 credits

ETHC 504 Medical Ethics and the Law
This course examines the relationship between ethics and the law. It also provides students with knowledge of relevant legal statutes concerning ethical issues such as advanced directives, proxy decision-making, breaching confidentiality, withholding and withdrawing care, the definition of death, and others.
3 credits

ETHC 516 Communication Skills for Healthcare Professionals
Good communication skills are an essential medical tool. This class helps improve participants’ communication abilities by teaching a wide range of active listening skills including behavior description, projective listening, story construction, dealing with emotions, direct expression of feeling, dealing with criticism, neurolinguistic programming, and more. Class time focuses on the active practice and integration of these skills.
3 credits

ETHC 517 Foundations of Managed Care Systems
This elective course is designed to provide students with an understanding of the evolution of managed healthcare. Key structures, processes, and outcomes of managed care systems will be discussed in depth. The goal of this course is to give students the tools necessary to analyze health systems in order to lead improvements within their respective disciplines.
3 credits

ETHC 520 Ethics of Death and Dying
This course explores the ethical issues associated with care of the terminally ill and of death. Topics covered include right-
to-life/right-to-die, euthanasia, physician-assisted suicide, pain management, quality of life, etc.
3 credits

**ETHC 521 Healthcare Allocation and Justice**
This course focuses on the idea of a “right” to healthcare and on various ways of understanding the demands of justice on an institutional system such as healthcare. It also provides students with an understanding of the various models of paying for healthcare services and the ethical issues inherent in such systems.
3 credits

**ETHC 522 Ethical Issues of Human Reproduction**
This course looks at the ethical issues dealing with human reproduction including genetic engineering, reproductive technologies, cloning, right-to-life, the concept of family, etc. The intent of the course is to provide insight into differing philosophic and ethical positions relating to human reproduction.
3 credits

**ETHC 523 Bioethics, Culture, and Identity**
This course examines how various features of personal and social identity such as culture, ethnicity, race, gender, and class, affect and should be taken into account in ethical judgments in medicine.
3 credits

**ETHC 524 Religion and Bioethics**
This course looks at philosophical and ethical considerations of different religious views. The similarities and differences between religious faith and reasoned justification, the role of faith in ethics, and the relationship of certain faith traditions to particular issues in medicine are examined.
3 credits

**ETHC 525 Ethical Relationships and the Healthcare Team**
This course examines the role of and relationships between different members of the healthcare team, considering how such roles affect ethical decision making and communication. The course also explores appropriate ways to resolve difficulties such as challenging a superior, reporting or stopping inappropriate behavior, and expressing moral judgments.
3 credits

**ETHC 526 Bioethics Committees and Consulting**
This course looks at the workings of bioethics committees, institutional review boards, and bioethics consultants. Students are provided with an understanding of the purpose and possible structure of such committees, and of the ethicist’s role.
3 credits

**ETHC 527 Ethical Issues in Genetics**
This course explores the ethical issues present in the rapidly developing area of genetic technology including genetic testing and selection, genetic engineering, cloning, and the concept of genetic disease.
3 credits

**ETHC 528 Sexuality and Healthcare**
This course presents a broad examination of the many ways in which sexuality impacts healthcare providers and patients. Possible topics include physician–patient sexual attraction, caring for HIV-infected patients, gender dynamics, sexual harassment, and sexual issues involving minors.
3 credits

**ETHC 529 Ethics and Pediatric Medicine**
This course looks at the ethical issues involved in caring for children. These include parental rights, when can children make their own decisions, patient confidentiality, and experimentation with children.
3 credits

**ETHC 530 Teaching Medical Ethics**
This course looks at pedagogic considerations related to teaching medical ethics. Teaching about issues that have no “absolute correct answers” can be challenging. This course is designed to give the student insight into the varying subject matters in the discipline of bioethics.
2 credits

**ETHC 531 Clinical Ethics Rotations**
This course provides the student an opportunity to make and discuss ethical decisions in a clinical environment.
3 credits

**ETHC 533 Christianity and Bioethics**
This course looks at Christian philosophical–ethical considerations. Students interested in Christian theology are given further insight into the relationship between Christianity and the issues of medical ethics.
3 credits

**ETHC 534 Judaism and Bioethics**
This course looks at Judaic philosophical–ethical considerations. Students interested in Judaic theology are provided further insight into the relationship between Judaism and the issues of medical ethics.
3 credits

**ETHC 535 Eastern Religions and Bioethics**
This course looks at the philosophical–ethical considerations of various Eastern religions. Students interested in Eastern
religion are provided further insight into the relationship between these religions and the issues of medical ethics.
3 credits

ETHC 536 Literature and Medicine
This course examines the experience and humanistic aspects of medicine and illness through various works of literature and poetry. Non-science based reading is used as a springboard for discussion of the human issues common to both art and medicine. This course also examines the place and value of the humanities in medical education.
3 credits

ETHC 537 Ethical Challenges in Medicine: A Case Study Approach
This course utilizes cases to explore a variety of ethical dilemmas present in the day-to-day practice of healthcare. An emphasis is placed on developing a practical approach to identifying, understanding, and resolving ethical issues. Goals include demonstrating the relevance of ethics to everyday medicine, and providing a bridge between the systematic, theoretical concerns of ethics and the realities of clinical medicine.
3 credits

ETHC 540, 541 Special Topics
These additional courses are taught at the discretion of the Bioethics Program faculty.
1-3 credits each course

ETHC 542 Contemporary Readings in Bioethics
This course takes an in-depth look at a number of important new books in bioethics. The goal is to read and discuss a number of recent interesting works on topics chosen by the instructor and class participants. This class combines elements of an independent study with organized group discussion.
3 credits

ETHC 550 Independent Study
The independent study course is designed to allow any student the opportunity to explore particular topics of interest in greater depth. The course is student-designed and faculty-approved.
1-3 credits

ETHC 551 Research Literature Review: Independent Study
This course is an independent study designed to give students the opportunity to perform the literature research for the master’s project.
1 credit

ETHC 552 Research Project Proposal: Independent Study
This independent study course is designed to allow the student to prepare the final project proposal and to develop the practical foundation for the successful implementation of his/her master’s project.
1 credit
Prerequisite: ETHC 551 Research Literature Review

ETHC 595-599 Research Thesis
The thesis is the culmination of the master’s curriculum in bioethics education for those in the research track. The project entails scholarly inquiry into a current ethical issue related to healthcare provision. The objective of the project is to develop and disseminate new information for the purpose of improving the delivery of healthcare. The student’s Research Committee approves the proposal, oversees the research project, and approves the final research thesis.
12 credits for the entire sequence
Prerequisites: ETHC 501 Introduction to Medical Ethics; ETHC 502 Foundations of Medical Ethics; ETHC 503 Philosophy of Medicine; ETHC 505 Ethics of Research and Experimentation; ETHC 551 Research Literature Review; ETHC 552 Research Project Proposal

MASTER OF HEALTH PROFESSIONS EDUCATION DEGREE PROGRAM

MISSION
The mission of the Master of Health Professions Education Program is to assist current and future healthcare providers in becoming effective educators within their scope of practice as well as within the community. In addition, this program should provide the graduate with credentials needed for increased opportunities and advancement within their current career.

DEGREE DESCRIPTION
The curriculum leading to the Master of Health Professions Education degree is a part-time, graduate-level program designed to prepare current and future healthcare providers with the skills necessary to become effective educators in their chosen professional field. Applicants typically possess healthcare training and include physicians, nurses, dentists, occupational and physical therapists, pharmacists, physician assistants, allied health personnel, health professions students, and other healthcare related professionals.

The 42-quarter-hour curriculum may be completed in as little as 18 months but must be completed within a period of 60 months, excepting approved leaves of absence. Typically, students will complete the program in a period of two to three years. The course of instruction includes 12 credit hours of required courses and 18 credit hours of electives.
Most of the courses are offered either online or in a blended format that includes both online and on-campus classes. Required courses include: Educational Technology, Instructional Design and Methods, Teaching and Learning Styles, and Curriculum Construction. The student then enrolls in 12 additional credit hours to complete either a Research Thesis or Education Practicum. In the Research Thesis Option, the student is required to perform an approved research project on a topic related to healthcare education (11 credits). Prerequisite to the research project is a self-directed, one-credit course that allows the student to develop a proposal for the research project. The proposal describes the specific objectives of the research project and the methods by which these objectives will be accomplished. In the Educational Practicum Option, the student is required to develop, implement and evaluate an instructional design plan under the supervision of a practicing educator (11 credits). Prerequisite to the practicum project is a self-directed, one-credit course that allows the student to identify the target audience, determine the objectives and establish the timeline for completion of their practicum.

ADMISSIONS

The Master of Health Professions Education Program will no longer be offered. The college accepted its last class in winter 2009.

Admission Requirements

To be considered for admission to the Master of Health Professions Education degree programs, applicants must submit the following documented evidence:

1. Completion of a bachelor’s level (or its equivalent, i.e., 120 undergraduate hours including professional program) or higher degree from a regionally accredited college or university. Exceptions to this requirement may be made by the Health Professions Education Program Admissions Committee for applicants who have:
   a. Successfully completed accredited professional programs, such as physician assistant, nursing, dental hygienist, etc.
   b. Completed a minimum of 100 semester hours of undergraduate training (including professional program), 20 of which are in general education courses including humanities, fine arts, social sciences, computer sciences, or business.
   c. Five or more years of experience in a healthcare-related profession.
   d. Demonstrated a record of continuous professional development, and
   e. Submitted one additional letter of reference (i.e., three total) attesting to their ability to perform at a graduate level.

2. A minimum cumulative grade point average (GPA) of 2.75 on a scale of 4.00 for their bachelor’s or higher degree programs.

3. Official transcripts verifying completion of their bachelor’s degree or higher level degree program from a regionally accredited college or university.

4. Two letters of recommendation.

5. Passage of the Midwestern University criminal background check.

6. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

Technical Standards

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Graduation Requirements
To qualify for graduation from the Master of Health Professions degree program, the student must:
1. Follow an approved course of study acceptable to the Biomedical Science Program Student Academic Review Committee;
2. Satisfactorily complete all courses with a minimum cumulative grade point average of 2.75 with no course grade below a C;
3. Satisfactorily complete the required 42 minimum number of quarter hour credits in their programs (dual-degree applicants should discuss the credit load needed for their degree with the Program Director);
4. Receive a favorable recommendation for Master’s degree conferral from the Program faculty to the Program Student Academic Review Committee and from this committee 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. Submit a properly completed and signed graduation clearance form to the Office of the Registrar.

Curriculum

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MHPE 501</td>
<td>Teaching and Learning Styles</td>
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<tr>
<td>MHPE 502</td>
<td>Educational Technology</td>
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<tr>
<td>MHPE 503</td>
<td>Instructional Design and Methods</td>
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<tr>
<td>MHPE 504</td>
<td>Curriculum Construction</td>
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<table>
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<tr>
<th>Elective Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BMED 510</td>
<td>Research Topics and Methods</td>
</tr>
<tr>
<td>BMED 511</td>
<td>Research Design and Statistics</td>
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<tr>
<td>BMED 512</td>
<td>Information Systems for Research and Education</td>
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<tr>
<td>BMED 513</td>
<td>Writing for Publications</td>
</tr>
<tr>
<td>BMED 518</td>
<td>Grant Writing in the Health Sciences</td>
</tr>
<tr>
<td>ETHC 516</td>
<td>Communication Skills for Healthcare Professionals</td>
</tr>
<tr>
<td>ETHC 517</td>
<td>Foundations of Managed Care Systems</td>
</tr>
<tr>
<td>MHPE 515</td>
<td>Leadership and Management</td>
</tr>
<tr>
<td>MHPE 521</td>
<td>Instructional Supervision</td>
</tr>
<tr>
<td>MHPE 522</td>
<td>Advanced Topics in PT Education</td>
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<tr>
<td>MHPE 523</td>
<td>Advanced Topics in OT Education</td>
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<tr>
<td>MHPE 524</td>
<td>Advanced Topics in PA Education</td>
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<td>MHPE 525</td>
<td>Advanced Topics in Medical Education</td>
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<td>MHPE 526</td>
<td>Advanced Topics in Pharmacy Education</td>
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<tr>
<td>MHPE 527</td>
<td>Advanced Topics in Nursing Education</td>
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<tr>
<td>MHPE 528</td>
<td>Organization and Management of Health Professions Programs</td>
</tr>
<tr>
<td>MHPE 529</td>
<td>Distance Learning Technology</td>
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<tr>
<td>MHPE 530</td>
<td>Teaching Medical Ethics</td>
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<tr>
<td>MHPE 531</td>
<td>Cultural Diversity in Education</td>
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<tr>
<td>MHPE 532</td>
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<tr>
<td>MHPE 534</td>
<td>Patient Education: Improving Health Outcomes</td>
</tr>
<tr>
<td>MHPE 540</td>
<td>Special Topics</td>
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<tr>
<td>MHPE 541</td>
<td>Special Topics</td>
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<tr>
<td>MHPE 550</td>
<td>Independent Study</td>
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<tr>
<td>MHPE 551</td>
<td>Practicum Project Proposal</td>
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<td>MHPE 552</td>
<td>Research Project Proposal</td>
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<tr>
<td>MHPE 590-594</td>
<td>Education Practicum</td>
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<tr>
<td>MHPE 595-599</td>
<td>Research Thesis</td>
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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.

MHPE 501 Teaching and Learning Styles
This course is designed to give students specialized knowledge and understanding of the major learning style theories and their application within educational practice. Students identify their predominant learning and teaching styles and explore how to incorporate various strategies to improve teaching effectiveness.
3 credits

MHPE 502 Educational Technology
This course is designed to provide the student with an introduction to using educational technology in the classroom and to assist the student with developing skills in applying various educational technologies to meet instructional needs. This course includes computer-assisted instruction.
3 credits

MHPE 503 Instructional Design and Methods
In this course, students examine the use of instructional design models to create educational materials that focus on the needs of learners in the health professions. Students design and carry out an instructional design plan related to their health profession or area of expertise.
3 credits
Prerequisite: MHPE 501 Teaching and Learning Styles

MHPE 504 Curriculum Construction
This course provides students with the opportunity to practice designing health-related curricula. Students examine trends and relevant research to locate appropriate resources for teaching in the health professions and design a syllabus on a health-related topic.
3 credits
Prerequisite: MHPE 503 Instructional Design and Methods

ELECTIVES
With permission from the Program Coordinator, Health Professions Education students can substitute up to nine credits of electives offered through the Master of Arts in Bioethics degree program.

Not all electives are offered every year.

BMED 510 Research Topics and Methods
This course explores recent and established areas of research pertinent to the health professional, health educator, and clinical ethicist. Current policy, bioethical, and funding issues are discussed. The format of the class includes both lecture and small group discussion. The course is intended to provide students with a broad understanding of professional research topics and issues with a view toward stimulating ideas for the master’s project.
2 credits

BMED 511 Research Design and Statistics
This course is required for those students pursuing the research option. It is an overview of research designs and basic statistical approaches used in basic science, applied, and descriptive research. The course teaches basic research skills used in all disciplines of the health professions, lays the groundwork for each student’s master’s project, and aids in the interpretation of research presented in the literature.
3 credits
Prerequisite: BMED 510 Research Topics and Methods

BMED 512 Information Systems for Research and Education
This course is intended to expose students to information management and retrieval methods. Students gain hands-on experience in the use of various computer-based tools (CD-ROMs, library catalogs, databases, Internet/Web, etc.) and learn the fundamental principles of library research. Students also learn how to locate and access information and how to evaluate the quality of the information retrieved.
2 credits

BMED 513 Writing for Publication
This elective course is designed to provide students with the tools necessary to prepare manuscripts for publication. Among the areas practiced and discussed are locating an appropriate venue, performing a literature review, writing a manuscript, and understanding reviewing techniques. The goal of this course is to provide students with the step-by-step instructions to take them from the research process through publication and dissemination.
3 credits

BMED 518 Grant Writing in the Health Sciences
This course is designed to teach students the process of writing a complete grant that meets requirements for federal grant applications. Each student learns to identify appropriate funding sources, plan a research project, organize data, write a research project budget, develop specific aims, and reference the most appropriate literature. The course culminates in a written grant proposal suitable for submission.
3 credits

ETHC 516 Communication Skills for Healthcare Professionals
Good communication skills are an essential medical tool. This class helps improve participants’ communication abilities by teaching a wide range of active listening skills.
including behavior description, projective listening, story construction, dealing with emotions, direct expression of feeling, dealing with criticism, neurolinguistic programming, and more. Class time focuses on the active practice and integration of these skills.

3 credits

**ETHC 517 Foundations of Managed Care Systems**

This elective course is designed to provide students with an understanding of the evolution of managed healthcare. Key structures, processes, and outcomes of managed care systems will be discussed in depth. The goal of this course is to give students the tools necessary to analyze health systems in order to lead improvements within their respective disciplines.

3 credits

**MHPE 515 Leadership and Management**

This elective course explores the various methods of leadership and management, with an emphasis on the healthcare arena. Leadership theories and management styles will be explored, focusing on behaviors, characteristics and practices. Each student will be required to research and present on a current leadership topic.

3 credits

**MHPE 521 Instructional Supervision**

This course is designed to focus on the role of supervision in facilitating learning. Including mentoring, evaluating and providing good leadership. Effective communication methods are also explored.

2 credits

**MHPE 522 Advanced Topics in Physical Therapy (PT) Education**

This course provides students with the opportunity to examine current educational, administrative, and professional issues that affect the quality and scope of physical therapy practice locally and nationally. The course emphasizes how students might impact these issues in very practical ways.

2 credits

**MHPE 523 Advanced Topics in Occupational Therapy (OT) Education**

The course explores issues relevant to occupational therapy education and some of the challenges facing clinicians who transition to educators. The course is intended to provide the student with a broad understanding of educational and curricular topics and issues.

2 credits

**MHPE 524 Advanced Topics in Physician Assistant (PA) Education**

The course explores issues relevant to physician assistant education as well as some of the challenges facing clinicians who transition to educators. The course is intended to provide students with a broad understanding of educational and curricular topics and issues.

2 credits

**MHPE 525 Advanced Topics in Medical Education**

The course explores issues relevant to medical education as well as some of the challenges facing clinicians who both practice and teach. The course is intended to provide students with the opportunity to explore and discuss educational topics and issues such as problem-based learning and clinical rotations as learning environments.

2 credits

**MHPE 526 Advanced Topics in Pharmacy Education**

This course provides students the opportunity to examine current educational, administrative, and professional issues that affect the quality and scope of pharmacy practice locally and nationally. The course is intended to provide students with a broad understanding of educational and curricular topics and issues.

2 credits

**MHPE 527 Advanced Topics in Nursing Education**

The course explores issues relevant to nursing education as well as some of the challenges facing clinicians who transition to educators. The course is intended to provide students with a broad understanding of educational and curricular topics and issues.

2 credits

**MHPE 528 Organization and Management of Health Professions Programs**

This course is designed to provide students with an introduction to organization and management theories to assist them with developing the skills necessary to contribute to the successful administration of a health professions program.

2 credits

**MHPE 529 Distance Learning Technology**

This course is designed to explore the components of distance education including methods of delivery, effectiveness, technology requirements, and costs. Past and present distance learning modalities are discussed along with anticipated trends for the future.

3 credits

Prerequisite: MHPE 502 Educational Technology
MHPE 530 Teaching Medical Ethics
This course looks at pedagogic considerations related to teaching medical ethics. Teaching about issues that have no “absolute correct answers” can be challenging; this course is designed to give the student insight into the various subject matters in the bioethics discipline.
2 credits

MHPE 531 Cultural Diversity in Education
This course is designed to acquaint students with issues they may face in both treating and instructing minorities from diverse cultural and ethnic backgrounds. It focuses on increasing awareness of the predominant minority health issues in the U.S. and develops skills to instruct students in a culturally sensitive manner.
2 credits

MHPE 532 Evaluation and Assessment
This course provides students with the opportunity to design evaluation and assessment tools to measure learning. Students learn how to design tests, surveys, and other outcome measurements that can be used to evaluate teaching effectiveness.
2 credits

MHPE 534 Patient Education: Improving Health Outcomes
This course focuses on developing patient education materials related to preventing and/or managing disease. Emphasis is placed on the application of instructional design theories to develop educational tools such as brochures or handouts, as well as patient education treatment plans. Health literacy issues are also explored.
3 credits

MHPE 540, 541 Special Topics
Additional courses are offered at the discretion of the Biomedical Sciences Program faculty.
1 to 3 credits each course

MHPE 550 Independent Study
The independent study course is designed to allow students to explore in greater depth an area of educational interest within the health professions. The course is student-designed and faculty-approved.
1 to 3 credits

MHPE 551 Practicum Project Proposal
This self-structured course is designed to allow students to develop the goals and methods for the practicum project. Students identify and establish a Practicum Committee and present a project proposal outline for review. Upon receiving committee approval, students may begin their educational project.
1 credit

MHPE 552 Research Project Proposal
This self-structured course is designed to allow students to identify the research topic and methods of investigation for their master’s project. Students establish a Research Committee who review the project proposal. Upon receiving committee approval, students may begin their research project.
1 credit

MHPE 590-594 Education Practicum
The practicum gives students opportunities to put theory into practice by working on a teaching project within the health professions. The practicum project includes implementing and evaluating the approved practicum proposal outline developed in MHPE 551. The final product will include a practicum report that describes the results of the educational project, the methods used and the materials that were developed to accomplish the project goals. The Practicum Committee oversees the entire process, provides input, and approves the final product.
11 credits for the entire sequence
Prerequisites: MHPE 501 Teaching and Learning Styles; MHPE 502 Educational Technology; MHPE 503 Instructional Design and Methods; MHPE 504 Curriculum Construction; MHPE 551 Practicum Project Proposal

MHPE 595-599 Research Thesis
The research project entails scholarly inquiry into a current issue related to the education and training of health professionals. The objective of the project is to explore and disseminate new information about teaching in the health professions for the purpose of improving educational delivery and effectiveness. The research proposal includes the specific issue to be explored and the methods by which the student investigates the issue. The student’s Research Committee approves the proposal, oversees the research project, and approves the final research thesis.
11 credits for the entire sequence
Prerequisites: MHPE 501 Teaching and Learning Styles; MHPE 502 Educational Technology; MHPE 503 Instructional Design and Methods; MHPE 504 Curriculum Construction; and MHPE 552 Research Project Proposal

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
Assistant 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

Elizabeth E. Hull, Ph.D.
Rockefeller University
Associate Professor

Carleton B. Jones, Ph.D.
Washington State University
College of Pharmacy
Associate Professor

Gregory S. Loeben, Ph.D.
University of Arizona
College of Social and Behavioral Sciences
Associate Professor

Christine M. Morgan, Ed.D.
Nova Southeastern University
Fischler School of Education and Human Services
Associate Professor

Scott D. Soby, Ph.D.
University of California, Davis
College of Agricultural and Environmental Science
Assistant Professor
MISSION
The Cardiovascular Science Program at Midwestern University (MWU) will provide academic and clinical excellence in educating cardiovascular perfusionists for their professional career.

ACCREDITATION
The Cardiovascular Science Program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Accreditation Committee–Perfusion Education (www.acpe.org). The Commission on Accreditation of Allied Health Education Programs is located at 1361 Park Street, Clearwater, FL 33756, phone number 727/210-2350.

DEGREE DESCRIPTION
In an ever-changing field where surgical, technological, and basic sciences are rapidly changing, program graduates are provided with the knowledge and skills necessary to meet the demands that will be placed upon them.

The 24-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, Arizona campus. The student is exposed to clinical medicine during the first three quarters by clinical observation at affiliated hospitals in the Phoenix area.

The summer quarter of the student’s second year begins the four-quarter clinical rotation segment held at various affiliated hospitals located across the country. Relocation during clinical rotation 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 rolling admissions process. Completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. Matriculation into the Master of Cardiovascular Science degree program occurs during the Fall quarter. 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 regionally accredited professional programs. Applications received are reviewed by the Office of Admissions for completeness and referred to the Director of Cardiovascular Science 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 Cardiovascular Science and the Dean. Decisions on acceptance are made until the maximum enrollment for each class is reached. Candidates are encouraged to submit a completed application early in the admission cycle.

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 2.5 on a scale of 4.00.
3. Completion of the Application for Admission.
4. Completion of the minimum number of prerequisite courses at 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
5. Completion of the Program’s interview process (by invitation only).
6. Passage of the Midwestern University criminal background check.
7. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
PREREQUISITE COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Behavioral Sciences (e.g., sociology, psychology, anthropology)</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Biology (must include laboratory)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>General Chemistry (inorganic; must include laboratory)</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Anatomy</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Physiology (must be a stand alone course)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Applied Mathematics (college algebra or higher)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>English (emphasizing composition, communication, and language skills)</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>General Education electives (recommended courses include fine arts, humanities, human services, ethics, philosophy, foreign language, business principles, computer information systems, economics, and cultural anthropology.)</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>Total Credit Hours</td>
<td>58</td>
<td>86</td>
</tr>
</tbody>
</table>

International Applicants

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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

1. Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
2. World Education Service (WES): 212/966-6311 or Fax 212/739-6100

International applicants who do not provide documentation of acceptable US 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.

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, which may be downloaded from the University’s web site at www.midwestern.edu or sent by calling or writing to the Office of Admissions (noted below)
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

Mail the completed application packet within thirty (30) days to:

Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308
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 web site 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

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation, and is enhanced by the functional use of all of the other senses.
II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College(//Program) would need to make that would allow the candidate to complete the curriculum. The College(//Program) 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 in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Cardiovascular Science Program of the College of Health Sciences. Students must return both a signed matriculation agreement and deposit to the Office of Admissions. Students must also:

1. Submit deposit monies by the dates designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.

2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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. Complete a medical file as requested by the Office of Student Services.

4. 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.

5. Provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending CHS if a non-U.S. citizen/nonpermanent resident.

6. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee have been completed.

7. Submit additional documents as required by the Office of Admissions.

8. Authorize and pass the Midwestern University criminal background check.


10. Complete a physical exam and submit form.

11. Sign and submit a Credit Policy Statement.

12. Meet the Technical Standards for the Program.

Students who either fail to satisfy these matriculation requirements or omit or falsely information required on official admissions documents automatically forfeit their seat in the Program. Individuals accepted for admission to the Cardiovascular Science Program who do not comply with stated timelines for submission of all required materials will not receive further notification from CHS regarding forfeiture of their seat.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

**GRADUATION REQUIREMENTS**

To qualify for graduation with the master’s degree, students must:

1. Follow an approved course of study leading to the completion of a master’s project acceptable to the Program Student Academic Review Committee;
2. Satisfactorily complete the required 103.5 quarter-credit hours in the overall course of study with a minimum cumulative grade point average of 2.75, have no course or rotation grade below a C, and satisfactorily complete a final general exercise (Program Summative Evaluation) involving a comprehensive knowledge-based and skills-based examination;
3. 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;
4. Be recommended for conferral of the master’s degree by 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 some states, students must successfully complete a Perfusion Education Program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Certification is achieved by passing the certifying examination administered by the American Board of Cardiovascular Perfusion (ABCP).

For further information regarding the ABCP certifying examination contact:

The American Board of Cardiovascular Perfusion
207 N. 25th Avenue
Hattiesburg, MS 39401
601/582-2227

**CURRICULUM**

**First Professional Year**

<table>
<thead>
<tr>
<th>Quarter Credit Hours Required</th>
<th>53.5</th>
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**Fall Quarter**

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>CORE 1560</td>
<td>Interdisciplinary Healthcare</td>
<td>0.5</td>
</tr>
<tr>
<td>CVSP 531</td>
<td>Cardiovascular Sciences Journal</td>
<td>2.0</td>
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<tr>
<td>CVSP 532</td>
<td>Research Methodology for Cardiovascular Sciences</td>
<td>3.0</td>
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<tr>
<td>CVSP 551</td>
<td>Anatomy for Cardiovascular Sciences</td>
<td>3.0</td>
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<tr>
<td>CVSP 555</td>
<td>Applied Physiology &amp; Pathophysiology for Cardiovascular Sciences I</td>
<td>3.0</td>
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<tr>
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<td>Cardiovascular Perfusion Technology I</td>
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<tr>
<td>CVSP 591</td>
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**Winter Quarter**

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<tbody>
<tr>
<td>BMED 574</td>
<td>Pharmacology I</td>
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<tr>
<td>CORE 1570</td>
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<tr>
<td>CVSP 533</td>
<td>Cardiovascular Sciences Journal</td>
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<tr>
<td>CVSP 534</td>
<td>Cardiovascular Sciences Masters</td>
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<td>CVSP 556</td>
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<td>CVSP 562</td>
<td>Cardiovascular Perfusion Technology II</td>
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<tr>
<td>CVSP 571</td>
<td>Clinical Observations &amp; Seminars for Cardiovascular Sciences I</td>
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<tr>
<td>CVSP 592</td>
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**Spring Quarter**

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<tr>
<td>BMED 575</td>
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<tr>
<td>CORE 1580</td>
<td>Interdisciplinary Healthcare</td>
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<tr>
<td>CVSP 535</td>
<td>Cardiovascular Sciences Project</td>
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<tr>
<td>CVSP 544</td>
<td>Quality &amp; Risk Management for Cardiovascular Sciences</td>
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<tr>
<td>CVSP 553</td>
<td>Monitoring of the Cardiovascular Patient</td>
<td>3.0</td>
</tr>
<tr>
<td>CVSP 557</td>
<td>Cardiac Congenital Defects &amp; Cardiac Pediatric Perfusion</td>
<td>3.0</td>
</tr>
<tr>
<td>CVSP 563</td>
<td>Cardiovascular Perfusion Technology III</td>
<td>4.0</td>
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<td>CVSP 572</td>
<td>Clinical Observations &amp; Seminars for Cardiovascular Sciences II</td>
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<tr>
<td>CVSP 593</td>
<td>Cardiovascular Perfusion Hands-on Laboratory III</td>
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Second Professional Year
Quarter Credit Hours Required 50.0

Summer Quarter
CVSP 601 Clinical Practicum I (6 weeks) 6.0
CVSP 602 Clinical Practicum II (6 weeks) 6.0
Total 12.0
Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.

Fall Quarter
CVSP 603 Clinical Practicum III (6 weeks) 6.0
CVSP 604 Clinical Practicum IV (6 weeks) 6.0
CVSP 662 Special Techniques in Cardiopulmonary Bypass (On-line course) 1.0
Total 13.0
Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.

Winter Quarter
CVSP 605 Clinical Practicum V (6 weeks) 6.0
CVSP 606 Clinical Practicum VI (6 weeks) 6.0
Total 12.0
Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.

Spring Quarter
CVSP 607 Clinical Practicum VII (6 weeks) 6.0
CVSP 608 Clinical Practicum VIII (6 weeks) 6.0
CVSP 664 Current Trends in Perfusion (On-line course) 1.0
Total 13.0
Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.

Total Required Credits 103.5
Note: The Cardiovascular Science Program reserves the right to modify the curriculum.

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.

BMED 574 Pharmacology I
This course introduces students to the general principles of drug action, drug dynamics and kinetics, toxicities, and therapeutic uses as related to humans. Students learn about common drugs affecting major organ systems of the body, namely: the autonomic nervous system, central nervous system, cardiovascular and renal systems. Specific drugs for the treatment of arrhythmias, angina, congestive heart failure, hypertension and hyperlipidemias will be discussed.
3 credits

BMED 575 Pharmacology II
This course builds on the information presented in BMED 574 Pharmacology I. The initial focus will be on drugs that affect hemostasis followed by drugs affecting the gastrointestinal and genitourinary systems, chemotherapy of microbial and parasitic organisms, chemotherapy of neoplastic diseases, local and general anesthetics, treatment of diabetes, hormones, and vitamins.
3 credits
Prerequisite: BMED 574 Pharmacology I

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

CVSP 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

CVSP 532 Research Methodology for Cardiovascular Sciences
This course introduces a variety of research and professional issues pertinent to the cardiovascular perfusonist as a researcher. Fundamentals of the scientific and analytical methods will be discussed along with the limitations of each. The various types of research, research design, sampling techniques, hypothesis generation, information gathering skills and literature critiques will also be discussed.
3 credits

CVSP 533 Cardiovascular Sciences Journal Review II
This course is a continuation of CVSP 531 Cardiovascular Sciences Journal Review I that covers topics related to cardiovascular perfusion. 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
Prerequisite: CVSP 531 Cardiovascular Sciences Journal Review I

CVSP 534 Cardiovascular Sciences Masters Project I
This course takes the theory and principles presented in CVSP 532 (Research Methodology for Cardiovascular Science) and applies them to a real-life research project. Students will conduct a research project from the design phase through presentation of the study and the results.
1 credit
Prerequisite: CVSP 532 Research Methodology for Cardiovascular Sciences

CVSP 535 Cardiovascular Sciences Project Development
A requirement of the Cardiovascular Science Program is that the students write and submit a manuscript acceptable for publication prior to the student’s graduation. Acceptability will be determined by either acceptance for presentation or publication in a peer-reviewed, professional journal. In this independent study course, the student will select a topic, find major references, produce a text outline, and write an abstract for their manuscript. It is anticipated that the student may present their research information during a regional or national perfusion meeting.
1 credit

CVSP 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.
3 credits

CVSP 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.
3 credits

CVSP 553 Monitoring of the Cardiovascular Patient
This course provides an overview of patient monitoring, especially the critically ill patient. The cardiovascular perfusionist must rely on the output of various physiologic monitors and analyzers to ensure that the patient is being adequately perfused during cardiopulmonary bypass. 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.
3 credits

CVSP 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.
3 credits

CVSP 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.
3 credits
Prerequisite: CVSP 555 Applied Physiology & Pathophysiology for Cardiovascular Sciences I

CVSP 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.
3 Credits
Prerequisites: CVSP 561 Cardiovascular Perfusion Technology I; CVSP 555 Applied Physiology & Pathophysiology for Cardiovascular Sciences I; CVSP 562 Cardiovascular Perfusion Technology II; CVSP 556 Applied Physiology & Pathophysiology for Cardiovascular Sciences II
CVSP 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

CVSP 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
Prerequisite: CVSP 561 Cardiovascular Perfusion Technology I; CVSP 591 Cardiovascular Perfusion Hands-on Laboratory I

CVSP 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
Prerequisite: CVSP 562 Cardiovascular Perfusion Technology II; CVSP 592 Cardiovascular Perfusion Hands-on Laboratory II

CVSP 571, 572 Clinical Observations & Seminars for Cardiovascular Sciences I, II
This course presents 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. Students not involved in observation participate in a cardiac conference or independent study. All students participate in weekly seminars which present a technology, technique, or device currently in clinical use. 2 credits per course

CVSP 591 Cardiovascular Perfusion Hands-on 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 designing and assembling an extracorporeal circuit tubing pack, and provides hands-on experience with setting up and priming a simple extracorporeal circuit. 1 credit

CVSP 592 Cardiovascular Perfusion Hands-on 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. 1 credit
Prerequisites: CVSP 561 Cardiovascular Perfusion Technology I; CVSP 591 Cardiovascular Perfusion Hands-on Laboratory I

CVSP 593 Cardiovascular Perfusion Hands-on 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. 1 credit
Prerequisite: CVSP 562 Cardiovascular Perfusion Technology II; CVSP 592 Cardiovascular Perfusion Hands-on Laboratory II

CVSP 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.
6 credits per each 6 week rotation
Prerequisite: Completion of all first year courses through
Spring quarter first year and successful completion of the
Orientation to the Clinical Rotations program

**CVSP 662 Special Techniques in Cardiopulmonary Bypass**
This on-line course is divided into ten separate conditions
which may require special and unusual techniques for
cardiopulmonary bypass. The class is highly interactive with
discussion on each subject.
1 credit

**CVSP 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

**FACULTY**

**Jon W. Austin, M.A.Ed., CP**
Ottawa University
College of Education
Assistant Professor

**Edward L. Evans, B.B.A., M.A., CP**
University of Phoenix
College of Business
Interim Director and Assistant Professor

**Harry R. Hoerr, Jr., M.S., CCT**
National University
College of Education
Associate Professor

**Dawn M. Oles, B.S., CCP**
Rush University
College of Health Sciences
Instructor
MISSION
As a leader in podiatric medical education, the mission of the Arizona School of Podiatric Medicine is to ensure excellence in an environment that nurtures diversity, professionalism, dedication and creativity.

Vision
The vision of the Arizona School of Podiatric Medicine is to be the standard of excellence by which podiatric medical education will be measured through:
- Innovative curriculum
- Cutting edge research
- Compassionate patient care
- Contemporary graduate and continuing medical education
- Service to community

ACCREDITATION
The Arizona School of Podiatric Medicine (previously known as the Arizona Podiatric Medicine Program) has been granted full accreditation by the Accreditation Committee of the Council on Podiatric Medical Education. The Council is recognized by the U.S. Department of Education as the accrediting agency for colleges and schools of podiatric medicine. For further information, please contact the Council on Podiatric Medical Education at 9312 Old Georgetown Road, Bethesda, Maryland 20814; 800/ASK-APMA or 1-301/581-9200.

DEGREE DESCRIPTION
The Arizona School of Podiatric Medicine (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. Full time clinical training occupies 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. Dual degree programs are available in Medical Ethics and Medical Education. Participation in a dual degree program requires the permission of the AZPod Associate Dean and Director and acceptance by the Biomedical Sciences Program.

ADMISSIONS
The Arizona School of Podiatric Medicine considers for admission those students who possess the academic, professional, and personal qualities necessary for development as exemplary podiatric physicians. In the selection process, the School uses a competitive rolling admissions process. The School uses multiple criteria to select the most qualified candidates including cumulative grade point average (GPA), science GPA, Medical College Admissions Test (MCAT), personal experiences and character, ability to communicate, familiarity with the profession, volunteer and community involvement, research experience, and other considerations. Candidates are encouraged to apply early and take the MCAT no later than December in the year prior to admission. Scores will be accepted only from tests taken less than three years prior to the time of application.

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.
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).
4. Completion of the necessary course prerequisites.
   - Candidates must complete a minimum of 90 semester hours at regionally accredited colleges or universities
   - A bachelor’s degree is preferred
5. Two letters of recommendation.
6. A good understanding of podiatric medicine and a sincere interest in a career in the field.
   - Candidates will not be accepted if they have not visited 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.

**Prerequisite Courses**

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<th>Course</th>
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<td>Biology with lab</td>
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</tr>
<tr>
<td>General/Inorganic Chemistry with lab</td>
<td>8 Sem/12 Qtr hours</td>
</tr>
<tr>
<td>Organic Chemistry with lab</td>
<td>8 Sem/12 Qtr hours</td>
</tr>
<tr>
<td>Physics</td>
<td>8 Sem/12 Qtr hours</td>
</tr>
<tr>
<td>English</td>
<td>6 Sem/9 Qtr hours</td>
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Grades less than C are not acceptable for any prerequisite courses (grades of C- are not acceptable).

**International Applicants**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**Application Process and Deadlines**

Individuals interested in applying for admission to AZPod may download their applications at the American Association of Colleges of Podiatric Medicine Application Service (AACPMAS) website at www.e-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 selection process, applicants must complete their application packets, which must include:

1. A completed Application for Admission form (a nonrefundable application fee will also be due to the AACPM Application Service [AACPMAS])

2. Two letters of recommendation
   
   Applicants must submit two signed and sealed letters of recommendation from professionals who know the applicant well. One letter must be written by a medical practitioner, and letters from podiatric physicians are encouraged. The second letter must be written by a prehealth professions advisor or a science professor. Additional letters from individuals who can attest to the character of applicants are welcome.

3. Official transcripts
   
   Applicants must submit official transcripts 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.

4. Official MCAT score report

The application deadline for admission to AZPod is June 30 of the year of matriculation.

**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 Associate Dean and 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 join several other interviewees in a meeting with members of a three-person interview panel, which is selected from a volunteer group of basic scientists, administrators, and clinicians. Team members question students about their academic, personal, and health care 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
A candidate for the Doctor of Podiatric Medicine degree must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and AZPod Associate Dean and Director), will identify and discuss what accommodations, if any, the School would need to make that would allow the candidate to complete the curriculum. The School 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 in their professional program.

Matriculation Process
To initiate the matriculation process, newly accepted students must return both their signed matriculation agreement and their initial deposit by the date designated in their matriculation agreement. To conclude the matriculation process, students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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 documented laboratory proof of the absence of tuberculosis (updated yearly) and proof of immunization against measles, mumps, rubella, varicella (chicken pox), diphtheria/tetanus, and hepatitis B.
4. 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.

5. If a non-U.S. citizen/nonpermanent resident, provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending Midwestern University.

6. Submit additional documents as required by the Office of Admissions.

7. Authorize and pass the Midwestern University criminal background check.

8. Sign and submit the Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement.

9. Complete a physical exam and submit the form.

10. Sign and submit the Credit Policy Statement.


Students who fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents will automatically forfeit their seat at the School. Students will not receive further notification regarding their forfeiture.

Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Deferred Admission

Due to unforeseen circumstances, student may request deferred matriculation. This request will be considered on a case-by-case basis and requires approval of the AZPod Associate Dean and Director and the CHS Dean.

Reapplication Process

After receiving either denial or end-of-cycle letters, 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 new applications 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 remain in good academic standing and have an acceptable reason(s) for seeking transfer. Typically, transfers are only granted to students desiring to transfer in to the third- or fourth-year students; however, transfers to the second year may be granted.

To be considered for transfer, students must meet the School’s general requirements for admission. They must also submit:

1. A letter to the Director of Admissions indicating the reason for requesting to transfer and explaining any difficulties encountered at their 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 students are enrolled that describes the current academic status and terms of withdrawal or dismissal of prospective transfer students

6. Additional documents or letters of recommendation as determined to be necessary by the Director of Admissions

7. All documents three months prior to matriculation date

Following receipt of these materials, the Admissions Committee determines whether students merit on-campus interviews. Students who receive interview invitations will meet with an interview team. The interview team offers recommendations to the CHS Dean, 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.

GRADUATION REQUIREMENTS

To receive the degree of Doctor of Podiatric Medicine, 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 232.9 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 (four hours of volunteer service in a health care environment per quarter for the first and second years of study);
5. Pass Part I of the National Boards and take Part II of the National Boards 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; and
10. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

* It is a requirement that the exams be taken the first time they are offered once the student is eligible to take the exam. Students will not be allowed to go on rotations during their third year until they have taken and passed the National Boards Part I exam. In addition, students who fail Part I of the National Boards three times may be subject to dismissal.

**LICENSURE REQUIREMENTS**

Podiatric physicians are licensed in all 50 states 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**
6551 Malta Drive
Boynton Beach, FL 33437
561/752-3735

**APMA**
9312 Old Georgetown Road
Bethesda, Maryland
800/275-2762

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**CURRICULUM**

**First Professional Year**

<table>
<thead>
<tr>
<th>Total Quarter Credit Hours Required</th>
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<tbody>
<tr>
<td><strong>Fall Quarter</strong></td>
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<tr>
<td>ANAT 1511 Gross Anatomy I</td>
<td>5</td>
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<tr>
<td>BIOC 1511 Biochemistry I</td>
<td>7</td>
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<tr>
<td>CORE 1560 Interdisciplinary Healthcare</td>
<td>0.5</td>
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<tr>
<td>HIST 1511 Histology/Embryology I</td>
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<tr>
<td>PMED 1512 Podiatric Medicine I</td>
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**Winter Quarter**

| ANAT 1522 Gross Anatomy II          | 5    |
| BIOC 1522 Biochemistry II           | 4    |
| CORE 1570 Interdisciplinary Healthcare | 0.5 |
| HIST 1522 Histology/Embryology II  | 1.5  |
| PHYS 1521 Physiology I              | 5.5  |
| PMED 1521 Podiatric Biomechanics I  | 3    |
| **Total:**                          | 19.5 |

**Spring Quarter**

| CORE 1580 Interdisciplinary Healthcare | 0.5 |
| FMED 1531 Clinical Ethics & Medical Jurisprudence | 1.5 |
| MICR 1531 Immunology                  | 3    |
| NEUR 1531 Neuroscience                | 6.5  |
| PHYS 1532 Physiology II               | 5.5  |
| PMED 1531 Podiatric Surgery           | 3    |
| **Total:**                            | 20   |

**Second Professional Year**

<table>
<thead>
<tr>
<th>Total Quarter Credit Hours Required</th>
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<tr>
<td><strong>Summer Quarter</strong></td>
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<tr>
<td>PMED 1643 Lower Extremity Anatomy</td>
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<td>PMED 1644 Medical Imaging</td>
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<tr>
<td>PMED 1651 Podiatric Biomechanics II</td>
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<td>PMED 1675 Pediatric Orthopedics</td>
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<td><strong>Total:</strong></td>
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</table>

**Fall Quarter**

| MICR 1611 Microbiology I            | 5    |
| PASS 1569 Physical Diagnosis        | 4    |
| PATH 1611 Pathology I               | 6    |
| PHAR 1611 Pharmacology I            | 4    |
| **Total:**                          | 19   |

**Winter Quarter**

| MICR 1622 Microbiology II           | 5    |
| PATH 1622 Pathology II              | 6    |
| PHAR 1622 Pharmacology II           | 4    |
| PMED 1662 General Medicine I        | 3    |
| **Total:**                          | 18   |
Spring Quarter
PATH 1633 Pathology III 5
PHAR 1633 Pharmacology III 3
PMED 1641 Podiatric Medicine II 3.5
PMED 1663 Podiatric Pathomechanics 3.5
PMED 1672 General Medicine II 3
PMED 1678 Behavioral Medicine 1.5
Total: 19.5

ACLS/BLS is a mandatory, non-credit, 3-day session taught at the end of the second year.

Third Professional Year
Total Quarter Credit Hours Required 56.5

Summer Quarter
PMED 1722 Advanced Podiatric Surgery and Trauma 4
PMED 1724 Orientation to Operating Room and Anesthesia 1.5
PMED 1732 General Medicine III 3
PMED 1734 Practice Management 2
PMED 1773 Sports Medicine and Rehabilitation 2.5
PMED 1774 General Orthopedics/Disorders of Bone 2.5
Total: 15.5

Fall Quarter
PMED 1723 Emergency Medicine 1
PMED 1741 Podiatric Dermatology and Infectious Diseases 3
PMED 1742 Research, Community Health and Evidence Based Medicine 2
PMED 1751 Advanced Biomechanics 3
Total: 9

Rotations
(Integrated October through May)
PMED 1701 Podiatric Medicine Core (3 rotations, 4 weeks each) 12
PMED 1701A Core Rotation
PMED 1701B Core Rotation
PMED 1701C Core Rotation
PMED 1702 Radiology (2 weeks) 2
PMED 1706 Outpatient Medicine (4 weeks) 4
PMED 1717 Podiatric Basic Skills (2 weeks) 2
Medical Specialty (may choose one month rotation from the list below)
PMED 1710 Dermatology (4 weeks)
PMED 1711 Rheumatology (4 weeks)
PMED 1714 Endocrinology (4 weeks)
PMED 1715 Neurology (4 weeks)

Available Non-Podiatric Medicine or Surgery Specialty Rotations
Research, Dermatology, Rheumatology, Physical Therapy, General Surgery, Orthopedic Surgery

Required Elective - May choose either two 4-week or one 4-week and two 2-week rotations from the list below
PMED 1705 Podiatric Office (4 weeks)
PMED 1707 Vascular Medicine (2 weeks)
PMED 1708 Pedorthics, Bracing & Prosthetics (2 weeks)
PMED 1712 Physical Therapy (2 weeks)
PMED 1713 Wound Care (4 weeks)
PMED 1716 Orthotic Fabrication (2 weeks)
PMED 1733 Clerkship (4 weeks)
PMED 1735 Research (4 weeks)
PMED 1740 International (2 weeks)
Total: 32

Fourth Professional Year
The Clinical Correlates courses are all taught on-line. Each student is allowed one month of vacation in the fourth year.
Total Quarter Credit Hours Required 47.0

Summer/Fall/Winter Quarters
PMED 1821 Clinical Correlates in Podiatric Medicine 1
PMED 1831 Clinical Correlates in Podiatric Biomechanics 1
PMED 1841 Clinical Correlates in Podiatric Surgery 1
Total: 3

Rotations
(Integrated June through May)
PMED 1801 Podiatric Medicine Core (3 rotations, 4 weeks each) 12
PMED 1801A Core Rotation
PMED 1801B Core Rotation
PMED 1801C Core Rotation
PMED 1802 Emergency Medicine and Trauma (4 weeks) 4
PMED 1803 Surgery (4 weeks) 4
PMED 1804 Inpatient Medicine (4 weeks) 4
PMED 1805 Clinical Clerkship (4 rotations, 4 weeks each) 16
PMED 1805A Clinical Clerkship
PMED 1805B Clinical Clerkship
PMED 1805C Clinical Clerkship
PMED 1805D Clinical Clerkship
PMED 1807 Non-Podiatric Medicine or Surgery Specialty (4 weeks) 4
PMED 1808 Optional Rotation (4 weeks) (4)
Total: 44 (48)
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.

ANAT 1511 Gross Anatomy I
In this course, students approach the study of the human body in a regional manner with sequential study of the back, upper extremities, body wall, thoraco-abdominal cavity and contents. Included in the dissection of each region are the musculoskeletal, vascular, nervous and lymphatic components, relevant surface anatomy, and imaging of the region. The lectures and laboratories are coordinated with the Histology/Embryology course to provide an overall anatomic view of each region. This course involves lecture and dissection in the laboratory, and student progress is evaluated through written and practical examinations.
5 credits

ANAT 1522 Gross Anatomy II
In this portion of the Gross Anatomy course, students continue their regional study of the body by examining the pelvis and perineum, lower extremities, and the head and neck. Regional coordination with the Histology/Embryology course continues. This course also involves lecture and dissection in the laboratory and testing by written and practical examinations.
5 credits

BIOC 1511 Biochemistry I
Course modules feature protein structure and enzymes emphasizing structure-function relationships; cell biology emphasizing how cells move, grow, and divide; molecular biology emphasizing the role of nucleic acids in storage and expression of genetic information; and intermediary metabolism emphasizing degradation and synthesis of carbohydrates, lipids, and amino acids. Clinical aspects as well as regulation and coordination of biologic processes during the fed and fasted states are emphasized. Workshops introduce the biochemical basis of common clinical laboratory tests and/or illustrate clinical applications of biochemical concepts.
7 credits

BIOC 1522 Biochemistry II
This course has modules on human nutrition emphasizing the importance of nutrition in health and preventive medicine; human genetics emphasizing the inheritance of selected genetic disorders; and tissues and organs emphasizing the customization and adaptation of biochemical pathways in specialized cells. The workshops introduce the biochemical basis of common clinical laboratory tests and/or they illustrate clinical applications of biochemical concepts. Selected workshops feature a modified problem-based learning environment.
4 credits

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

FMED 1531 Clinical Ethics/Medical Jurisprudence
This course covers complimentary topics and aspects of care that will be necessary to formulate a solid foundation for clinical medicine as it relates to clinical ethics, medical jurisprudence, and end of life care. Instruction is provided by a practicing attorney, a member of the state medical board, and a palliative care physician. Ethical issues regarding life and death, medical malpractice, professionalism, and laws regarding documentation and patient privacy are discussed.
1.5 credits

HIST 1511 Histology/Embryology I
In Histology, students study the structure of the cell and the distinguishing morphologic characteristics of the four types of tissues: epithelium, connective tissue, muscle tissue, and nervous tissue. Students will learn how these four basic tissues are combined to form organs. This portion of the course focuses on the normal microscopic features of the lymphatic, circulatory, respiratory, and gastrointestinal systems. In the Embryology component of the course, students learn the general pattern and principles of normal development and the basic aspects of development of the musculoskeletal, circulatory, and gastrointestinal systems. This course uses a lecture-based format. Examinations include both written and image-based practical questions.
4.4 credits

HIST 1522 Histology/Embryology II
The Histology portion of the course continues with the microscopic examination of the urinary, reproductive, and endocrine systems and the eye and ear. The development of
the urogenital system, the eyes, the face, and structures derived from the pharyngeal arches are the focus of the Embryology portion of this course. Regional coordination with the Gross Anatomy course also continues. This course uses a lecture-based format. Examinations include both written and image-based practical questions.
1.5 credits

**MICR 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 health, infectious processes, and in immunologic disorders and deficiencies.
3 credits

**MICR 1611 Microbiology I**
This course covers basic morphologic, cultural, physiologic, and antigenic characteristics of microorganisms with special emphasis on factors pertinent to clinical medicine. Topics include the principles of microbial genetics and chemotherapy; an organ system approach to viral, bacterial, fungal, and parasitic agents of disease, and their biologic characteristics, natural history, public health importance, course of infection, and host interaction. Laboratory exercises and demonstrations help students develop the microbiologic skills applicable for clinical practice, acquaint students with available diagnostic laboratory tests and their interpretation.
5 credits

**MICR 1622 Microbiology II**
This course is a continuation of MICR 1611 and also uses an organ system approach with lectures and laboratories.
5 credits

**NEUR 1531 Neuroscience**
This course emphasizes the anatomy of the nervous system and clinical correlations related to the various pathways of the nervous system. The first unit studies surface landmarks, internal anatomy, and blood supply of the spinal cord, brainstem, and forebrain. This provides the framework and terminology for the remaining units, which adopt a systems approach to the study of the nervous system. Throughout the course, basic anatomy is presented in the context of neurological disorders that involve the system or pathway being studied.
6.5 credits

**PASS 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.
4 credits
Prerequisites: ANAT 1511, 1522 Gross Anatomy I, II

**PATH 1611 Pathology I**
This course introduces students to the basic concepts of pathology. It stresses altered cellular, genetic, and molecular mechanisms, and attempts to convey the dynamic nature of the 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 the skills necessary to interpret and use laboratory data in describing and recognizing various types of injury to cells, tissues, and organs.
6 credits

**PATH 1622, 1633 Pathology II, III**
A continuation of basic pathology, these courses identify the 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.
PATH 1622: 6 credits
PATH 1633: 5 credits
- Prerequisite for PATH 1622 Pathology II: PATH 1611 Pathology I
- Prerequisite for PATH 1633 Pathology III: PATH 1622 Pathology II

**PHAR 1611 Pharmacology I**
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. 4 credits

PHAR 1622, 1633 Pharmacology II, III
These courses are a continuation of PHAR 1611. 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.
PHAR 1622: 4 credits
PHAR 1633: 3 credits
- Prerequisite for PHAR 1622 Pharmacology II: PHAR 1611 Pharmacology I
- Prerequisite for PHAR 1633 Pharmacology III: PHAR 1622 Pharmacology II

PHYS 1521 Physiology I
This course presents the biophysics, functional properties, and regulation of membrane transport, excitable cells, skeletal muscle, cardiovascular and gastrointestinal 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 and workshops 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. 5.5 credits

PHYS 1522 Physiology II
This course is a sequel to PHYS 1521 and builds on physiologic foundations developed during the preceding semester. This course covers the function, mechanism of action, regulation, and integration of the renal and respiratory systems that maintain body homeostasis through fluid, electrolyte and gas balance. The endocrine section of the course presents the function, mechanism of action, and regulation of specific hormones and several special topics will be explored. Small group discussions 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. 5.5 credits

PMED 1512 Podiatric Medicine I
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. They will become familiar with common podiatric complaints and will be taught to perform a simple lower extremity examination with medical history. 1.5 credits

PMED 1521 Podiatric Biomechanics I
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 whereby students examine one another. 3 credits

PMED 1531 Podiatric Surgery
This course teaches the fundamental principles of surgery including normal wound healing. Specific minor surgical techniques are discussed including biopsy techniques, injection techniques and suturing, and treatment for warts and nail problems. Practical labs allow students to practice suturing, arthrocentesis, intralesional injections, local and regional anesthesia, biopsy and nail procedures. 3 credits

PMED 1641 Podiatric Medicine II
This course expands on the knowledge, skills, and attitudes developed in Part I. Focus is on the management of the lower extremity manifestations of systemic diseases including diabetes, rheumatoid arthritis, osteoarthritis, gout, seronegative spondyloarthropathies, and peripheral arterial, venous, and lymphatic disease. The diagnosis and management of lower extremity ulcerations are discussed including the use of advanced technologies. Complications of diabetes including neuropathy and Charcot disease are covered in detail. 3.5 credits
Prerequisites: ANAT 1511, 1522 Gross Anatomy I, II; BIOC 1511, 1522 Biochemistry I, II; PHYS 1521, 1532 Physiology I, II; PMED 1512 Podiatric Medicine I
**PMED 1643 Lower Extremity Anatomy**
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.

6.5 credits
Prerequisite: ANAT 1522 Gross Anatomy II

**PMED 1644 Medical Imaging**
This course will introduce the student to special imaging (MRI, CT scan, bone scan, and diagnostic ultrasonography) and how it pertains to the diagnosis of foot and ankle pathology. Emphasis will be given to the physics and interpretation as well as the appropriate times to order these tests. Students will also learn the proper technique in performing a diagnostic ultrasound.

2 credits
Prerequisites: ANAT 1511, 1522 Gross Anatomy I, II

**PMED 1651 Podiatric Biomechanics II**
Podiatric Biomechanics 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.

3.5 credits
Prerequisite: PMED 1521 Podiatric Biomechanics I

**PMED 1662 General Medicine I**
The purpose of this course is to present the student with basic concepts (preclinical and clinical) associated with the cardiovascular, pulmonary and hematological systems. This course is designed to help the student integrate the preclinical and clinical sciences toward a comprehension of cardiovascular, pulmonary and hematological system function and dysfunction. The podiatric medical student will achieve the medical knowledge needed to prepare him/her to enter third year clinical rotations.

3 credits
Prerequisites: PASS 1569 Physical Diagnosis; PHYS 1521, 1532 Physiology I, II

**PMED 1663 Podiatric Pathomechanics**
Pathomechanics 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 selection of and techniques utilized for surgical correction. The clinical skills component will demonstrate, a) the components and techniques used in basic internal fixation b), the skills and techniques used in the radiographic assessment of a Hallux Abducto Valgus deformity and c), proper dressing application.

3.5 credits
Prerequisites: PMED 1512 Podiatric Medicine I; PMED 1521, 1561 Podiatric Biomechanics I, II; PMED 1531 Podiatric Surgery; PMED 1643 Lower Extremity Anatomy; PMED 1644 Medical Imaging

**PMED 1672 General Medicine II**
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 to include a required written history and physical examination and a case presentation are used in addition to didactic instruction.

3 credits
Prerequisites: PASS 1569 Physical Diagnosis; PHYS 1521, 1532 Physiology I, II; PMED 1662 General Medicine I

**PMED 1675 Pediatric Orthopedics**
Pediatric Orthopedics is designed to provide the podiatric medical student with a comprehensive understanding of the diagnosis and treatment of normal and abnormal 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.

3 credits
Prerequisites: ANAT 1511, 1522 Gross Anatomy I, II; PMED 1521 Podiatric Biomechanics I; PMED 1643 Lower Extremity Anatomy

**PMED 1678 Behavioral Medicine**
This course applies the biopsychosocial model to normal and abnormal growth and development concepts, patient interview techniques, mental status examination, and the origins of clinical reasoning. Common psychiatric pathologies are demonstrated and discussed. Issues of patient communication and education, cultural and social awareness and sensitivity, and health promotion are discussed.

1.5 credits

**PMED 1722 Advanced Podiatric Surgery and Trauma**
This is a comprehensive surgical course covering the fundamental concepts and principles of rearfoot, ankle and reconstructive surgery. This includes discussing surgical
treatment for trauma to the lower extremity. Foundational concepts will be discussed along with an examination of newer concepts and techniques. Lectures are augmented with case presentations and critical evaluation of current and past literature.

4 credits
Prerequisites: PMED 1512, 1641 Podiatric Medicine I, II; PMED 1521, 1651 Podiatric Biomechanics I, II; PMED 1531 Podiatric Surgery; PMED 1643 Lower Extremity Anatomy; PMED 1644 Medical Imaging; PMED 1663 Podiatric Pathomechanics

PMED 1723 Emergency Medicine
This course is designed to expose the student to different facets of emergency medicine and general trauma. This includes office emergency care, prehospital care, and emergency room care. Further, an introduction to the trauma patient with specific emphasis on orthopedic trauma will be discussed. This is accomplished through a combination of clinical case presentations, and lectures and a critical evaluation of the literature.
1 credit
Prerequisites: PMED 1512 Podiatric Medicine I; PMED 1531 Podiatric Surgery; PMED 1662, 1672, 1732 General Medicine I, II, III; PMED 1722 Advanced Podiatric Surgery and Trauma

PMED 1724 Orientation to the Operating Room & Anesthesia
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, maintenance of a sterile field, and phlebotomy. The student will also learn the basics for administering and monitoring of general anesthesia.
1.5 credit
Prerequisites: PMED 1512 Podiatric Medicine I; PMED 1531 Podiatric Surgery

PMED 1732 General Medicine III
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.
3 credits
Prerequisites: PASS 1569 Physical Diagnosis; PHYS 1521, 1532 Physiology I, II; PMED 1662, 1672 General Medicine I, II
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.

2.5 credits
Prerequisites: PMED 1512, 1641 Podiatric Medicine I, II; PMED 1521, 1651 Podiatric Biomechanics I, II; PMED 1643 Lower Extremity Anatomy; PMED 1644 Medical Imaging

PMED 1774 General Orthopedics and Disorders of Bone
This course is designed to introduce the student to many of the significant conditions that afflict the musculoskeletal system. Additionally, a number of general non-lower extremity orthopedic conditions are presented. An overview of less common rheumatologic conditions not covered in Podiatric Medicine II is also presented. The clinical skills component is designed to demonstrate to the student the classic radiographic findings seen with the more commonly encountered bone tumors and metabolic bone disorders.

2.5 credits
Prerequisites: PMED 1512, 1641 Podiatric Medicine I, II; PMED 1531 Podiatric Surgery; PMED 1643 Lower Extremity Anatomy; PMED 1644 Medical Imaging

PMED 1821, 1831, 1841 Clinical Correlates in Podiatric Office, Biomechanics, and Surgery
These on-line courses 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.

1 credit each course

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 Associate Dean and Director. Students may request permission to take courses offered by other departments such as Advanced Anatomy or Medical Spanish.

Rotation Descriptions

PMED 1701 A, B, C Podiatric Medicine Core Rotation
The Core podiatric rotation consists of a one month training experience at each of three different locations (A, B, C) 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.

4 credits each rotation (12 credits total)

PMED 1702 Radiology
The Radiology Experience is an 8 day workshop presented by radiologists, orthopedists and various sub-specialists in internal medicine. The majority of the workshop will occur on campus, but there will also be sessions at outpatient or inpatient imaging facilities. The goal of this experience is to familiarize the student with clinical correlations of imaging abnormalities and indications for appropriate consultations. In addition students will develop an understanding of various imaging modalities including plain radiograph, MRI, CT scans, bone scans, ultrasound and densitometry.

2 credits

PMED 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 complaints, 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

PMED 1710 Dermatology
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

PMED 1711 Rheumatology
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

PMED 1714 Endocrinology
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

PMED 1715 Neurology
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 how nerve testing is conducted. Students will improve their ability 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

PMED 1717 Podiatric Basic Skills
This Podiatric Basic Skills rotation is a two 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 come more proficient at taking a podiatric medical history, performing a lower extremity examination, presenting to an attending and charting. In addition, students will develop skills in debridement of nails and hyperkeratotic lesions as well as basic principles of padding.
2 credits

PMED 1801 A, B, C Podiatric Medicine Core Rotation
The Core rotation consists of three months of training in podiatric medicine, biomechanics and surgery (A, B, C). 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 podiatric student training programs nationwide. The overall goal of the rotation is to enhance skills of diagnosis and management of podiatric patients. In addition, students will improve skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques.
4 credits each rotation (12 credits total)

PMED 1802 Emergency Medicine and Trauma
The Emergency Medicine and Trauma rotation is a four week training experience in an emergency room or on a trauma service. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with emergent podiatric and non-podiatric pathologies. Students will utilize both diagnostic and treatment modalities for various emergent and traumatic conditions that are present in the emergency room setting.
4 credits

PMED 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

PMED 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

PMED 1805 A, B, C, D Clinical Clerkships
The rotation consists of four 4-week training experiences 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.
4 credits each rotation (16 credits total)

PMED 1807 Non-Podiatric Medicine or Surgery Specialty
In collaboration with the office of clinical education, the student selects this four week rotation that involves a non-podiatric training experience at an outpatient clinic or in an operating room. The overall goal of the experience is for the student to develop fundamental skills in evaluating and managing patients with general medical pathologies or to expand skills in the surgical management of non-podiatric disorders. In addition, students will learn to function effectively with other members of the health care team.
4 credits

Elective Rotations

PMED 1705 Podiatric Office
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

PMED 1707 Vascular Medicine
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

PMED 1708 Pedorthics, Bracing & Prosthetics
The Pedorthics, Bracing and Prosthetics rotation is a two week training experience at an outpatient O&P 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

PMED 1712 Physical Therapy
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

PMED 1713 Wound Care
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 including diabetes, pressure, arterial disease, and venous disease. Students will enhance their ability to utilize proper assessment techniques, distinguish among various types of ulcers, select and apply wound dressings and topical agents, and employ various techniques of debridement.
4 credits

PMED 1716 Orthotic Fabrication
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 orthoses.
2 credits

PMED 1733 Clerkship
The rotation consists of a 4-week training experience. 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.
4 credits

PMED 1735 Research
This rotation is a four week experience designed to foster the student’s knowledge in clinical research. Students will choose between two separate clinical research experiences (Elective A or Elective B). With Elective A, the student will be guided through the steps necessary in designing and implementing research with an end result of a research proposal that can be submitted to an Institutional Review Board and/or a research grant source. Elective B offers the student the ability to recruit patients for the various phase two and three clinical trial studies for the Sun Health Research Institute.
4 credits

PMED 1740 International
The International Rotation 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 where access to medical care is limited. 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. Requires the approval of the University President, CHS Dean, and AZPod Associate Dean and Director.
2 credits

PMED 1808 Optional Rotation
Students are provided one month off during the fourth year to visit residency programs or take vacation. Students are given the option of scheduling an additional month of clerkship during this time. In selected cases, when remediation becomes necessary, this time may be used to complete the remediation process.
4 credits
SCHOLARSHIPS AND AWARDS

Scholarships
Academic Excellence Scholarship
American Association of Women Podiatrists Founders Scholarship
American College of Foot and Ankle Surgeon’s Division IV Student Academic 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
George E. Clark Scholarship
Hispanic Scholarship Foundation Scholarship
Indian Health Service Health Professions Scholarship
Johnson & Johnson Wound Management Scholarship
Meyer Friedlander and Milton Kasky Tikkun Olam Scholarship
Podiatry Insurance Company of America Scholarship
Stephen L. Barrett, DPM Scholarship
Washington State Podiatric Medical Association Ed Erickson Scholarship
Western Interstate Commission for Higher Education (WICHE) Zelda Walling Vicha Memorial Scholarship

Awards
Michael L. Stone, DPM, Outstanding Professional Conduct Award
Paul H. 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

FACULTY
Denise B. Freeman, D.P.M., M.S.E.
Pennsylvania College of Podiatric Medicine
Associate Director and Professor

Kelley Gillroy, D.P.M.
College of Podiatric Medicine & Surgery, Des Moines, IA
Assistant Professor

David W. Jenkins, D.P.M.
California College of Podiatric Medicine
Professor

Paul J. Kim, D.P.M.
Ohio College of Podiatric Medicine
Assistant Professor

Kent Myers, M.D.
University of Utah
College of Medicine
Associate Professor

Jeffrey C. Page, D.P.M.
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Associate Dean and Director
Professor

John Tassone, Jr., D.P.M.
Ohio College of Podiatric Medicine
Assistant Professor

Tanya L. Thoms, D.P.M.
California College of Podiatric Medicine
Assistant Professor

Melanie Violand, D.P.M.
New York College of Podiatric Medicine
Associate Professor

Lance Wissman, D.P.M.
William M. Scholl College of Podiatric Medicine
Associate Professor
MISSION
To create an educational environment that cultivates excellence in professionalism, compassion, competence, and teamwork in the practice of anesthesia.

ACCREDITATION
The Nurse Anesthesia Program is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA), 222 South Prospect Avenue, Suite 304, Park Ridge, IL 60068-4001, 847/692-7050. Accreditation was granted for the period of October 13, 2007 through October 31, 2011.

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 will provide 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 will be considered for rotation to clinical sites in Arizona, Arkansas, California, Florida, New Mexico, and Oklahoma. These sites will provide students with a broad scope of experiences in rural, urban, and suburban hospitals, as well as specialty rotations in cardiac surgery, pediatrics, and obstetrics. Thus, a student may be assigned to rotations in any combination of these states as needed to ensure the best quality set of clinical rotations. For a listing of the Program’s current clinical sites see Clinical Practicum I - V under Course Descriptions.

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 baccalaureate degrees or its equivalent in nursing or a related field (e.g., physiology, chemistry, anatomy) or higher degrees from regionally accredited professional programs. Applications received are reviewed by the Office of Admissions for completeness and referred to the Director of the Nurse Anesthesia Program or the Director of Admissions to determine applicant eligibility for interviews. Acceptance into the Nurse Anesthesia Program is determined by the Admissions Committee which recommends these students to the Program Director who transmits recommendations to the Dean of the College of Health Sciences. Decisions on acceptance are made until the maximum enrollment for the Program is reached.

Applications are due on June 1 of the year preceding enrollment. The Admissions Committee reviews all applications within two weeks of the application deadline. Applicants are interviewed in August, and acceptance letters are mailed in early September.

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 2.75 on a 4.00 scale.
   - Cumulative GPA of 3.00 on a 4.00 scale is recommended to remain competitive
   - Cumulative GPAs are calculated from the last 150 credits completed by applicants
2. Minimum science GPA of 2.75 on a 4.00 scale.
   - Science GPA of 3.00 on a 4.00 scale is recommended to remain competitive
   - Courses included in the calculation of the science GPA include anatomy, physiology, pathophysiology, pharmacology, chemistry, and physics
3. Completion of a baccalaureate degree in nursing, or other appropriate degree, granted by regionally accredited U.S. colleges or universities prior to the application deadline of June 1st.
4. Satisfactory completion (grades of C or better) of all prerequisite coursework prior to the application deadline of June 1st (grades of C- are not acceptable).
5. Licensure to practice as a registered nurse in at least one legal jurisdiction in the United States or its territories.
6. Minimum of one year of critical care registered nursing experience prior to the application deadline of June 1st.
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.

**PREREQUISITE COURSES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacology</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Anatomy &amp; Physiology</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Chemistry (may include general chemistry, organic chemistry, or biochemistry)</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Basic Research</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Statistics (must complete with a grade of B or better)</td>
<td>3</td>
<td>4</td>
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**International Applicants:**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**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 from regionally accredited programs and satisfactory completion of all prerequisite coursework.
4. Official final transcripts from all colleges attended post-high school must be submitted.
5. Three signed and sealed letters of recommendation.
   - One letter of recommendation from the current nursing supervisor of applicants
   - Two letters from peers, academic instructors, or physicians

The deadline for receipt of applications is June 1st of the preceding year, with the planned date for enrollment at the beginning of the following Summer quarter (June).

Mail completed application packets by June 1st of the year preceding matriculation 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 web site. Upon receipt of the application the Office of Admissions will send instructions for accessing account information. Please notify Midwestern University of any changes to mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.
Technical Standards
A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College(/Program) would need to make that would allow the candidate to complete the curriculum. The College(/Program) 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 in their professional program.

Transfer Students
The Nurse Anesthesia Program may elect to accept transfer students from other U.S. nurse anesthesia programs. Candidates will be considered on an individual basis and advanced placement will be determined according to College of Health Sciences Advanced Placement Policy.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Nurse Anesthesia Program of the College of Health Sciences. The students must return a signed matriculation agreement to the Office of Admissions. Students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.
2. Complete a medical file as requested by the Office of Student Services.
3. Submit proof of medical and disability insurance coverage. Students may select either a plan offered by a MWU-approved carrier or a comparable plan offered by an outside carrier of their choice.
4. Provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending CHS (for non-U.S. citizens/nonpermanent residents only).
5. Submit additional documents as required by the Office of Admissions.
6. Authorize and pass the Midwestern University criminal background check.
7. Sign and submit Midwestern University’s Drug-Free Workplace and Substance Abuse Policy Statement.
8. Complete a physical exam and submit form.
10. Provide proof of completed required immunizations.
11. Meet the Technical Standards for the Program.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat in the Program. Individuals accepted for admission to the Program who do not comply with stated timelines for submission of all required materials will not receive further notification from CHS regarding forfeiture of their seat.
Articulation Agreement Between Midwestern University Programs

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional 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 credit hours and pass all courses with a 3.00 or higher cumulative GPA, with no clinical anesthesia course or rotation grade below a B;
3. Receive a favorable recommendation from the Nurse Anesthesia Program, 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; and
6. Complete all graduation clearance requirements as instructed by the Office of the Registrar.

Licensure Requirements

Students must have a current Arizona registered nursing license or a 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. Students in the second year of the Program will need a California registered nursing license as well.

Curriculum

First Professional Year
Total Quarter Credit Hours Required 62

Summer Quarter
- ANAT 1551 Human Anatomy and Embryology 7
- NAAP 530 Biophysics 4
- NAAP 580 Evidence-Based Journal Club 0.5
- BIOC 550 Biochemistry for Nurse Anesthetists 3
Total 14.5 quarter credits

Fall Quarter
- CORE 1560 Interdisciplinary Healthcare 0.5
- NAAP 581 Evidence-Based Journal Club 0.5
- NAAP 540 Principles of Anesthesia I 6
- NAAP 550 Anesthesia Pharmacology 5
- PHYS 1571 Human Physiology I 4
Total 16 quarter credits

Winter Quarter
- CORE 1570 Interdisciplinary Healthcare 0.5
- NAAP 582 Evidence-Based Journal Club 0.5
- NAAP 541 Principles of Anesthesia II 6
- NAAP 560 Research Methods 3
- PHAR 570 Pharmacology I 3
- PHYS 1582 Human Physiology II 4
Total 17 quarter credits

Spring Quarter
- CORE 1580 Interdisciplinary Healthcare 0.5
- NAAP 583 Evidence-Based Journal Club 0.5
- NAAP 570 Professional Aspects of Nurse Anesthesia 4.5
- NAAP 542 Principles of Anesthesia III 6
- PHAR 580 Pharmacology II 3
Total 14.5 quarter credits

Second Professional Year
Total Quarter Credit Hours Required 48

Summer Quarter
- NAAP 615 Clinical Rotation I 9
- NAAP 620 Clinical Rotation I Didactic Component 3
Total 12 quarter credits

Fall Quarter
- NAAP 616 Clinical Rotation II 9
- NAAP 621 Clinical Rotation II Didactic Component 3
Total 12 quarter credits
Winter Quarter
NAAP 617 Clinical Rotation III 9
NAAP 622 Clinical Rotation III Didactic Component 3
Total 12 quarter credits

Spring Quarter
NAAP 618 Clinical Rotation IV 9
NAAP 623 Clinical Rotation IV Didactic Component 3
Total 12 quarter credits

Third Professional Year
Total Quarter Credit Hours Required 12

Summer Quarter
NAAP 719 Clinical Rotation V 9
NAAP 724 Clinical Rotation V Didactic Component 3
Total 12 quarter credits

Total Credits for Program Completion: 122

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.

ANAT 1551 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

BIOC 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

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other's clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs. 0.5 credits per quarter

NAAP 530 Biophysics
The purpose of the course is to show how the various branches of physics can be used to understand important aspects of physiology, pharmacology, and pathology, as well as the mechanics of the anesthesia machine and vaporizers.
4 credits

NAAP 540, 541, 542 Principles of Anesthesia I, II, III
These courses introduce 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. The second course 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.
6 credits each course (18 credits total)
- Prerequisite for NAAP 541 Principles of Anesthesia II: NAAP 540 Principles of Anesthesia I
- Prerequisite for NAAP 542 Principles of Anesthesia III: NAAP 541 Principles of Anesthesia II

NAAP 550 Anesthesia Pharmacology
This course focuses exclusively on those drugs and delivery systems utilized for anesthesia. The major emphasis is on inhalational agents, muscle relaxants, induction agents, and narcotics used to provide general anesthesia. The pharmacology for regional anesthesia is also discussed. Medicinal organic chemistry will be covered in this course as well.
5 credits

NAAP 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

NAAP 570 Professional Aspects of Nurse Anesthesia
This course will present material concerning professional issues surrounding the practice of Nurse Anesthesia.

4.5 credits

NAAP 580, 581, 582, 583 Evidence-Based Journal Club
The purpose of this four-quarter series is to foster the students 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.

0.5 credits each course (2 credits total)

NAAP 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, Arkansas, California, Florida, New Mexico, and Oklahoma. These rotations will include specialty rotations in cardiac surgery, neurosurgery, pediatrics, and obstetrics.

9 credits each rotation
Prerequisite: Completion of all didactic course work through spring quarter of first year; successful completion of previous Clinical Rotation.

Current Clinical Sites Include:
1. Arizona Heart Hospital, Phoenix, AZ
   Distance from campus: local
2. Cobre Valley Community Hospital, Globe, AZ
   Distance from campus: 2 hours
3. Community Regional Medical Center, Fresno, CA
   Distance from campus: 9 hours
4. Del E Webb Memorial Hospital, Sun City West, AZ
   Distance from campus: local
5. Flagstaff Medical Center, Flagstaff, AZ
   Distance from campus: 2 hours
6. Fort Defiance Indian Medical Center, Fort Defiance, AZ
   Distance from campus: 6 hours
7. Jackson County Memorial, Altus, OK
   Distance from campus: 13 hours
8. La Paz Regional Hospital, Parker, AZ
   Distance from campus: 3 hours
9. Maricopa Medical Center, Phoenix, AZ
   Distance from campus: local

10. Mountain Vista Medical Center, Mesa, AZ
    Distance from campus: local
11. Mount Graham Regional Medical Center, Safford, AZ
    Distance from campus: 2 hours
12. Rehoboth McKinley Christian Health Services, Gallup, NM
    Distance from campus: 8 hours
    Distance from campus: local
14. San Juan Regional Medical Center, Farmington, NM
    Distance from campus: 8 hours
15. Saint Vincent Infirmary Medical Center, Little Rock, AR
    Distance from campus: 19 hours
16. Southern Arizona Veterans Affairs Healthcare, Tucson, AZ
    Distance from campus: 2 hours
17. Tampa General Hospital, Tampa, FL
    Distance from campus: 32 hours
18. Tempe Saint Luke's Hospital, Tempe, AZ
    Distance from campus: local
19. Tubac City Indian Medical Center, Tubac City, AZ
    Distance from campus: 6 hours

NAAP 620, 621, 622, 623, 724 Clinical Rotation Didactic Component I, II, III, IV, V
This course comprises the didactic component of NAAP 615 through NAAP 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.

3 credits each
Prerequisite: Completion of all didactic course work through spring quarter of first year.

PHAR 570, 580 Pharmacology I, II
These courses introduce students to the general principles of drug action, drug dynamics and kinetics, toxicities, and the therapeutic uses as related to humans. Students are exposed to common drugs affecting major organ systems of the body.

3 credits each
Prerequisites: ANAT 1551 Human Anatomy; PHYS 1571, 1582 Human Physiology I, II

PHYS 1571, 1582 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.

4 credits each course
FACULTY
Shari M. Burns, Ed.D.
University of Phoenix
Associate Program Director and Associate Professor

Kathleen A. Piotrowski, M.S.N.
Case Western Reserve University
Frances Payne Bolton School of Nursing
Assistant Professor

Mary M. Wojnakowski, Ph.D.
University of Pittsburgh
School of Nursing
Director and Associate Professor
COLLEGE OF HEALTH SCIENCES

CLINICAL PSYCHOLOGY PROGRAM

MISSION
The Midwestern University Doctor of Psychology (Psy.D.) in Clinical Psychology Program is designed to educate and train students in the general practice of clinical psychology, serving a diverse population of persons in need of psychological services.

ACCREDITATION
Midwestern University is accredited by The Higher Learning Commission, A Commission of the North Central Association of Colleges and Schools (HLC/NCA), 230 South LaSalle St., Suite 7-500, Chicago, IL 60604-1413; 800/621-7440.

Since MWU’s Clinical Psychology Program is relatively new, it is not yet accredited by the American Psychological Association (APA). The Program will apply for accreditation from the APA as soon as it is eligible. Accreditation information can be obtained from the Committee on Accreditation of the American Psychological Association, 750 First Street NE; Washington, DC 20002-4242. Phone: 202/336-5979; TDD/TTY: 202/336-6123. Web Site: http://www.apa.org/ed/accreditation/status.html

DEGREE DESCRIPTION
The Doctor of Psychology degree is designed to be a professional degree similar to the doctoral degrees provided in medicine, law, pharmacy, physical therapy, and dentistry. The Psy.D. has become the degree of choice for persons interested in becoming a high-level practitioner when pursuing a career in clinical psychology. The curriculum for the program does not follow any one theoretical perspective; rather, the emphasis is upon the development of the essential diagnostic, therapeutic, and consultative skills for the practice of clinical psychology.

The overall goal is to prepare students for careers in the practice of professional psychology. There are five specific goals, defined as competencies, and an emphasis on training in Integrated Behavioral Health Care. These competencies are:

(1) Research and Evaluation/Foundations of Psychological Science: This competency includes the areas of research and evaluation, test construction, statistics, scholarship, and scientific mindedness. This competency rests on the assessor’s foundation of knowledge, skills, and professional attitudes in the areas of tests and measurement, statistics, qualitative methods, and experimental design. This competency also encompasses knowledge of the history of scientific psychology and its clinical applications, including the areas of physiological psychology, neuropsychology, psychopharmacology, cognitive and affective bases of behavior, history and systems of psychology, and social psychology.

(2) Professionalism: This competency includes the areas of ethics, diversity (defined broadly), self-care, awareness, self-reflection, practice management, collegiality, professional problem solving, a commitment to lifelong learning, and critical thinking which underlies all subject matter and professional behavior.

(3) Diagnostics & Assessment: This competency rests on the foundation of knowledge, skills, and professional attitudes in the areas of human development and psychopathology. The Diagnostics and Assessment competency requires an ability to acquire and synthesize multiple sources of data into a comprehensive, cohesive and clearly articulated communication form.

(4) Intervention: This competency requires students to demonstrate an ability to intervene with clients from an articulated theoretical perspective. Intervention is broadly defined to include a variety of activities that promote or sustain well-being or provide remedial or preventative services. Intervention populations are broadly defined (e.g. individuals, groups, couples, families, communities). Students demonstrate knowledge, skills and attitudes congruent with evidence-based practice rationales and can articulate them.

(5) Relationship & Communication: This competency requires a demonstration of interpersonal skills and effective written and oral communication. Ability to consult and
collaborate with others, interdisciplinary teams and members of agencies and organizations is considered part of relationship skills. Evidence of ability to teach/present and manage at a developmentally appropriate level is also included. Supervisory ability (including the ability to be supervised) is part of this competency.

**Integrated Behavioral Healthcare Emphasis:** The MWU Clinical Psychology Program emphasizes broad and general training in psychology. In addition, emphasis on psychological practice in integrated healthcare settings is provided. MWU views psychologists as generalists in healthcare. Because we are housed in a medical school and healthcare environment, students have the opportunity to interact with many healthcare professionals. As part of this interdisciplinary approach, training in other related psychological activities is available to interested students, including neuropsychology, health psychology and behavioral medicine.

**Program Philosophy**
The Doctor of Psychology in Clinical Psychology Program follows the practitioner-scholar model of preparation that was accepted by the American Psychological Association at the Vail Conference. This model recognizes the ongoing need in society for expertly trained practitioners in the field of clinical psychology. The practitioner-scholar philosophy dictates that competent practitioners are required to have an extensive understanding of the theoretical principles in the clinical practice of psychology and the ability to utilize the knowledge in specific clinical situations. This program has the philosophy of educating and training individuals to enter careers emphasizing the delivery of direct psychological services and consultation. Relevant theory, research, and field experiences are integrated toward the development of competent and ethical practitioners who are respectful of individual and cultural differences in the provision of psychological services.

**Program Requirements**
The Psy.D. Program is designed to be completed in four to five years. Typically, full-time students will complete three years of coursework, clerkship, and practicum experiences. This is followed by a one-year internship and the satisfactory completion of a Practitioner Scholar Project. Some evening courses may be scheduled.

**Master of Arts in Clinical Psychology Degree**
Students are only admitted into the Psy.D. Program. There is no separate master degree program. 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 electing to receive the M.A. degree must have successfully completed all of the 1500 and 1600 level courses, clerkship, and practicum experiences for a total of 113.5 credit hours.

The awarding of the M.A. in Clinical Psychology is done to provide an additional credential certifying the work completed by students who are pursuing the Psy.D. degree.

**Clerkship**
The Psy.D. Program offers a number of supervised clinical training experiences beginning in the first year of study. Students are selected for clerkships following consideration of the Program Director and clerkship supervisor.

**Clinical Practicum**
All students must successfully complete practicum experiences in the second and third year of study. Students enter practicum training if they are making satisfactory progress in the program and receive approval of the Program Director. Practicum is a field experience that spans the academic or calendar year. Practicum training is completed at numerous hospitals, agencies, and organizations throughout the Phoenix metropolitan area. The specific clinical focus of the experience varies according to the student’s needs, interests, and availability of practicum sites. Students complete a minimum of eight quarters of practicum.

Students work approximately 16 to 20 hours per week in a clinical setting. The practicum experiences in psychodiagnostics and psychotherapy total approximately 1,000 hours over two years. Practicum placements may require work in the summer months, over holiday periods, and during breaks in the academic calendar. The Director of Clinical Training assists students in the application process for practicum placement.

**Qualifying Examination**
The purpose of the Qualifying Examination is to permit students to demonstrate the capacity to integrate the knowledge, skills and attitudes accumulated during the first two years of study, demonstrating organizational and differential thinking. The successful completion of the Qualifying Examination signals the official acceptance of the matriculated student as a doctoral candidate. The examination is evaluated on a pass/fail basis and is scheduled at the end of the first two years of study.

**Internship**
The predoctoral internship is a 2,000-hour requirement at an approved site over a 12-month or 24-month period. The internship is designed to provide intensive advanced clinical training that builds upon the coursework and practicum experiences. The internship is a critical component of the Psy.D. Program and cannot be waived. After successfully completing the Qualifying Examination, a student can apply for an internship. Students must complete all required coursework and practicum experiences before beginning the
The internship may or may not be a paid position, depending on the placement of the student.

**Practitioner Scholar Project**

A Practitioner Scholar Project 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. A committee of faculty members will assist with this process. The Practitioner Scholar Project takes a minimum of nine to 12 months to complete. Students are required to develop a proposal for their project that must be approved by the Practitioner Scholar Project Committee before the project is implemented. The student then completes any data collection and analysis required for the project and completes a written document about the project. Each student must present an oral defense of the project upon its completion. Following the defense, the student must provide the program with copies of the Practitioner Scholar Project that are suitable for binding. With the Program Director’s approval, students needing additional time to complete the Practitioner Scholar Project following completion of their internship must register for PSYC 1820 Practicum Scholar Project Continuation, a zero 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 health care community. The Program requires an interview with applicants before decisions are made concerning admission into the Program.

**Admission Requirements**

To be considered for admission within the competitive selection process applicants 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 3.00 on a 4.00 scale.
3. Completion of 18 semester hours or equivalent of prerequisite coursework in psychology with a grade of C or better, including:
   - Introductory/General Psychology
   - Human Growth & Development or Personality Theory
   - Abnormal Psychology
   - Statistics or Tests and Measurements
4. Graduate Records Examination (GRE) general test scores using the Midwestern University institution code of 4160.
   - Scores will be accepted from tests taken within the last 5 years.

5. For more information about the GRE, contact Educational Testing Services (ETS) at 866/473-4373 (toll-free) or visit www.gre.org
6. Demonstration of a people or service orientation through community service or extracurricular activities.
7. Motivation for and commitment to health care as demonstrated by previous work, volunteer work, or other life experiences.
8. Oral and written communication skills necessary to interact with patients and colleagues.
9. Commitment to abide by Midwestern University’s Drug-Free Workplace and Substance Abuse Policy.
10. Passage of Midwestern University’s criminal background check.

**International Applicants**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.
**Application Process and Deadlines**

To be considered for admission to the Clinical Psychology Program, students must submit the following to the Office of Admissions:

1. Completed application forms, which can be downloaded with instructions from the University’s web site at www.midwestern.edu; click on the AZ Clinical Psychology Program section. Students may also obtain application packets by writing or calling the Office of Admissions (see below).
2. A nonrefundable, nonwaivable application fee of $50.
3. Three signed and sealed letters of recommendation from professionals who know the student well (teachers, advisors, professional colleagues or supervisors).
4. 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.
5. Current resume.
6. Official transcripts from all postsecondary schools attended.
7. GRE general test scores.

Send all application materials to:

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

Applicants may track the receipt of their application materials and the status of their files on the University’s web site 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 personal interview is the final step in the application process. Upon completion of the interview, the Program makes admissions decisions and the Dean, via the Office of Admissions, notifies applicants of admissions decisions.

For those admitted to the Doctor of Psychology Program, a nonrefundable tuition deposit to reserve a seat in the entering class will be required by a date stipulated in the acceptance letters. Deposits are applied toward the tuition due for the first quarter of study.

Admissions decisions will be made on a rolling basis. Applicants are advised to complete their application files as early as possible to ensure timely consideration.

**Technical Standards**

A candidate must have abilities and skills of five varieties: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. Observation: A candidate must be able to make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and somatic sensation and is enhanced by the functional use of all of the other senses.

II. Communication: The candidate should be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.

III. 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 postural control, neuromuscular control and eye-to-hand coordination.

IV. Intellectual, Conceptual, Integrative, and Quantitative Abilities: The candidate must be able to measure, calculate, reason, analyze, record, and synthesize large amounts of information and problem solve. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.

V. 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 that are assessed during the admissions and education process.
Candidates are required to certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College/Program would need to make that would allow the candidate to complete the curriculum. The College/Program 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 in their professional program.

**Matriculation Process**
The matriculation process begins after applicants receive notification of their acceptance into the Doctor of Psychology Program. Students must return both their signed matriculation agreement and their initial deposit to the Office of Admissions. Students must also:

1. Submit deposit monies by the date designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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 proof of immunization against measles, mumps, rubella, oral polio (opv), diphtheria, and hepatitis B.
4. Provide evidence of testing for tuberculosis within the last 12 months. A titer verifying immunity to the previously mentioned diseases may be required.
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.
6. Provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending CHS (for non-U.S. citizens/nonpermanent residents only).
7. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee of the Program has been completed.
8. Meet the Technical Standards for the Program.
9. Submit additional documents as required by the Office of Admissions.
10. Authorize and pass the Midwestern University criminal background check and fingerprint clearance.
12. Complete a physical exam and submit form.

Students who either fail to satisfy the above matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat in the Program. Individuals accepted for admission to the Clinical Psychology Program of the College of Health Sciences who do not comply with stated timelines for submission of all required materials will not receive further notification from CHS regarding forfeiture of their seat.

**Articulation Agreement Between Midwestern University Programs**
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

**Reapplication Process**
After receiving either denial or end-of-cycle letters, prospective students 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 new applications and proceed through the standard application process.
Transfer of Credit
In order to receive credit for previous coursework completed at other institutions prior to matriculation at Midwestern University, students must submit a Transfer of Credit Request Application prior to registration. 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.

Graduation Requirements
The M.A. in Clinical Psychology is awarded if the following conditions are fulfilled by students in the Psy.D. Program:
1. Satisfactory completion of 113.5 credit hours including all required 1500 and 1600 level courses (93 credits), Interdisciplinary Healthcare courses (1.5 credits), clerkships (3 credits), and practica and practicum seminar (16 credits);
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. Full payment of all outstanding tuition and fees;
4. Receive a favorable recommendation for master’s degree conferral from the Clinical Psychology Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee;
5. Be recommended for conferral of the master’s degree by the University Faculty Senate.

To receive the Psy.D. in Clinical Psychology, the student must complete all requirements within seven years of matriculation. To be eligible for graduation the student must meet the following requirements:
1. Satisfactory completion of 220.5 quarter credit hours, including the required courses and seminars (113 credits), elective courses (12 credits), Interdisciplinary Healthcare Core Courses (1.5 credits); clerkships (3 credits), practica and practicum seminars (32 credits), internship (50 credits), and Practitioner Scholar Project (9 credits);
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 the Qualifying Examination and program-based competencies;
4. Satisfactory completion of an approved one-year internship;
5. Satisfactory completion of a Practitioner Scholar Project including a successful oral defense and the submission of a copy for binding;
6. Receive a favorable recommendation for doctoral degree conferral from the Clinical Psychology Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee;
7. Be recommended for conferral of the doctoral degree by the University Faculty Senate;
8. Full payment of all outstanding tuition and fees; and
9. Completion of all graduation clearance requirements as instructed by the Office of the Registrar.

Requirement for Full-Time Study in Residence
Typically, students will spend three years in full time study on campus (in residence). All courses except practicum placements are held on campus. In all circumstances, 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. Although the Doctor of Psychology in Clinical Psychology Program will seek status as an approved program from the American Psychological Association at the earliest time, this status is currently not necessary for graduates to become licensed in the State of Arizona.

Curriculum
Typical Schedule
First Year
Total Quarter Credit Hours Required: 57.5

Fall Quarter
CORE 1560 Interdisciplinary Healthcare 0.5
PSYC 1501 Professional Issues and Ethics 3
PSYC 1502 Life Span Development I  3
PSYC 1515 Tests and Measurements I  3
PSYC 1560 Cognitive-Affective Bases of Behavior  3
PSYC 1572 Psychopathology: Anxiety-Based and
Personality Disorders  3
Total  15.5 credits

Winter Quarter
CORE 1570 Interdisciplinary Healthcare  0.5
PSYC 1503 Life Span Development II  3
PSYC 1516 Tests and Measurements II  2
PSYC 1524 Intelligence Testing I  3
PSYC 1525 Intelligence Testing II  2
PSYC 1570 Psychopathology: Child and Adolescent  3
PSYC 1582 Clerkship I  1
Total  14.5 credits

Spring Quarter
CORE 1580 Interdisciplinary Healthcare  0.5
PSYC 1514 Research Methods and Design  3
PSYC 1526 Personality Assessment I  3
PSYC 1550 Biological Bases of Behavior  3
PSYC 1573 Psychopathology: Psychotic and Mood Disorders  3
PSYC 1583 Clerkship II  1
PSYC 1565 Professional Writing  1
Total  14.5 credits

Summer Quarter
PSYC 1530 Introduction to Psychotherapy  3
PSYC 1584 Clerkship III  1
Total  13 credits

Second Year
Total Quarter Credit Hours Required:  56.0

Fall Quarter
PSYC 1620 Advanced Assessment  3
PSYC 1631 Cognitive Theories and Approaches to Psychotherapy  3
PSYC 1639 Integrated Behavioral Healthcare  3
PSYC 1682 Practicum I  3
PSYC 1683 Practicum Seminar I  1
Total  13 credits

Winter Quarter
PSYC 1654 Social and Cultural Bases of Behavior  3
PSYC 1601 Advanced Professional Development and Ethics  2
PSYC 1632 Psychodynamic Approaches to Psychotherapy  3
PSYC 1635 Marriage and Family Counseling and Therapy  3
PSYC 1684 Practicum II  3
PSYC 1685 Practicum Seminar II  1
Total  15 credits

Spring Quarter
PSYC 1610 Diversity in Clinical Psychology  3
PSYC 1636 Behavioral Therapy  3
PSYC 1650 Psychopharmacology  3
PSYC 1680 Research Seminar  2
PSYC 1686 Practicum III  3
PSYC 1687 Practicum Seminar III  1
Total  15 credits

Summer Quarter
PSYC 1655 History and Systems  3
PSYC 1640 Introduction to Neuropsychology  3
PSYC 1649 Group Therapy  3
PSYC 1688 Practicum IV  3
PSYC 1689 Practicum Seminar IV  1
Total  13 credits

Total credits Year 1 + Year 2  113.5
Awarding of Master of Arts Degree

Third Year
Total Quarter Credit Hours Required:  57.0

Fall Quarter
PSYC 1711 Advanced Statistics  3
PSYC 1730 Advanced Psychotherapy Practice  2
PSYC 1771 Advanced Psychopathology  3
PSYC 1782 Advanced Practicum I  3
PSYC 1783 Advanced Practicum Seminar I  1
Electives  3
Total  15 credits

Winter Quarter
PSYC 1708 Mental Health Law  3
PSYC 1739 Issues in Substance Abuse  3
PSYC 1751 Advanced Integrated Behavioral Healthcare  1
PSYC 1780 Practitioner Scholar Project  1
Development
PSYC 1784 Advanced Practicum II  3
PSYC 1785 Advanced Practicum Seminar II  1
Electives  3
Total  15 credits

Spring Quarter
PSYC 1732 Supervision and Consultation Models & Practice  3
PSYC 1781 Practitioner Scholar Project Seminar  1
PSYC 1786 Advanced Practicum III  3
PSYC 1787 Advanced Practicum Seminar III  1
Electives  6
Total  14 credits

Summer Quarter
PSYC 1788 Advanced Practicum IV  3
PSYC 1789 Advanced Practicum Seminar IV  1

191
Fourth Year

Total Quarter Credits Required: 50.0

PSYC 1800 Internship 50

Total graduate required credit hours 220.5

Note: The MWU/CHS Clinical Psychology Program reserves the right to alter its curriculum however and whenever it deems appropriate.

Electives

Students must complete a minimum of 12 hours of elective credit in the MWU/CHS Clinical Psychology Program. Elective course offerings may include the following:

- PSYC1709 Forensic Psychology 3 credits
- PSYC1721 Human Sexuality 3 credits
- PSYC1735 Practice Management Issues 3 credits
- PSYC1749 Psychological Management of Chronic Pain 3 credits
- PSYC1775, 1776, 1777 Advanced Independent Study 1-3 credits
- PSYC1778 Directed Readings in Clinical Psychology 3 credits

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.

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs. 0.5 credits per quarter

PSYC 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

PSYC 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

PSYC 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

PSYC 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

PSYC 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
PSYC 1515 Tests and Measurements I
This is the first course in a two-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.
3 credits

PSYC 1516 Tests and Measurements II
This course continues the examination of the measurement of individual differences and prediction designed for students in the clinical psychology program. The course focuses on the measurement of behavior, affect, achievement, relationships, attitudes, traits, and self-concept that are appropriate in clinical practice. The course prepares students to effectively evaluate different psychological tests and to select tests for particular referral questions and special populations.
2 credits
Prerequisite: PSYC 1515: Tests and Measurements I

PSYC 1520 Clinical Appraisal and Interviewing
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
Prerequisites: PSYC 1570 Psychopathology: Child and Adolescent; PSYC 1572 Psychopathology: Anxiety-Based and Personality Disorders; PSYC 1573 Psychopathology: Psychotic and Mood Disorders

PSYC 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

PSYC 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
Prerequisite: Must be taken concurrently with PSYC 1524 Intelligence Testing I

PSYC 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, 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.
3 credits

PSYC 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.
3 credits

PSYC 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

PSYC 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

**PSYC 1560 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.
3 credits

**PSYC 1565 Professional Writing**
This course introduces the student to the basic foundations of professional writing including the use of the APA style of writing. The course examines several applications of writing style to such diverse activities as research report writing, clinical chart documentation, SOAP charting, and psychodiagnostic report writing.
1 credit

**PSYC 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
Prerequisite: PSYC 1502 Lifespan Development I

**PSYC 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 disorder, and psychosomatic disorders.
3 credits

**PSYC 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

**PSYC 1582 Clerkship I**
The clerkship is a supervised field experience for clinical psychology students, 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
Prerequisite: Approval of Program Director

**PSYC 1583 Clerkship II**
This is a continuation of PSYC 1582.
1 credit
Prerequisites: PSYC 1582 Clerkship I and Approval of Program Director

**PSYC 1584 Clerkship III**
This is a continuation of PSYC 1583.
1 credit
Prerequisites: PSYC 1583 Clerkship II and Approval of Program Director

**PSYC 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 (DHHS) and Health Insurance Portability and Accountability (HIPPA) regulations and liability management.
2 credits
Prerequisite: PSYC 1501 Professional Issues and Ethics

**PSYC 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

**PSYC 1620 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.

3 credits
Prerequisites: PSYC 1520 Clinical Appraisal and Interviewing; PSYC 1524 Intelligence Testing I; PSYC 1525 Intelligence Testing II; PSYC 1526 Personality Assessment I; PSYC 1527 Personality Assessment II; Projective Techniques

PSYC 1631 Cognitive Theories & Approaches to Psychotherapy
Starting with 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 therapy on the development of empirically verified treatment approaches. It also reviews the current research supporting the use of a cognitive psychotherapy approach with certain diagnostic conditions, and populations.

3 credits
Prerequisites: PSYC 1530 Introduction to Psychotherapy; PSYC 1560 Cognitive-Affective Bases of Behavior

PSYC 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
Prerequisite: PSYC 1530 Introduction to Psychotherapy

PSYC 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
Prerequisite: PSYC 1530 Introduction to Psychotherapy

PSYC 1636 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.

3 credits
Prerequisite: PSYC 1530 Introduction to Psychotherapy; PSYC 1560 Cognitive-Affective Bases of Behavior

PSYC 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: PSYC 1530 Introduction to Psychotherapy; Core 1560 Interdisciplinary Healthcare I; Core 1570 Interdisciplinary Healthcare II; Core 1580 Interdisciplinary Healthcare III

PSYC 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 (CVA’s), head trauma and concomitant brain injury, seizure disorders, and various forms of dementia. An overview of neuropsychological assessment instruments will be introduced.

3 credits
Prerequisite: PSYC 1550 Biological Bases of Behavior

PSYC 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
Prerequisite: PSYC 1530 Introduction to Psychotherapy

PSYC 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
Prerequisite: PSYC 1550 Biological Bases of Behavior
PSYC 1654 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.
3 credits

PSYC 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. Major theorists such as Freud, Adler, Jung, Maslow, Skinner, Piaget, Beck, and Meichenbaum are examined.
3 credits

PSYC 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.
2 credits
Prerequisites: PSYC 1510 Statistics; PSYC 1514 Research Methods and Design

PSYC 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
Prerequisite: Approval of Program Director

PSYC 1683 Practicum Seminar I
Students come together from various practicum sites for the purpose of supervision and discussion of the clinical experience. Students are supervised in order to maximize the learning experience in a typical clinical setting.
1 credit
Prerequisite: Approval of Program Director

PSYC 1684 Practicum II
This is a continuation of PSYC 1682.
3 credits
Prerequisites: PSYC 1682 Practicum I and Approval of Program Director

PSYC 1685 Practicum Seminar II
This is a continuation of PSYC 1683.
1 credit
Prerequisites: PSYC 1683 Practicum Seminar I and Approval of Program Director

PSYC 1686 Practicum III
This is a continuation of PSYC 1684.
3 credits
Prerequisites: PSYC 1684 Practicum II and Approval of Program Director

PSYC 1687 Practicum Seminar III
This is a continuation of PSYC 1685.
1 credit
Prerequisites: PSYC 1685 Practicum Seminar II and Approval of Program Director

PSYC 1688 Practicum IV
This is a continuation of PSYC 1686.
3 credits
Prerequisites: PSYC 1686 Practicum III and Approval of Program Director

PSYC 1689 Practicum Seminar IV
This is a continuation of PSYC 1687.
1 credit
Prerequisites: PSYC 1687 Practicum Seminar III and Approval of Program Director

PSYC 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
Prerequisite: PSYC 1601 Advanced Professional Development and Ethics

PSYC 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
Prerequisites: PSYC 1510 Statistics; PSYC 1514 Research Methods and Design

PSYC 1730 Advanced Psychotherapy Practice
The course is designed to assist the student in training 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 student’s theoretical model to conceptualize their clients and to provide appropriate treatment interventions within that theoretical model. Case management and ongoing evaluation are discussed.
2 credits
Prerequisite: PSYC 1530 Introduction to Psychotherapy
**PSYC 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

**PSYC 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
Prerequisites: PSYC 1530 Introduction to Psychotherapy; PSYC 1550 Biological Bases of Behavior

**PSYC 1751 Advanced Integrated Behavioral Healthcare**
This course focuses on the practice of psychology integrated with primary healthcare. Issues regarding practice concerns, diversity issues, and consultative skills will be addressed.
1 credit
Prerequisite: PSYC 1639 Integrated Behavioral Healthcare

**PSYC 1771 Advanced Psychopathology**
This course focuses on the clinical manifestations of psychopathology of the major clinical entities of children, adolescents, and adults. The course will examine the major differences seen among cultural groups, gender, and persons with disabilities. Comorbidity and approaches to complex diagnostic problems will be considered. The wide range of disorders will be reviewed in the context of current research outcomes.
3 credits
Prerequisites: PSYC 1520 Clinical Appraisal and Interviewing; PSYC 1570 Psychopathology: Child and Adolescent; PSYC 1572 Psychopathology: Anxiety-Based and Personality Disorders; PSYC 1573 Psychopathology: Psychotic and Mood Disorders

**PSYC 1780 Practitioner Scholar Project Development**
This course focuses on the development of a scholarly project. It will assist the student with exploring an area of interest and developing that idea into formalized project proposal. Students will be able to utilize the seminar-based process to receive consultation from the instructor as well as class members.
1 credit
Prerequisite: Approval of Program Director

**PSYC 1781 Practitioner Scholar Project Seminar**
This seminar-based course focuses on the implementation of the Practitioner Scholar Project. Other aspects of the project (review of the literature, etc.) are reviewed. Practical considerations, such as a timeline for completion of the project are developed.
1 credit
Prerequisite: PSYC 1780 Practitioner Scholar Project Development

**PSYC 1782 Advanced Practicum I**
This practicum experience offers the opportunity to enhance the student’s skills in a particular area of interest.
3 credits
Prerequisites: PSYC 1688 Practicum IV and Approval of Program Director

**PSYC 1783 Advanced Practicum Seminar I**
This seminar reviews the progress of students enrolled in the advanced practicum. Students meet on campus to discuss training experiences.
1 credit
Prerequisites: PSYC 1689 Practicum Seminar IV and Approval of Program Director

**PSYC 1784 Advanced Practicum II**
This is a continuation of PSYC 1782.
3 credits
Prerequisites: PSYC 1782 Advanced Practicum I and Approval of Program Director

**PSYC 1785 Advanced Practicum Seminar II**
This is a continuation of PSYC 1783.
1 credit
Prerequisites: PSYC 1783 Advanced Practicum Seminar I and Approval of Program Director

**PSYC 1786 Advanced Practicum III**
This is a continuation of PSYC 1784.
3 credits
Prerequisites: PSYC 1784 Advanced Practicum II and Approval of Program Director

**PSYC 1787 Advanced Practicum Seminar III**
This is a continuation of PSYC 1785.
1 credit
Prerequisites: PSYC 1785 Advanced Practicum Seminar II and Approval of Program Director

**PSYC 1788 Advanced Practicum IV**
This is a continuation of PSYC 1786.
3 credits
Prerequisites: PSYC 1786 Advanced Practicum III and Approval of Program Director
**Electives**

**PSYC 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
Prerequisite: PSYC 1708 Mental Health Law

**PSYC 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

**PSYC 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

**PSYC 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

**PSYC 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.
1-3 credits
Prerequisite: Approval of Program Director

**PSYC 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
Prerequisite: Approval of Program Director
STUDENT ACADEMIC POLICIES

Satisfactory Progress
Once students have matriculated, they must be in continuous enrollment in the program until graduation. Credit hours can be earned during any academic quarter: fall, winter, spring, or summer. Student progress in the Psy.D. Program is evaluated at the conclusion of each quarter. The Program Student Academic Review Committee conducts the evaluation of student progress and students are provided feedback about their progress.

The academic standing of a student is determined by the student's cumulative grade point average. A student enrolled in the Clinical Psychology Program must pass all courses with a minimum grade of B- or P and maintain a cumulative grade point average of 3.00 or higher to have achieved satisfactory 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, administrative probation, academic leave of absence, or academic dismissal, as described starting on page 81.

FACULTY
Kiran Amin, Ph.D.
McGill University
Professor

Ruchi Bhargava, Ph.D.
Gallaudet University
College of Liberal Arts, Sciences, and Technologies
Academic Clinic Coordinator and Assistant Professor

Melissa Flint, Psy.D.
Argosy University
Arizona School of Professional Psychology
Instructor

Shefali Gandhi, Psy.D.
Argosy University
Arizona School of Professional Psychology
Assistant Professor

Philinda Smith Hutchings, Ph.D., ABPP
University of Kansas
College of Liberal Arts and Sciences
Director and Professor

Deborah J. Lewis, Ph.D.
California School of Professional Psychology
Director of Clinical Training and Professor

Thomas B. Virden III, Ph.D.
Western Michigan University
Associate Professor
MISSION
The Physical Therapy Program of Midwestern University will use the highest educational and professional standards to prepare entry-level physical therapists who can provide quality physical therapy services to a diverse population across all levels of the health care continuum.

ACCREDITATION
The Physical Therapy Program at Midwestern University, Glendale, has been granted Candidate for Accreditation status by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association (1111 North Fairfax Street, Alexandria, VA, 22314-1488 phone: 703/684-2782; email: accreditation@apta.org). Candidacy is not an accreditation status nor does it assure eventual accreditation. Candidate for Accreditation is a pre-accreditation status of affiliation with the Commission on Accreditation in Physical Therapy Education that indicates the program is progressing toward accreditation.

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 health care team and as an integral part of the health care 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 focus of the professional clinical doctorate degree program is the preparation of entry-level, generalist physical therapists who are able to provide competent, skilled professional services in a wide range of community and institutional practice settings that require independent judgment and self-sufficiency. 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. The program prepares 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 interdisciplinary 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 60 months.

Program Objectives
Upon completion of the Doctor of Physical Therapy Program, graduates are expected to be able to:

1. Become practitioners with the educational and clinical foundation needed to provide physical therapy services in all areas of practice and all physical therapy settings;
2. Apply critical thinking skills for independent judgment, clinical problem solving, leadership, and autonomous practice;
3. Demonstrate dedication to healthcare and community service by identifying and contributing effective solutions to the major emergent health issues of society and apply skills to meet other community needs;
4. Develop proficiency in teaching and scholarship through didactic and clinical education;
5. Exhibit sensitivity to cultural and social diversity;
6. Assume leadership positions in the healthcare delivery system, participate in local, state, and national professional organizations, and provide service to local communities;
7. Sustain continued professional development through lifelong learning activities;
8. Demonstrate professionalism during interactions with others;
9. Address prevention, wellness, and health promotion needs of individuals, groups, and communities in primary, secondary, and tertiary settings; and
10. Enhance the breadth and depth of clinical education of future physical therapy students.

These objectives are accomplished through:
1. A curriculum model based on a conceptual framework of educational theory and practice with a spiraled approach in curricular design;
2. Correlation of events and problems that is experienced sequentially within the didactic curriculum and later through clinical experiences;
3. A strong content foundation in the physical, clinical, and behavioral sciences;
4. Critically applying scientific research and other forms of best evidence to improve practice and contribute to the body of knowledge;
5. Educational opportunities and activities that will enhance physical therapy services to underserved communities;
6. An educational environment that will emphasize leadership skills, professional and community service;
7. Acquiring information through clinical or basic science research;
8. Peer assessments, feedback and reflective communication skills;
9. A sequence of simulated and actual clinical experiences across the curriculum; and
10. Opportunities for teamwork, delegation, supervision and teaching.

ADMISSIONS
The College of Health Sciences Physical Therapy Program considers for admission those students 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. 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 will use the Centralized Application Service for Physical Therapy Schools (PTCAS) for the 2011 admissions cycle. It is highly recommended that applicants complete 20 hours of observation in a physical therapy department. This observation could be in one or more facilities such as outpatient/orthopedic & sports, acute care (hospital), rehabilitation, skilled nursing, or a pediatric facility. The Physical Therapy program operates on a rolling admissions basis, with completed applications reviewed throughout the admissions cycle to determine the applicant’s eligibility for an interview. Interviews are typically conducted during the winter or spring. Admission decisions are generally made within one month of the interview.

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 2.75 on a 4.00 scale.
3. Completion of prerequisite courses totaling 44 semester/64 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 earlier than January 1, 2006
   - For more information about the GRE, contact Educational Testing Services (ETS) at 800/GRE-CALL or visit www.gre.org
5. Completion of a first aid course is highly recommended, not required.
6. Current certification by the American Heart Association in Basic Life Support (BLS) for Health Care Providers (enrolled PT students must also maintain CPR certification at the BLS level).
7. Demonstration of a people or service orientation through community service or extracurricular activities.
8. Motivation for and commitment to healthcare as demonstrated by previous work, volunteer work, or other life experiences.
9. Oral and written communication skills necessary to interact with patients and colleagues.
10. Commitment to abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
11. Passage of the Midwestern University criminal background check.
**PREREQUISITE COURSES**

<table>
<thead>
<tr>
<th>Science Courses:</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology with lab</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Vertebrate Anatomy (2 cr.) and Physiology (2 cr.) with lab</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>General Chemistry with lab</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>General Physics with lab</td>
<td>8</td>
<td>12</td>
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<table>
<thead>
<tr>
<th>General Courses:</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math (college algebra or above)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Statistics (should include inferential statistics)</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>English—must include at least one composition course (oral communication/public speaking recommended)</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Social &amp; Behavioral Sciences (including at least one psychology course)</td>
<td>9</td>
<td>13</td>
</tr>
</tbody>
</table>

**International Applicants**

International applicants 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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:

- Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
- World Education Services (WES): 212/966-6311 or Fax 212/739-6100
- Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**Application Process and Deadlines**

To be considered for admission to the Physical Therapy Program, applicants must submit the following to the Office of Admissions by December 15, 2010.

1. **PTCAS Application**
   Applicants are required to submit their applications to PTCAS at http://www.ptcas.org by December 15, 2010. 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 beginning 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 early in the cycle. Midwestern University operates on a rolling admissions basis where applications are reviewed throughout the admissions cycle.

2. **Letters of Recommendation**
   Applicants are required to submit a minimum of two letters of recommendation from professionals directly to the Office of Admissions at MWU. It is preferred that one letter is written by a science professor who has actually taught the student or a prehealth advisory committee. The second letter can be written by any one of the following: prehealth advisory committee, prehealth advisor, college professor, or a Physical Therapist who knows the applicant well. The applicant should refer to the PTCAS application instructions for specific guidelines and requirements for submitting letters of recommendation.

3. **GRE scores**
   Applicants are required to submit official GRE general test scores directly to Midwestern University. The MWU institutional code for submitting scores is 4160. Only test scores earned during the previous five years (no earlier than January 2006) and sent directly from the Educational Testing Service (ETS) will be accepted.

4. **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 2.75. The letters will also include instructions on checking the status of the required application materials online. All applicants must also submit official GRE general test scores to Midwestern University to complete their applications. 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 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
Midwestern University
19955 N. 59th Avenue
Glendale, AZ 85308
888/247-9277 or 623/572-3215
admissaz@midwestern.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 Midwestern University students, a campus tour, and an opportunity to meet with an admissions counselor and the financial aid officer. During interview sessions, the interviewer questions applicants about their academic, personal, and professional aspirations and preparedness for admission to the Program. The 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 periodically 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 admissions decisions.

Technical Standards
A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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 (for example, the physical therapy program requires a candidate to be able to move at least 50 pounds vertically and horizontally).

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the CHS Dean (and Program Director), will identify and discuss what accommodations, if any, the College(Program) would need to make that would allow the candidate to complete the curriculum. The College(Program) 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 in their professional program.

Matriculation Process
The matriculation process begins after applicants receive notification of their acceptance into the Physical Therapy Program of the College. Students must return both a signed matriculation agreement and deposit to the Office of Admissions by the deadline date. The student must also:

1. Submit deposit monies by the date designated in their matriculation agreements. Deposits are applied toward the first quarter’s tuition.
2. Submit official final transcripts from all colleges attended post-high school by the deadline of two weeks (14 calendar 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 proof of immunization against measles, mumps, rubella, oral polio (opv), diphtheria, and hepatitis B.

4. Provide evidence of testing for tuberculosis within the last 12 months. A titer verifying immunity to the previously mentioned diseases may be required.

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.

6. International students must provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending College of Health Sciences.

7. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee of the Program have been completed.

8. Meet the Technical Standards for the Program.

9. Submit additional documents as required by the Office of Admissions.

10. Authorize and pass the Midwestern University criminal background check.

11. Sign and submit a Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement.

12. Complete a physical exam and submit form.

13. Sign and submit a Credit Policy Statement.

Students who either fail to satisfy the above matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seats in the Program. Any individuals accepted for admission to the Physical Therapy Program of the College of Health Sciences who do not comply with stated time lines for submission of all required materials will not receive further notification from the College of Health Sciences regarding forfeiture of their seats.

**Articulation Agreement Between Midwestern University Programs**

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

**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.

**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 Midwestern University catalog. Students are customarily provided access to 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 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, including nonphysician teaching assistants (NPTAs). 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**

University graduation and degree conferral ceremonies are held in the spring of each year for the Physical Therapy Program. To qualify for graduation, 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-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; and
6. Submit a properly completed and signed graduation clearance form to 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 does not guarantee passing the national examination or passing the licensure requirements of the state.

**CURRICULUM**

The first academic year of the professional doctoral curriculum is composed of a four-quarter program consisting of 66 required course credits (quarter hours). The second academic year of the curriculum is composed of a four-quarter program consisting of 55 required course credits, including 520 clock-hours of clinical education. The third academic year of the curriculum is composed of a four-quarter program consisting of 49 required course credits which includes two clinical experience for a total of 800 clock-hours of clinical education. Clinical experiences take place in various facilities located throughout the continental United States that have a legal agreement with the University.

**First Professional Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ANAT 1551</td>
<td>Human Anatomy I/ Embryology</td>
<td>7</td>
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<tr>
<td>PTHE 1501</td>
<td>Clinical Problem Solving I</td>
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<td>PTHE 1510</td>
<td>Health Professionalism I</td>
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<tr>
<td>PTHE 1526</td>
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<td>Biopsychosocial Issues</td>
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<td>HIST 1502</td>
<td>Histology</td>
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<tr>
<td>PHYS 1571</td>
<td>Human Physiology I</td>
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**Second Professional Year**

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<tr>
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<td>Health Promotion I</td>
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<td>PTHE 1570</td>
<td>Physical Therapy Roles and Professional Issues I</td>
<td>2</td>
</tr>
<tr>
<td>PTHE 1575</td>
<td>Physical Therapy Evaluation I</td>
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<tr>
<td>PTHE 1580</td>
<td>Kinesiology/Biomechanics I</td>
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<tr>
<td>CORE 1560</td>
<td>Interdisciplinary Healthcare</td>
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**Winter Quarter**

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<tr>
<td>PHYS 1582</td>
<td>Human Physiology II</td>
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<tr>
<td>PTHE 1525</td>
<td>Clinical Conditions I</td>
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<tr>
<td>PTHE 1560</td>
<td>Educational Principles for Physical Therapists</td>
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<tr>
<td>PTHE 1581</td>
<td>Kinesiology/Biomechanics II</td>
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<tr>
<td>PTHE 1590</td>
<td>Physical Therapy Interventions I</td>
<td>2</td>
</tr>
<tr>
<td>PTHE 1597</td>
<td>Simulated Physical Therapy Clinic I</td>
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<tr>
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<td>Interdisciplinary Healthcare</td>
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**Spring Quarter**

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<td>PTHE 1573</td>
<td>Human Neuroscience</td>
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<td>PTHE 1576</td>
<td>Physical Therapy Evaluation II</td>
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<td>PTHE 1591</td>
<td>Physical Therapy Interventions I</td>
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<tr>
<td>PTHE 1530</td>
<td>Research</td>
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<td>CORE 1580</td>
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<td>Exercise Physiology</td>
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<td>PTHE 1696</td>
<td>Clinical Experience I</td>
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<tr>
<td>( three weeks full-time )</td>
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<tr>
<td>PTHE 1626</td>
<td>Clinical Conditions II</td>
<td>3</td>
</tr>
<tr>
<td>PTHE 1673</td>
<td>Applied Neuroscience</td>
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<tr>
<td>PTHE 1690</td>
<td>Physical Therapy Interventions III</td>
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<td>PTHE 1602</td>
<td>Clinical Problem Solving II</td>
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<tr>
<td>PTHE 1604</td>
<td>Clinical Conditions III</td>
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<tr>
<td>PTHE 1634</td>
<td>Physical Agents I</td>
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<tr>
<td>PTHE 1657</td>
<td>Essentials of Pharmacology for Physical Therapists</td>
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<tr>
<td>PTHE 1675</td>
<td>Physical Therapy Evaluation III</td>
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**Fall Quarter**

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<tr>
<td>PTHE 1611</td>
<td>Simulated Physical Therapy Clinic II</td>
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<tr>
<td>PTHE 1635</td>
<td>Physical Agents II</td>
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<tr>
<td>PTHE 1648</td>
<td>Management in Physical Therapy Systems</td>
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<tr>
<td>PTHE 1691</td>
<td>Physical Therapy Interventions IV</td>
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Spring Quarter
PTHE 1603 Scholarship in Physical Therapy 1
PTHE 1697 Clinical Experience II (ten weeks full-time) 11
Total 12

Third Professional Year
Total Quarter Credit Hours Required: 49

Summer Quarter
PTHE 1700 Human Anatomy II 3
PTHE 1719 Pediatric/Geriatric Interventions 3
PTHE 1779 Applied Management in Physical Therapy Systems 3
PTHE 1300 Advanced Physical Therapy Electives (Not Required) 1-3
PTHE 1792 Physical Therapy Interventions V 3
Total 12-15

Fall Quarter
PTHE 1757 Prosthetics/Orthotics 3
PTHE 1705 Clinical Problem Solving III 3
PTHE 1750 Health Promotion II 3
PTHE 1770 Physical Therapy Roles and Professional Issues II 3
Total 12

Winter Quarter
PTHE 1771 Physical Therapy Roles and Professional Issues III 1
PTHE 1798 Clinical Experience III (ten weeks full-time) 11
Total 12

Spring Quarter
PTHE 1706 Scholarly Development in Physical Therapy 2
PTHE 1799 Clinical Experience IV (ten weeks full-time) 11
Total 13

Total Quarter Credits in the Professional Program: 170-173

ANAT 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 (including laboratory sessions)

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other's clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesis, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

HIST 1502 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.
3 credits

PHYS 1571, 1582 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.
4 credits each course

PTHE 1501 Clinical Problem Solving I
This course introduces theoretical frameworks for clinical problem-solving and develops students' ability to analyze a variety of levels of clinical reasoning, analyze clinical
problems, including the identification of critical cues, gathering of information, development of hypotheses, testing of hypotheses, and analysis of results of hypothesis testing. The concept of Evidence-Based Practice is introduced to students as part of the clinical reasoning process.

2 credits

PTHE 1510 Health Professionalism I
This course provides an introduction to professional behavior, systems and issues in healthcare delivery, and healthcare team members. The perspective of the patient/client is emphasized throughout the course. Principles of confidentiality, standards of practice, patient rights and the Guide to Physical Therapist Practice are discussed. The students are also introduced to the issue of limited healthcare resources in urban and rural communities.

2 credits

PTHE 1517 Life Span Human Development
This course explores human development across the life span, as related to the acquisition and maintenance of optimal health and participation in meaningful activities. The inter-relationships of physical, psychological, and social domains of function are examined and related to successful physical therapy management strategies with individuals of different ages. The development of movement and the developmental changes of the body tissues and systems supporting movement are analyzed in depth.

3 credits
Prerequisites: ANAT 1551 Human Anatomy I/Embryology; PHYS 1571, 1582 Human Physiology I, II; PTHE 1580, 1581 Kinesiology/Biomechanics I, II

PTHE 1525 Clinical Conditions I
Students are introduced to the medical, surgical and allied health management of patients with “general medicine” and orthopedic conditions. Additionally information will be provided concerning the medical imaging unit that will cover the underlying principles of radiology, computer-assisted topography, magnetic resonance and ultrasound imaging as well as various other scanning and diagnostic imaging techniques. Basic principles in interpreting these images are presented.

4 credits
Prerequisites: ANAT 1551 Human Anatomy I/Embryology; PHYS 1571, 1582 Human Physiology I, II; PTHE 1580, 1581 Kinesiology/Biomechanics I, II

PTHE 1526 Medical Terminology
Medical Terminology is an on line course hosted on Blackboard. This course introduces medical terminology, with a focus on body systems. This foundational course is designed to enable the Physical Therapy student to gain understanding of technical scientific and medical terminology through the comprehensive study of word roots, prefixes, suffixes, and combining forms particularly as they have come into English through Greek & Latin bases.

0.5 credits

PTHE 1530 Research
Physical therapy practice embraces an evidence-based approach. This multidisciplinary course provides students with a basic understanding of the research process from the standpoint of a consumer of research. The core multidisciplinary research course is supplemented with weekly breakout sessions aimed at providing additional research-related material and examples relevant to physical therapy.

3 credits
Prerequisite: PTHE 1501 Clinical Problem Solving I

PTHE 1540 Biopsychosocial Issues
This course prepares students to recognize and respond with sensitivity to the biopsychosocial needs of patents, families and others during professional interactions. The biopsychosocial model is introduced with attention to its health related implications at the level of the person, family and society. The course explores the various theories and models that underline the biopsychosocial model. These models include Cognitive Theory and Therapy, Maslow’s Hierarchy of Needs, theories of needs, beliefs and values.

3 credits

PTHE 1550 Health Promotion I
Health promotion and disease/injury prevention are primary roles fulfilled by physical therapists. This course will provide a conceptual framework for health promotion and disease/injury prevention across the life span. The foundation for the conceptual framework is built on public health policy and basic epidemiological principles. Course content focuses on health promotion and disease/injury prevention, risk and its relation to disease, assessment of risk, interventions to minimize risk/promote health.

2 credits
Prerequisites: PTHE 1510 Health Professionalism I; PTHE 1501 Clinical Problem Solving I; PTHE 1540 Biopsychosocial Issues

PTHE 1560 Educational Principles for Physical Therapists
This course provides the foundation for systematically designing, implementing, and evaluating learning experiences used in the education of patients, students, colleagues, community members, and self. Students will gain knowledge in the role of the healthcare professional in education, principles of learning, teaching and learning models and needs, goal setting, writing behavioral objectives,
PTHE 1570 Physical Therapy Roles and Professional Issues I
The multiple roles of the physical therapist across the health care delivery system as a patient care provider, educator, supervisor, consultant, and scientist are described and the implications for physical therapy practice are discussed. Current issues in physical therapist practice, jurisdictional law, regulation, and health care reimbursement are analyzed. Professional association membership and on-going professional development are presented and implemented.
Prerequisites: PTHE 1510 Health Professionalism I; PTHE 1570 Physical Therapy Roles and Professional Issues I; PTHE 1550 Health Promotion I
2 credits

PTHE 1573 Human Neuroscience
This course is the first of two neuroscience courses. This course provides students with the ability to identify and describe the principle structural components and corresponding functions of the nervous system, correlate nervous system lesions with neurological deficits/dysfunction seen in clinical practice, correlate neurological examination with structural components, and begin to relate neurophysiology with the theoretic basis for therapeutic approaches. This course uses lecture, laboratory sessions, and case studies.
Prerequisites: ANAT 1551 Human Anatomy I/Embryology; PHYS 1571, 1582 Human Physiology I, II; HIST 1502 Histology
3 credits

PTHE 1575 Physical Therapy Evaluation I
This course provides the foundation for the evaluative process in physical therapy. Physical therapy evaluation includes history, systems review, tests/measures, prognosis, physical therapy impression, identification of patient problems, goals and intervention plans. Students gain knowledge of how to organize and interpret results from a basic examination of non-complex patient problems.
Prerequisites: PTHE 1501 Clinical Problem Solving I; PTHE 1510 Health Professionalism I; ANAT 1551 Human Anatomy I/Embryology; PTHE 1526 Medical Terminology; PTHE 1540 Biopsychosocial Issues
4 credits

PTHE 1576 Physical Therapy Evaluation II
This course builds on the principles of evaluation in physical therapy previously introduced in PTHE 1575 Physical Therapist Evaluation I. Students will continue to refine their ability to take a patient history and plan for evaluation of persons with musculoskeletal & neurological problems. The process of evaluation will be extended to include medical screening, differential diagnosis, generation of long term and short term goals, and the development of the foundation for intervention planning.
Prerequisites: PTHE 1575 Physical Therapy Evaluation I; PTHE 1501 Clinical Problem Solving I; PTHE 1560 Educational Principles for Physical Therapists; PHYS 1571;1582 Human Physiology I, II; PTHE 1525 Clinical Conditions I; PTHE 1590 Physical Therapy Interventions I
4 credits

PTHE 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 of patients with movement dysfunction. This course addresses the recognition, and description of components of normal movement in static and dynamic activities. Course content includes basic theories of mechanics applied to normal tissues in static and dynamic states and of the cervical spine, temporomandibular joint and upper extremity.
Prerequisite: ANAT 1551 Human Anatomy I/Embryology
3 credits

PTHE 1581 Kinesiology/Biomechanics II
This course is a continuation of the principles, theories, and analysis of Kinesiology/Biomechanics I. Students will be able to recognize and describe the components of normal movement in static and dynamic states as it relates to the spine, lower extremity, and gait activities. Course content includes the discussion of basic theories of mechanics applied to normal tissues in static and dynamic states and normal joint mechanics of the thoracic lumbar spine, hip, knee, and ankle/foot complex.
Prerequisite: PTHE 1580 Kinesiology/Biomechanics I
3 credits

PTHE 1590 Physical Therapy Interventions I
This course covers the design, implementation, and modification of basic interventions for existing/potential mobility problems at both the impairment and disability levels. The development, reassessment, and documentation of treatment plans are emphasized using a problem-solving approach. Selected principles of, and techniques for, body mechanics, patient handling, positioning and draping, bed mobility, transfers, gait, wheelchair prescription and
physical therapist intervention II continues the series of courses focused on intervention strategies. This course provides students with the theoretical principles and skills of therapeutic exercise and joint mobilization as physical therapy interventions. This course provides students with the theoretical principles and skills of therapeutic exercise and joint mobilization as physical therapy interventions.

2 credits
Prerequisites: PTHE 1590 Physical Therapy Interventions I; PTHE 1581 Kinesiology/Biomechanics II; PTHE 1560 Educational Principles for Physical Therapists; PTHE 1525 Clinical Conditions I

PTHE 1597 simulated physical therapy clinic I
Prior to three weeks full-time supervised clinical practice in a health care environment, students practice skills in communication, time management, patient evaluation, infection control/standard precautions, mobility training, and patient education in a simulated physical therapy practice environment with simulated patients. This course also provides opportunities to appreciate the perspective of patients/families on changes in health and health care delivery.

1 credit
Prerequisites: PTHE 1510 Health Professionalism I; PTHE 1575 Physical Therapy Evaluation I; PTHE 1560 Educational Principles for Physical Therapists; PTHE 1501 Clinical Problem Solving I; PHYS 1582 Human Physiology II; PTHE 1581 Kinesiology/Biomechanics II; PTHE 1590 Physical Therapy Interventions I; PTHE 1525 Clinical Conditions I

PTHE 1602 clinical problem solving II
This course is designed to reinforce and enhance the reasoning process used to make clinical decisions. The course includes in depth analysis of planning the history gathering process, planning the tests and measures including a formal functional outcome assessment, forming a physical therapy impression, intervention plan and re-evaluation plan as applied to a patient with a musculoskeletal condition. Students will be expected to describe their clinical reasoning process for comprehensive patient management.

2 credits
Prerequisites: PTHE 1501 Clinical Problem Solving I; PTHE 1570 Physical Therapy Roles and Professional Issues I

PTHE 1603 scholarship in physical therapy
This course is a continuation of the basic research design content introduced in Research. The course is intended to help students refine content organization and presentation skills as they develop their final research product to be presented in Scholarly Development in Physical Therapy. Emphasis will be placed on critical analysis of published research and the use of PowerPoint software in developing high quality lecture/discussion presentations.

1 credit
Prerequisites: PTHE 1530 Research; PTHE 1570 Physical Therapy Roles and Professional Issues I

PTHE 1604 clinical conditions III
This course provides students with the knowledge and skill to evaluate and treat clients with cardiopulmonary disorders. The role of the physical therapist in the acute care setting is highlighted and students learn evaluation & intervention techniques in both lecture and laboratory sessions. The level of evidence for various techniques, the effect of exercise on the cardiopulmonary system and contraindications for physical therapy are discussed.

4 credits
Prerequisites: PTHE 1637 Exercise Physiology; PTHE 1576 Physical Therapy Evaluation II; PTHE 1604 Clinical Conditions II; PTHE 1690 Physical Therapy Interventions III

PTHE 1611 simulated physical therapy clinic II
Simulated physical therapy Clinic II is the second of two courses in the Simulated Physical Therapy Clinic series. Prior to ten weeks full-time supervised clinical practice in a health care environment, students practice skills in communication, time management, patient evaluation, infection control/standard precautions, mobility training and patient education in a simulated physical therapy practice environment with simulated patients. Opportunities to appreciate the perspective of patients/families and introduce students to their future roles as clinical instructors will be presented.

1 credit
Prerequisites: PTHE 1597 Simulated Physical Therapy Clinic I; PTHE 1602 Clinical Problem Solving II; PTHE 1634 Physical Agents I; PTHE 1675 Physical Therapy Evaluation III; PTHE 1604 Clinical Conditions III; PTHE 1657 Essentials of Pharmacology for Physical Therapists

PTHE 1626 clinical conditions II
Physical therapy students are introduced to the medical management of select general medicine, orthopedic, musculoskeletal, integumentary, pulmonary, cardiac, and...
neurological conditions. Risk factors, clinical signs and symptoms, pathology, medical evaluation and management, and differential diagnosis of these conditions are addressed, with an emphasis on the medical management of the conditions.

3 credits
Prerequisites: PTHE 1525 Clinical Conditions I; PTHE 1573 Human Neuroscience

PTHE 1634 Physical Agents I
This course addresses the theoretical principles of physiological and neurophysiological changes that occur as a result of the application of selected physical modalities. Students will develop skill in application of these modalities and will study the normal and abnormal responses of tissue following the application of these modalities. The evaluation and care of the integumentary system including wound care and evaluation of lymphatic conditions will be studied.

4 credits
Prerequisites: PHYS 1582 Human Physiology II; PTHE 1517 Lifespan Human Development; PTHE 1590, 1591, 1690 Physical Therapy Interventions I, II, III; PTHE 1673 Applied Neuroscience; PTHE 1675 Physical Therapy Evaluation III; and concurrent enrollment in PTHE 1602 Clinical Problem Solving II

PTHE 1635 Physical Agents II
This is the second course in a series of two courses on physical agents. It builds on the theoretical principles of the physical agents and electrotherapeutic modalities introduced in the first course. Students will learn application of additional physical agents and electrotherapeutic modalities that may be used in physical therapy practice. Electrotherapy for muscle strengthening, improved function, pain management and surface electromyography is discussed.

3 credits
Prerequisite: PTHE 1634 Physical Agents I

PTHE 1637 Exercise Physiology
Physiologic factors relevant to responses and adaptations to exercise across the life span are presented. Analysis of the metabolic, cardiorespiratory, and musculoskeletal systems to prescribe and grade exercise is emphasized. Laboratory experiences are utilized to facilitate integration of principles of exercise physiology with clinical practice.

3 credits
Prerequisites: PHYS 1571, 1582 Human Physiology I, II

PTHE 1648 Management in Physical Therapy Systems
The students will develop critical thinking skills to evaluate and implement healthcare management trends within the current healthcare environment. Specific course content includes discussion of healthcare environments and delivery systems, time management, case management, advocacy, organizations, fiscal management, reimbursement and documentation, personnel leadership, consultation, sales and marketing, legal issues, risk management and outcomes research.

4 credits
Prerequisites: PTHE 1570 Physical Therapy Roles and Professional Issues I; PTHE 1696 Clinical Experience I

PTHE 1657 Essentials of Pharmacology for Physical Therapists
This course will introduce physical therapy students to pharmacological intervention in patient management. The impact that pharmaceuticals have on physical therapy as well as the impact that physical therapy intervention may have on drug metabolism is highlighted. The course will describe basic pharmacodynamics and pharmacokinetics and identify general categories of drugs affecting individual body systems. The program will explore potential interactions of physical therapy treatments and pharmacokinetics.

2 credits
Prerequisites: PHYS 1571, 1582 Human Physiology I, II; PTHE 1525, 1562 Clinical Conditions I, II; PTHE 1573 Human Neuroscience; PTHE 1673 Applied Neuroscience

PTHE 1673 Applied Neuroscience
This interdisciplinary course is the second of two courses. The first part of this course develops students’ ability to identify and describe the principal structural components and corresponding functions of the nervous system. Lesions involving these structures will be correlated with neurological deficits and dysfunctions. The second part of the course develops students’ ability to understand the clinical relevance and application of various aspects of neuroscience.

3 credits
Prerequisites: PHYS 1571, 1582 Human Physiology I, II; ANAT 1551 Human Anatomy I/Embryology; PTHE 1573 Human Neuroscience

PTHE 1675 Physical Therapy Evaluation III
This is the third course in the Physical Therapy Evaluation series. Course content includes the examination and evaluation of impairments, functional limitations and disabilities in adults and children with neurological dysfunction. Topics include: motor control and motor function, muscle performance, reflex integrity, coordination and balance, vestibular system assessment, reflex integrity, functional mobility, gait, arousal attention and cognition, and home and community evaluation.

3 credits
Prerequisites: PTHE 1517 Life Span Human Development; PTHE 1626 Clinical Conditions II; PTHE 1576 Physical Therapy Evaluation II; PTHE 1581 Kinesiology/Biomechanics II; PTHE 1673 Applied Neuroscience
PTHE 1690 Physical Therapy Interventions III
Physical Therapy Interventions III is the third course in the Physical Therapy Interventions series of five courses. This course builds on the principles of developing intervention plans of therapeutic exercise and / or joint mobilization previously introduced in Physical Therapy Interventions II. Clinical conditions affecting these areas of the body will be discussed as they relate to developing physical therapy intervention plans. 
3 credits 
Prerequisites: PTHE 1517 Life Span Human Development; PTHE 1576 Physical Therapy Evaluation II; PTHE 1581 Kinesiology/Biomechanics II; PTHE 1573 Human Neuroscience

PTHE 1691 Physical Therapy Interventions IV
Physical Therapy Interventions IV is the fourth course in the five course Physical Therapy Interventions series. This course focuses on the design, implementation, and evaluation of comprehensive treatment plans for adult and pediatric patients with neurological dysfunction. Students will be expected to apply the theoretical basis of neurologic therapeutic interventions covered in Applied Neuroscience. Students will be expected to develop treatment plans for patients with neurologic dysfunction using problem-based learning and case based scenarios.
5 credits 
Prerequisites: PTHE 1517 Life Span Human Development; PTHE 1581 Kinesiology/Biomechanics II; PTHE 1602 Clinical Problem Solving II; PTHE 1626 Clinical Conditions II; PTHE 1673 Applied Neuroscience; PTHE 1675 Physical Therapy Evaluation III; PTHE 1690 Physical Therapy Interventions III

PTHE 1696 Clinical Experience I
This course is a three-week, full-time, supervised clinical experience. Students practice patient management in the clinical environment under the direct supervision of an experienced physical therapist. Students practice skills in communication, patient evaluation and management, infection control/standard precautions, and patient education. Students will also practice a variety of professional skills critical to professional development. 
3 credits 
Prerequisites: Satisfactory completion of all course work through spring quarter in the first professional year

PTHE 1697 Clinical Experience II
This course is a ten-week, full-time, supervised clinical experience. Students practice patient management skills in the clinical environment under the direct supervision of an experienced therapist. Students perform patient examination techniques, the 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 professional skills critical to professional development. Students earn 1 credit for each 40 hour week of clinic work and 1 credit hour for a staff development activity. 
11 credits 
Prerequisites: Satisfactory completion of all coursework for the first and second professional years.

PTHE 1700 Human Anatomy II
This course will examine in detail the anatomical structures of the extremities and trunk. Bones, joint structures, muscles, and nerves and their relationship to joint movement and function will be emphasized. Information about these structures and their function will be applied to clinical issues that relate to physical therapy assessment and treatment. Self-directed learning is an expectation of this course. Lectures, labs and discussion sessions are used to accommodate learning for different learning styles.
3 credits 
Prerequisite: ANAT 1551 Human Anatomy I/Embryology; PTHE 1580,1581 Kinesiology/Biomechanics I, II; PTHE 1575,1576, 1675 Physical Therapy Evaluation I, II, III; PTHE 1590, 1591 ,1690 ,1691 Physical Therapy Interventions I, II, III, IV

PTHE 1705 Clinical Problem Solving III
This is the last course in a 3 course series, designed to reinforce and enhance the reasoning process used to make clinical decisions. In this course, clinical problem solving and patient management decisions focus on children and adults with neurologic, cardiopulmonary, integumentary or musculoskeletal dysfunction. The course format emphasizes the efficient use of evidence-based practice within the context of clinical physical therapy practice. The course includes a combination of lectures, discussions, and student projects. 
3 credits 
Prerequisites: PTHE 1501,1602 Clinical Problem Solving I, II; PTHE 1675 Physical Therapy Evaluation III; PTHE 1691 Physical Therapy Interventions IV; PTHE 1573 Human Neuroscience; PTHE 1530 Research

PTHE 1706 Scholarly Development in Physical Therapy
This course is the culmination of group research project development initiated and nurtured in two prior courses; Research and Scholarship in Physical Therapy. The first few days of class are given to informal group presentations on work accomplished to-date. Groups will then select whether to finalize their projects as platform or as poster presentations. Whichever option is chosen, the final product must be suitable for professional conference program submission. 
2 credits
Prerequisites: PTHE 1530 Research; PTHE 1570 Physical Therapy Roles and Professional Issues I; PTHE 1603 Scholarship in Physical Therapy

PTHE 1719 Pediatric and Geriatric Interventions
This course introduces principles of physical therapy practice with children and older adults. The course will focus on comprehensive physical therapy management of children and older adults with common conditions such as juvenile rheumatoid arthritis, torticollis, and joint replacement. Physical therapy practice and service delivery with infants, children and older adults in the neonatal intensive care unit (NICU), early intervention (EI), educational settings, and geriatric rehabilitation/care and issues related to legislation (IDEA and Medicare) will be discussed and applied to patient management plans.
3 credits
Prerequisite: PTHE 1517 Life Span Human Development

PTHE 1750 Health Promotion II
This is the second of a two-course series focusing on wellness and prevention. In this course, students will have the opportunity to apply principles presented in Health Promotion I, as well as appropriate principles of teaching and learning presented in Educational Principles for Physical Therapists. Students are expected to plan, implement, and evaluate a health promotion and/or disease/injury prevention program for a community group in need of wellness or prevention services.
3 credits
Prerequisites: PTHE 1550 Health Promotion I; PTHE 1560 Educational Principles for Physical Therapists

PTHE 1757 Prosthetics/Orthotics
This course introduces students to the use of upper and lower extremity prostheses. 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 adapting tools, equipment, environments, and activities to enhance function. A combination of lecture, discussion, laboratory, individual projects, and readings are used to achieve the course objectives.
3 credits
Prerequisites: PTHE 1779 Applied Management in Physical Therapy Systems; PTHE 1792 Physical Therapy Interventions V; PTHE 1719 Pediatric/ Geriatric Interventions; PTHE 1700 Human Anatomy II

PTHE 1770 Physical Therapy Roles and Professional Issues II
Physical Therapy Roles and Professional Issues II is the second in a series of three courses which facilitate the student’s understanding of the roles of the physical therapist and current professional issues. Focus is on the role of the physical therapist as a supervisor, consultant, clinical educator and contributor to the professional body of knowledge. The impact of a variety of professional issues on health care and physical therapy practice are discussed. Issues related to the transition from the professional preparation program to clinical practice are included.
3 credits
Prerequisites: PTHE 1570 Physical Therapy Roles and Professional Issues I; PTHE 1560 Educational Principles for Physical Therapists; PTHE 1648 Management in Physical Therapy Systems; PTHE 1779 Applied Management in Physical Therapy Systems; PTHE 1696, 1697 Clinical Experience I, II

PTHE 1771 Physical Therapy Roles and Professional Issues III
Physical Therapy Roles and Professional Issues III is the third of three courses which facilitates the student’s understanding of the roles of the physical therapist and current professional issues. Supervision and consultation are important practice management expectations of the physical therapist. In this course, students will gain practical experience as a supervisor and as a consultant. Independent study methods will be used to achieve the course objectives. This course will be an online course.
1 credit
Prerequisites: PTHE 1697, 1798 Clinical Experience II, III

PTHE 1779 Applied Management Skills in Physical Therapy Systems
As they enter the work force, physical therapists need the ability to apply management skills. Specifically, physical therapists are often called upon to develop and execute a plan to integrate a new product, program or service into an existing rehabilitation delivery system. Applied Management Skills in Physical Therapy Systems provides a framework for applying the principles presented in Management of Physical Therapy Systems. The course is structured around the development of a strategic plan for a rehabilitation product or service.
3 credits
Prerequisite: PTHE 1648 Management in Physical Therapy Systems

PTHE 1792 Physical Therapy Interventions V
Physical Therapy Interventions V is the last course in the Physical Therapy Interventions series. Clinical decision-making skills are applied in evaluating different modes of physical therapy interventions. Course content includes practice issues related to home health, women’s issues, and chronic pain. Unique treatment approaches are examined from the perspective of evidence-based practice. After critically analyzing the merits of each treatment approach.
Students are expected to present the strengths and weaknesses of the treatment to the class.

3 credits
Prerequisites: PTHE 1575, 1576, 1675 Physical Therapy Evaluation I, II, III; PTHE 1590,1591,1690,1691 Physical Therapy Interventions I, II, III, IV; PTHE 1604 Clinical Conditions III

PTHE 1798 Clinical Experience III
This course is a ten-week, full-time, supervised clinical experience. Students practice patient management skills in the clinical environment under the direct supervision of an experienced therapist. Students perform patient examination techniques, the 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 professional skills critical to professional development.
11 credits
Prerequisites: Satisfactory completion of all previous coursework in the summer and spring of the third year.

PTHE 1799 Clinical Experience IV
This course is a ten-week, full-time, supervised clinical experience. Students practice patient management skills in the clinical environment under the direct supervision of an experienced therapist. Students perform patient examination techniques, the 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 professional skills critical to professional development.
11 credits
Prerequisites: Satisfactory completion of all coursework and clinical experience in the summer, fall and winter quarters of the third year.

ELECTIVES

PTHE 1300 Advanced Physical Therapy Practice Electives
This course will expand upon the basic introduction to standardized measurement provided in several courses.
1-3 credits
Prerequisites: Successful completion of all PT Program courses through the spring quarter of the second year.

FACULTY
Debbie Bierwas, P.T., D.P.T.
Russell Sage College
Director of Clinical Education and Instructor

Robert Nithman, P.T., D.P.T., GCS
Duquesne University
Assistant Professor

Donald Shaw, P.T., Ph.D., FAACVPR
Texas State University
Associate Professor

Erin Appelt, P.T., D.P.T., OCS
Creighton University
Assistant Professor

Judy Woehrle, P.T., Ph.D., OCS
St. Louis University
Director and Associate Professor
MISSION
The mission of the Midwestern University College of Dental Medicine-Arizona is to educate competent clinical dentists of strong character and high ethical standards who serve the needs of the public and improve the health and well-being of society. The College supports and promotes research/scholarly activity and service for students and faculty.

VISION
By 2015, it is the vision of Midwestern University College of Dental Medicine-Arizona to be recognized as national and international leaders in:

Providing dental education for the 21st Century student through curriculum innovation and advanced technology.

Seamless, integrated, clinically-based, patient-centered education, founded in preventive health and evidence-based science.

CORE VALUES
The College of Dental Medicine-Arizona’s core values are to:

• foster a humanistic and character-developing environment for students;
• foster a holistic (emphasizing the importance of the whole and the interdependence of its parts) and compassionate approach to patient care;
• provide interdisciplinary education to allow other health science students to learn about dental education and health, and dental students to learn how to use, and interact with, the other health science professionals;
• graduate competent dentists who possess the levels of clinical judgment, understanding, empathy, technical skills, and independence to begin professional practice;
• instill a sense of community in graduating dentists;
• instill a lifelong learning philosophy of oral health care among students of dental education;
• promote and expand research and scholarly activity among faculty, staff, and students; to integrate research with teaching and clinical care activities within the College and the University;

• be a leader in development and application of new technologies for education, research, and oral health care;
• develop and maintain a high quality, innovative, evidence-based, patient-centered, faculty led, "seamless" oral health education and delivery system;
• contribute to the overall growth and academic excellence of Midwestern University by supporting the mission and goals of the University.

ACCREDITATION
The Midwestern University College of Dental Medicine-Arizona is accredited by the Commission on Dental Accreditation (CODA) and has been granted the accreditation status of “initial accreditation.” CODA, which operates under the auspices of the American Dental Association (ADA), is recognized by the U.S. Department of Education as the national accrediting body for dental education programs at the post-secondary level in the United States.

For further information, please contact the American Dental Association, 211 E. Chicago Avenue, Chicago, IL 60611; 800/621-8099.

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 4 academic years. The curriculum consists of 2 years of primarily didactic and preclinical instruction with clinical introductory experiences followed by 2 years of primarily clinical experiences and rotations including the applicable didactic material. Upon graduation with the D.M.D. degree, the graduate is eligible for postdoctoral residency training in all 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.
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 Aptitude 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.

Admission Requirements
1. To be competitive, an applicant should have earned a bachelor's degree from an accredited college or university.
2. Possess both a science and total GPA over 2.75 (although 3.20 will be generally competitively necessary) on a 4.00 scale. A minimum science and overall GPA of 2.75 on a 4.00 scale is required to receive a supplemental application from the College.
3. Complete above prerequisite courses.
4. Submit competitive scores on the Dental Aptitude Test (DAT).
   • Scores in the area of 18 or higher will be expected for the Academic Average, Reading Comprehension and Perceptual Ability sections
5. Submit three letters of recommendation.
   • One must be from either a predental advisory committee or a science professor
   • The others 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.
6. Demonstrate a sincere understanding of, and interest in, the humanitarian ethos of health care and particularly dental medicine.
7. Reflect a people or service orientation through community service or extracurricular activities.
8. Reflect proper motivation for and commitment to health care as demonstrated by previous salaried work, volunteer work, or other life experiences.
9. Possess the oral and written communication skills necessary to interact with patients and colleagues.
10. Agree to abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.
11. Pass the Midwestern University criminal background check.

International Applicants
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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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:
   • Educational Credential Evaluators (ECE): 414/289-3400 or Fax 414/289-3411
   • World Education Services (WES): 212/966-6311 or Fax 212/739-6100
   • Josef Silny & Associates International Education Consultants: 305/273-1616 or Fax 305/273-1338

International applicants who do not provide documentation of acceptable US 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.

**Application Process**

To initiate the application process, prospective students must apply directly to AADSAS at

1400 K Street NW
Suite 100
Washington, DC 20005;
Phone: 202-289-7201;
Fax: 202-289-7204
www.adea.org

Students may apply online at http://aadsas.adea.org. Students may access an AADSAS application in mid-May of the academic year preceding the year in which they plan to matriculate.

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 2.75 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 web site. 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.

**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 three letters of recommendation written by a predental 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. 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 a two- or three-person interview panel, which is selected from a volunteer group of basic scientists, administrators, and dental clinicians. Team members question applicants about their academic, personal, and health care 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 to place applicants on either the hold or alternate list. Recommendations are then forwarded to the Dean for final approval. The Dean, via the Office of Admissions, notifies applicants of their status as soon as possible 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**

A candidate must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.
I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. Motor: The candidate 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.

IV. 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.

V. 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. The 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the academic dean (and program director), will identify and discuss what accommodations, if any, the College (Program) would need to make that would allow the candidate to complete the curriculum. The College (Program) 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 in their professional program.

**Matriculation Process**

To initiate the matriculation process, newly-accepted students must return both their signed matriculation agreement and their initial deposit by the date designated in their matriculation documents. To conclude the matriculation process, students must:

1. Submit deposit monies and administrative fees by the dates designated in their matriculation documents. Deposits are applied toward the first quarter’s tuition.
2. Submit official transcript(s) from all colleges attended post-high school by the date designated in the matriculation documents. (Note: The information provided on AADSAS applications is verified against the information provided on student’s transcripts. If the course and degree information on applications cannot be verified, offers of admission may be revoked.)
3. Submit a completed medical file as instructed in the packet sent by the Office of Student Services.
4. Submit proof of medical and disability insurance coverage. Students may select either a plan offered by Midwestern University College of Dental Medicine-Arizona or an approved outside carrier of their choice.
5. Non-U.S. citizens/non-permanent residents must provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending Midwestern University College of Dental Medicine-Arizona.
6. Submit additional documents as required by the Office of Admissions.
7. Authorize and pass the Midwestern University criminal background check.
8. Sign and submit Midwestern University’s Drug-Free Workplace and Substance Abuse Policy Statement.
9. Complete a physical exam and submit form.
10. Sign and submit a Credit Policy Statement.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents automatically forfeit their seat at the College. Students will not receive further notification regarding this forfeiture.

**Articulation Agreement Between Midwestern University Programs**

Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:

1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point
average, derived from all courses completed at Midwestern, that is equal to or greater than 3.0; and 4. Achieves a score on the professional entrance exam (if required) that is not less than one standard deviation below the mean score for students that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

Deferred Admission
Deferments are only considered under extreme circumstances, generally when students are physically unable to begin classes. If granted, students may defer their admission for one year only.

To initiate the deferred admission process, students must send their requests in writing to the Director of Admissions by the date designated in their matriculation agreement. When deferment is appropriate and is the result of a physical condition, requests should be accompanied by letters from physicians that document the conditions that prevent students from beginning their dental education. After consultation with the Dean, the Director of Admissions responds to these requests with a letter detailing the specific conditions associated with deferral. Typically, the conditions include the following:

1. Students must submit their remaining deposit monies by the times specified during the year of their matriculation at the time of their request for deferral.
2. Before matriculation, these students must provide a letter from a physician stating that they can begin their dental education.

Students with approved deferrals are not required to interview again or to resubmit their supplemental application or letters of recommendation.

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 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. Typically, transfers are only granted to students desiring to transfer between the second and third years of the dental program.

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 (must be in top 50%), 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 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.
6. Students applying for transfer must not have been previously rejected for admission to MWU-CDMA through the standard admissions process.

Graduation Requirements
The degree Doctor of Dental Medicine (D.M.D.) is granted to, and conferred upon candidates who have satisfied all academic requirements including those related to ethical and professional standards; who have passed NBDE Part I; and who have satisfied all financial obligations to Midwestern University, after recommendation of the Dean and approval of the President. A minimum of 44 months must elapse between the date of matriculation and graduation. All graduating students are expected to attend the ceremony at which the degree is conferred, unless excused by the Dean and the President. Students must complete all graduation clearance requirements as instructed by the Office of the Registrar.

Licensure Requirements
Dental graduates of U.S. Dental Schools can obtain full practice rights in all 50 states as well as many foreign countries. To obtain licensure, dental clinicians 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 and the state accepts a certificate issued by the Regional Board of Dental Examiners;
2. The state honors a formal, or informal, reciprocity agreement with another state(s) or issues a license by credentialing the certificate from another state.

Postdoctoral requirements vary among states. For further information concerning licensure, please contact the American Dental Association or the individual state licensing board.
INSTRUCTIONAL PROGRAM
The College of Dental Medicine-Arizona’s goals are divided into four categories that include teaching, research, patient care and service.

The Goals for Teaching are to:
1. foster a humanistic and character-developing environment for students
2. foster a holistic (emphasizing the importance of the whole and the interdependence of its parts) and compassionate approach to patient care
3. provide interdisciplinary education to allow other health science students to learn about dental education and health, and dental students to learn how to use, and interact with, the other health science professionals
4. graduate competent dentists who possess the appropriate levels of clinical judgment, understanding, empathy, technical skills, and independence to begin professional practice develop and implement a curriculum that leads to competency
5. develop and implement a curriculum that leads to competency
6. aggressively recruit the highest quality faculty and staff available according to federal, state, and university EEOA requirements
7. ensure the respectful treatment of students as professionals and future colleagues in the profession
8. promote faculty and staff recruitment, development and retention to assure continued excellence and success of the College
9. ensure mutual respect among faculty, staff and students and to recognize the diverse roles these individuals play in the educational process
10. promote ongoing programs for faculty to promote teaching effectiveness and student learning
11. provide members of the faculty and staff with greater recognition to elevate morale, improve effectiveness, and enhance job satisfaction
12. instill a sense of community in graduating dentists by providing community-based opportunities for the enhancement of pre-doctoral education
13. improve access to dental care for Arizona’s indigent and underserved populations through community action
14. continually develop and evaluate materials, programs, and dissemination of methods that promote learning through the use of technology
15. foster inter-professional education with medicine, pharmacy, optometry and other allied health care programs
16. encourage a life-long learning philosophy of dental education

The Goals for Research are to:
1. allocate appropriate resources, support, time and reward to faculty and staff for research and scholarship
2. be a leader in development and application of new technologies for education, research, and oral health care

The Goals for Patient Care are to:
1. develop and maintain a high quality, innovative, evidence-based, patient-centered, faculty-led, oral health delivery system
2. promote the ideal of patient or customer satisfaction with CDMA personnel and students in all levels of interaction and communication
3. create patient-friendly clinics that strengthen the clinical learning environment and demonstrate our respect for patients as a valuable resource and an essential component of our teaching program
4. support and encourage both individual and collective efforts to meet the oral health needs of populations with special health care requirements

The Goals for Service are to:
1. educate and inform members of the University, and the dental practice community regarding the educational, research, and service mission and achievements of the College
2. establish partnerships with dentists and oral health professionals to promote oral health through education, research, and service

CURRICULUM
Fall Quarter
<table>
<thead>
<tr>
<th>Course Code</th>
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<td>DENT 1512</td>
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<td>Integrated Basic Sciences VIII</td>
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<td>BASI 1509</td>
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The Midwestern University College of Dental Medicine-Arizona reserves the right to alter its curriculum whenever it deems appropriate.
DEPARTMENTS
Organizationally, the College of Dental Medicine-Arizona is divided into two departments, Preclinical Dentistry and Clinical Dentistry.

COURSE DESCRIPTIONS
These descriptions are for new classes, some of which will be taught with new faculty as yet not hired. Thus, one may assume that there will be changes in content and course descriptions prior to the courses being given.

Interdisciplinary Education

CORE 1560, 1570, 1580 Interdisciplinary Healthcare
The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.
0.5 credits per quarter

Basic Science Education

BASI 1501 Basic Science Integrated Sequence I
BASI 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 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 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 process by which new blood cells are made. The biochemical basis of hemostasis is described. Disorders of hemostasis and their consequences are discussed.
4.7 credits

BASI 1502 Basic Science Integrated Sequence II
BASI 1502 provides an overview of cancer, genetics, lymphatic system and immunology. In Module 4: Cancer and Genetics, emphasis will be on DNA mutations, polymorphisms, patterns of inheritance in human diseases, cytogenetics, and molecular basis of cancer. Module 6: 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, and immune responses to transplants, cancer and HIV infection and therapeutic use of drugs affecting the immune system.
5.5 credits

BASI 1503 Basic Science Integrated Sequence III
This course will provide an overview of infectious diseases, integument and blood disorders. Module 5: Introduction to Infectious Diseases provides fundamental understanding of basic concepts in microbiology to accurately identify and treat 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.
5.2 credits

BASI 1504 Basic Science Integrated Sequence IV
This course provides an overview of the Peripheral Nervous System (Module 8) and the Musculoskeletal System (Module 9). Initial lectures will discuss the embryology, histology, and anatomy of nervous tissue. Mechanisms of neurotransmission including development of action potentials and synaptic transmission will also be discussed. Structure and function of the autonomic nervous system will be covered and common diseases of peripheral nerves will be included. Module 9 covers the structure and function of skeletal and smooth muscle and the development of bone and cartilage. Neuromuscular transmission and the molecular basis of muscle contraction will be discussed. Diseases of bone and soft tissues will be included. This module contains three laboratory sessions that cover upper extremity anatomy.
5.7 credits
BASI 1505 Basic Science Integrated Sequence V
BASI 1505 contains two modules. This course will provide an introduction to the structure and function of the Cardiovascular (Module 10) and Respiratory Systems (Module 11). The cardiovascular module will begin with a discussion of the embryological development of the heart and circulatory system. Other topics covered are cardiac muscle function, electrophysiology of cardiac muscle, cardiac cycle and cardiac performance. Control of the cardiovascular function will integrate discussions of hemodynamics, regional circulation and arterial blood pressure. Discussion of the respiratory system will include mechanics of breathing, gas transport and regulation of respiration. Relevant microbiology, pathophysiology and pathology will be covered in both modules.
6.2 credits

BASI 1506 Basic Science Integrated Sequence VI
BASI 1506 contains two modules. The first module will provide an overview of the Urogenital System (Module 12). The second module covers Endocrine System (Module 13) function. Topics to be covered in module 12 include the renal tubular transport mechanisms, the production of urine and the control of extracellular fluid volume and acid/base balance. Diseases of the urogenital tract will be discussed. In module 13 the disciplines of histology and physiology provide an overview of the basic structure and normal function of the endocrine system. Coverage will include hypothalamic control of endocrine secretion and the regulation of individual endocrine organs. Common disorders of the endocrine system are discussed by the pathology faculty.
3.6 credits

BASI 1507 Basic Science Integrated Systems VII
This course is composed of one module titled Gross Anatomy of the Head and Neck (Module 14). 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.
3.8 credits

BASI 1508 Basic Science Integrated Systems VIII
This course is composed of one module entitled Clinical Neuroscience (Module 15). This module provides instruction in the structure and function of the nervous system. Topics included are: the basic internal anatomy of the central nervous system, the structure and function of the visual, somatosensory and descending motor systems, and the cerebral cortex. Common pathologies and clinical concerns are discussed.
3.6 credits

BASI 1509 Basic Science Integrated Systems IX
This course is composed of two modules. The first module provides an overview of the Structure and Function of the Male and Female Reproductive Systems (Module 16). The second module provides instruction in the Gastrointestinal System (Module 17) and includes topics such as: chewing, swallowing and digestion. In both modules, gross anatomical, histological, physiological, microbiological, and pathological aspects of the systems are discussed as appropriate.
4.8 credits

DENT 1601, 1621 Dental Pharmacology I, II
This course provides a study of drugs used in dentistry. Emphasis is placed 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. A study of dental anesthetics is included.
3.3 credits - DENT 1601
4 credits - DENT 1621

Behavioral Science Education

DENT 1514, 1523, 1534, 1615, 1622, 1633, 1734, 1743, 1832, 1842 Ethics and Character Development I, II, III, IV, V, VI, VII, VIII, IX, X
The driving theme of this curriculum is based around an ethical framework and character development, to some degree similar to the aura of honor, duty and commitment of the military academies. Dentists in practice must exhibit the highest ideals of integrity and ethics as they are entrusted with making decisions concerning invasive treatment on the general public with no one looking over their shoulders. This course will follow on from an introductory orientation describing the ethical expectations of this school that will be given at the time of matriculation, and will be reinforced with classes every quarter (except perhaps summer quarters) of the curriculum.
1.0 credit each

DENT 1612, 1623, 1634, 1735, 1746, 1755 Dental Community Service I, II, III, IV, V, VI
Every student is expected to be involved regularly throughout their education with a community service activity.
0.5 credit each

DENT 1535 Introduction to Human Behavior I
This course is designed to introduce dental students to communication and self-care skills. Topics will include relationship and communication skills, rapport with patients and colleagues, stress and time management skills, and ethical considerations.
1.0 credit
DENT 1730 Introduction to Human Behavior II
The bio-psychosocial model is covered. The human life cycle will be described, including pregnancy, birth, early infancy, latency period, the adolescent period, the family, early adulthood, and trail of courtship and marriage. Special topics include childhood violence and abuse and domestic violence.
1.0 credit

DENT 1510, 1520 Human Health and Prevention I and II
These courses are designed to provide the student with a basic understanding of theories and principles in preventive dentistry. Lectures are supplemented with case studies to prepare the student to develop preventive strategies for both preventive and restorative treatments.
1.0 credit DENT 1510
1.0 credit DENT 1520

Clinical Education

DENT 1512, 1522, 1533, 1614, 1625, 1636 Oral Health Sciences I, II, III, IV, V, VI
These continuously running didactic courses will take the student from dental anatomy and occlusion, through basic to advanced clinical dentistry in operative and prosthodontic restorative procedures, while continuously being oriented from a patient perspective. The courses are organized in a systems approach integrating such topics as growth and development, cariology, radiology, and dental material science into the core of restorative procedures from pediatric to geriatric patients.
2 credits - DENT 1512
2.5 credits - DENT 1522
2.4 credits - DENT 1533
9.4 credits - DENT 1614
6.7 credits - DENT 1625
4.3 credits - DENT 1636

DENT 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, will take the student from dental anatomy and occlusion, through basic to advanced clinical dentistry in operative and prosthodontic restorative procedures. The courses are organized in a systems approach integrating such topics as growth and development, cariology, radiology, and dental material science into the core of restorative procedures from pediatric to geriatric patients.
2 credits - DENT 1512L
2 credits - DENT 1522L
2 credits - DENT 1533L
4 credits - DENT 1614L
6 credits - DENT 1625L
6 credits - DENT 1636L

DENT 1617, 1627, 1639 Clinical Case Studies I, II, III
This biweekly seminar series allows the dental students to participate in treatment planning options for complex dental cases and requires them to work up treatment plans and alternate treatment plans for complex patients likely to be seen in a general practice. This course runs for three quarters during the second-year curriculum where cases will become more and more challenging.
1.3 credits - DENT 1617
1.3 credits - DENT 1627
1.3 credits - DENT 1639

DENT 1624 Oral Pathology I
Designed to introduce the dental students to the basic concepts of oral pathology, this course stresses altered cellular, genetic, and molecular mechanisms. It is expected that the student will come to understand how the clinical appearance of disease depends on biologic and microscopic features.
1.0 credit

DENT 1635 Oral Pathology II
Designed to introduce the dental students to the basic biologic features, microscopic features and clinical features of diseases will be presented as readings and photographs of case examples and tissues. It is expected that this understanding will include how recognition, categorization, and treatment of disease depends upon understanding of principles of biology gained by study at the gross and microscopic levels.
2.0 credits

DENT 1637, 1731, 1741, Anesthesia I, II, III
Dental anesthesia and intravenous sedation will be covered in these courses. Didactic and clinical demonstrations and experiences will be included.
1.0 credit - DENT 1637
1.0 credit - DENT 1731
1.0 credit - DENT 1741

DENT 1638 Medical Emergencies
This course will cover the emergencies likely to be seen in a dental office. Trauma to the oral structures and the subsequent treatment options will be covered in detail.
1.0 credit

DENT 1721 Removable Partial Dentures
This course provides the student with the basic knowledge of the anatomy, dental materials, physiology, and techniques specific to the edentulous patient. Lectures, audiovisuals, and laboratory exercises are utilized to develop and demonstrate the necessary skill. This course provides the students with the skill and the understanding of laboratory procedures required for construction of the complete denture prosthesis. A series
of simulated exercises are conducted to prepare the student for the clinical phase of managing edentulous patients. 1.6 credits

**DENT 1722 Temporomandibular Dysfunction**
This course will provide a systematic process for each patient to determine which patients may be at risk because of the condition of the TM joint. In addition to recognizing and diagnosing TM joint problems, case studies will allow for discussion of different topics of interest in restorative dentistry. Topics may include using orthodontic implants to facilitate pre-restorative changes to tooth position, using computer generated surgical guides for implant placement, and the use of direct resin to rebuild worn incisal edges. 0.5 credit

**DENT 1723 Pediatric Dentistry**
This course will focus on the growth and development of the oral cavity and its structures, as well as the difference in the primary and the permanent dentitions. Prevention of dental caries and restoration with specific materials better suited for young patients will be covered. Children require special attention in terms of behavioral management and special techniques for appropriate treatment of children will be covered. 0.6 credit

**DENT 1724 Oral and Maxillofacial Surgery**
Oral and maxillofacial surgery is that specialty which combines surgical training with dental expertise for the treatment of diseases, injuries, tumors and deformities of the face and jaws. This course covers the basics of primary and permanent tooth extraction, of dental implant placement, and, by observation, the management of facial disfigurements such as cleft lip and palate, and the management of tumors. 1.2 credits

**DENT 1725 Orthodontics**
This course will demonstrate by a close study of growth and development the diagnosis of correct occlusion, and malocclusion. Students will learn the basic techniques that a general practitioner of dentistry should be able to carry out in tooth movement and in interceptive orthodontics. 1.0 credit

**DENT 1726 Special Needs**
Recognizing the unique dental and medical needs of senior citizens, 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 aging, learn about adaptive devices, and study the role of dentistry in total patient care while learning to manage patients with medical and physical disabilities. 0.4 credit

**DENT 1727, 1754 Endodontics I, II**
The art and science of pulp therapy and root canal treatment are covered. The initial course (DENT 1727) covers the single-rooted teeth, with progression to multi-rooted teeth in both a didactic and laboratory setting. DENT 1754 discusses advanced techniques in endodontics. 2.4 credits - DENT 1727
0.5 credit - DENT 1754

**DENT 1728 Oral Medicine**
The lectures will be directed toward the presentation and discussion of oral diseases and oral manifestations of systemic disease. Information will be presented concerning the clinical manifestations’ relationship to generalized disease processes and patient management including discussions concerning therapy. 1.2 credits

**DENT 1729 Implantology**
This course provides a sound scientific grounding and clinical training in implant dentistry. This is an overview of the clinical science of implant dentistry including etiology, therapy, clinical methods, and record keeping. 0.5 credit

**DENT 1732, 1742, 1751, 1821, 1831, 1841, 1851, Advanced Clinical Dentistry I, III, IV, V, VI, VII**
These courses will advance the knowledge of clinical dentistry in all aspects of treating patients. Current concepts of clinical dentistry will be introduced and examined. Treatment planning of advanced clinical cases will be included in these courses. 1 credit - DENT 1732
2 credits - DENT 1742
2 credits - DENT 1751
1 credit - DENT 1821
1 credit - DENT 1831
1 credit - DENT 1841
1 credit - DENT 1851

**DENT 1738, 1744 Periodontology I, II**
Periodontology is the study of the supporting structures of the teeth and these courses cover the present-day research and clinical techniques for preventing, controlling and treating the disease. 1.5 credits - DENT 1738
1 credit - DENT 1744

**DENT 1745, 1823 Practice Management I, II**
The basics of setting up a private practice along with management skills in hiring and firing staff will be covered. 1.0 credit - DENT 1745
1.0 credit - DENT 1823
DENT 1822 Hospital Dentistry
The diagnosis and treatment of specific patients in the operating room under intravenous sedation and general anesthesia will be covered. Interested students will gain practical experience in patient treatment (including children) in a hospital setting.
1.0 credit

DENT 1824, 1834, 1843, 1852 Dental Community Service VII, VIII, IX, X
Students will have a broad experience of most age groups and with patients of different treatment difficulty under the supervision of clinical faculty in rotations through extramural treatment experiences as part of the final four quarters of clinical experience.
0.5 credit – DENT 1824
0.5 credit – DENT 1834
0.5 credit – DENT 1843
0.5 credit – DENT 1852

DENT 2000 Introduction to Dental Clinic
This course will introduce the student to clinical procedures, the clinic software system, the clinical organization into clinical care units, and to all the sterilization and other facilities that are a part of a large clinical operation.
17.6 credits

Each student will experience clinical treatment of patients in seven consecutive quarters. Students will have a broad experience of most age groups and with patients of different treatment difficulty under the supervision of clinical faculty. Rotations through extramural treatment experiences will be a part of the final four quarters of clinical experience.
17.1 credits - DENT 2001
15.2 credits - DENT 2002
17.1 credits - DENT 2003
19 credits - DENT 2004
19 credits - DENT 2005
20 credits - DENT 2006
21.1 credits - DENT 2007

Academic Review & Progression
Two faculty committees of CDMA will review the academic performance of students: the Preclinical Student Promotions Committee for the first two years and the Clinical Student Promotions Committee for the third and fourth years.

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, his/her 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. Students on academic probation are ineligible to hold student organizational offices. A student on probation is also formally assigned a faculty member to mentor them through the period of probation (to be arranged through the appropriate Associate Dean).

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 the Preclinical 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. A student on warning is also formally assigned a faculty member to mentor them through the period of warning (to be arranged through the appropriate Associate Dean).

Advanced Standing
All requests for advanced standing by admitted, transfer or enrolled students are processed on a course-by-course basis by the Office of the Dean. Courses must be at the graduate level to be considered for advanced standing. A student should submit a letter to the Office of the Dean in which the student lists the course(s). The student must provide an official course description(s), a transcript, and a syllabus (syllabi) of the course(s) previously taken. It is expected that a minimum grade equal to a "B" would have been achieved in the class being petitioned. The decision to grant or deny advanced standing will be made by the department in consultation with the CDMA Dean’s Office.
**Appeal Process**
Following notification of a decision for dismissal for Academic Leave of Absence or dismissal, a student may appeal in writing the decision 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 Credit**
Course credits are generally determined according to the following formulation: one credit is assigned to a course for 3-4 laboratory contact hours per week; two contact hours per week involving interactive group problem-solving or discussion sessions; or one contact hour of formal lecture per week. Two credits are given for each week of clinical rotations.

**Clinical Promotions Committee**
This committee meets at the end of each academic quarter to assess the academic status of students with an academic failure, a WF, an incomplete, or an in-progress grade. The committee assesses the progress of each student at the end of each academic quarter. 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 failures in a single academic quarter will be given the opportunity to meet with the Preclinical Student Promotions Committee. The Chair of this Committee will be a representative of the Dean’s Office and will be appointed by the Dean. 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 will be invited to the meeting to give a statement or asked to teleconference into the meeting by telephone or through e-mail or a writing to give a statement should they so desire. Decisions of the committee are forwarded to the Dean and e-mailed or mailed to the student. The right of appeal exists and is described in the student handbook. 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 training, passed the NBDE Part I, and paid all tuition and fees, will be recommended for graduation to the Faculty Senate.

**Course Prerequisites**
Prerequisites for courses may be established by the course director who 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 approval by the Associate Dean for Academic Affairs or the Dean.

**Criminal Background Checks**
Some facilities now require criminal background checks of students who are rotating through their system. The criminal background check is valid for one year only, so it must be performed within the year prior to starting the rotation. The Student Services Department of Midwestern University will perform the background check. The costs are included in the student activity fee.

Some facilities may require the student to meet a different requirement, such as fingerprinting at a designated agency immediately prior to the start of the rotation. If the Midwestern University background check does not meet a facility’s requirement, other procedures must be performed at the student’s expense. Criminal background information will be shared with clinical sites that are affiliated with MWU educational programs.

**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**
Students who fail three or more courses in a single academic year during the DENT I and DENT II years or students who fail two or more courses in a single quarter usually receive a recommendation for an academic leave of absence or dismissal. Students who fail two or more clinical rotations or experiences during the DENT III and DENT IV years usually receive a recommendation for 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 committee)
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).

Students who accumulate three failures over more than a single academic year or two failures in a single quarter may be recommended for an academic leave of absence or dismissal. They are required to retake failed courses during the regular academic year and are not eligible for summer remediation courses either at CDMA or at any other dental school.

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. Students experiencing academic difficulty are assigned an academic advisor through the appropriate Associate Dean’s Office.

Failure Policy for First-and Second-Year Students
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 students must successfully pass all failed courses before they can be promoted to the second year. Likewise, D-2 students can only begin the clinic and be promoted to the third year if they pass all requirements of the preclinical curriculum, and National Boards Part I.

Grade Appeals Policy

I. Appeal of Non-Failing Course Grades
A student who wishes to appeal a non-failing course grade must make a written appeal to the Course Director within one week following receipt of the grade. The Course Director must act upon the student’s appeal within one week following receipt of that appeal. An appeal must be based on one of the following premises:

1. alleged bias
2. mathematical error in calculating the final grade
3. factual errors in course assessment tools.

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 re-appeal. The decision of the Course Director’s supervisor is final.

II. Appeal of Course Grades Subject to Academic Review
A student whose academic progress will be subject to review by his/her Promotions/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 course grade must be submitted within 24 hours following release of the grade and must be based on one of the premises stated above. The course director must act on this appeal within 24 hours. Any appeal of this decision will be addressed by the Course Director’s supervisor. The student is responsible for notifying the chair of the Student Promotions 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.

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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percent (%)</th>
<th>Quality Points (per credit)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93–100</td>
<td>4.00</td>
<td>—</td>
</tr>
<tr>
<td>A–</td>
<td>90–92</td>
<td>3.67</td>
<td>—</td>
</tr>
<tr>
<td>B+</td>
<td>87–89</td>
<td>3.33</td>
<td>—</td>
</tr>
<tr>
<td>B</td>
<td>83–86</td>
<td>3.00</td>
<td>—</td>
</tr>
<tr>
<td>B–</td>
<td>80–82</td>
<td>2.67</td>
<td>—</td>
</tr>
<tr>
<td>C+</td>
<td>77–79</td>
<td>2.33</td>
<td>—</td>
</tr>
<tr>
<td>C</td>
<td>70–76</td>
<td>2.00</td>
<td>—</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 70</td>
<td>0</td>
<td>For professional programs</td>
</tr>
<tr>
<td>IP</td>
<td>—</td>
<td>0.00</td>
<td>An In Progress (IP) grade may be assigned by a course director when a student qualities for re-examination. It is the responsibility of the student to request an extension from the course instructor. By assigning an &quot;IP&quot; 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 &quot;IP&quot; 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.</td>
</tr>
<tr>
<td>P</td>
<td>—</td>
<td>0.00</td>
<td>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.</td>
</tr>
<tr>
<td>W</td>
<td>—</td>
<td>0.00</td>
<td>Withdrawal can be given during the third to the eighth weeks of the quarter. There is no penalty and no credit.</td>
</tr>
<tr>
<td>W/F</td>
<td>—</td>
<td>0.00</td>
<td>Withdrawal/Failing is given after the third week of the quarter; 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. Students are not allowed to withdraw from a course after the end of the eighth week of class.</td>
</tr>
<tr>
<td>AU</td>
<td>—</td>
<td>0.00</td>
<td>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.</td>
</tr>
<tr>
<td>AP</td>
<td>—</td>
<td>0.00</td>
<td>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.</td>
</tr>
</tbody>
</table>

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 this handbook.

National Boards Policy

All Midwestern University College of Dental Medicine-Arizona students must pass NBDE Part I in order to qualify for graduation from MWU/Midwestern University College of Dental Medicine-Arizona. All students are required to sit for the NBDE Part I examination at the end of year 1 and to make up failures prior to initiating patient care. If a student encounters a catastrophic event that prevents him/her from taking the examination during that timeframe, the Dean may allow him/her to enter the clinic schedule and take the examination at a later date (mutually agreed to by the student and Dean).

Students who fail to pass the NBDE Part I examination on their first attempt will be allowed to continue as registered students as noted below. The student:
• Will be allowed to start the clinical component of the curriculum. Students must retake and pass NBDE Part I prior to the beginning of the Fall Quarter of the third year.

• Must meet with the Dean of Basic Sciences, the Dean of Student Services, the Associate Dean, MWU CDMA to develop an individualized course of study focused towards retaking and passing the NBDE Part I examination. This will include recommendations to the student to uncover potential test-taking challenges and develop a structured study schedule.

• Will be provided with a list of available resources in order to adequately prepare for a repeat examination. The student will be advised to take a formalized board review course. Any associated expenses and arrangements are the student’s responsibility.

Students who fail to pass the NBDE Part I examination on their second attempt will be allowed to continue as registered students as noted below. The student:

• Will meet with the Dean of Basic Sciences, the Dean of Student Services, the Associate Dean, MWU CDMA, and selected Basic Science course directors to discuss a strategy for retaking and passing the NBDE Part I examination. The student will be required to retake the examination at a date approved by the Dean upon recommendation of the above individuals.

• May be required to take an Independent Study Elective or Leave of Absence in order to prepare for the retake of NBDE Part I at the date specified by the Dean. The Independent Study Elective may include a long-term board preparation course. Tuition, related expenses, and arrangements are the student’s responsibility.

• Is required to sit for the NBDE Part I examination (third attempt) and if successful, is then eligible to begin patient care.

Students who fail to pass NBDE Part I examination for the third time need to wait one full year prior to re-taking the examination per National Board rules and will be remanded to come before the Preclinical Student Promotions Committee. The Committee may recommend a further remediation plan or recommend dismissal for failure to meet the academic requirements of MWU/MWU CDMA. The student will be charged tuition on a prorated basis for additional months of education.

Passing any portion of a licensing examination is not a substitute for passing a Midwestern University course.

Preclinical Promotions Committee
This committee meets at the end of each academic quarter to assess the academic status of students with an academic failure, a WF, an incomplete, or an in-progress grade. The committee assesses the progress of each student at the end of each academic quarter. 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 failures in a single academic quarter will be given the opportunity to meet with the Preclinical Student Promotions Committee. The Chair of this Committee will be a representative of the Dean’s Office and will be appointed by the Dean. 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 will be invited to the meeting to give a statement or asked to teleconference into the meeting by telephone or through e-mail or a writing to give a statement should they so desire. Decisions of the committee are forwarded to the Dean and e-mailed or mailed to the student. The right of appeal exists and is described in the student handbook. Appeals must be filed with the Dean within three working days following official notification of the committee decision.

Retake/Make-Up Courses
Retake occurs when formal repetition of an entire course or a portion of the course is required due to course failure. A failed course may be retaken due to:

1. Course failure with no reexamination offered by the department.
2. Course failure followed by failure of the reexamination.
3. Course failure and failure to meet eligibility criteria for reexamination.

The course may be repeated at MWU or at an outside institution if it is offered. The course at the outside institution must be approved by the department/program as a satisfactory replacement for the failed course. It is the decision of the Student Promotion Committees of each program to recommend retake of the failed course. The Program Student Academic Review Committee, following department approval, will determine the time frame for completion of the repeated course.

Retake or make-up courses must fulfill the same performance requirements of the regular academic year and will be billed for tuition and fees accordingly. Failures are made up in one of three ways: 1. students retake the failed course if it is offered through Midwestern University College of Dental Medicine-Arizona; 2. students may take the failed course at an accredited institution that offers comparable course content and curriculum as reviewed and approved by the Dean (the grade is accepted as transfer credit and is calculated as Pass/Fail); or 3. if offered, students can take a faculty-supervised directed readings program. The directed readings program will cover the learning objectives of the course, periodic meetings, periodic self-testing, and direct access to
faculty. A written examination(s) will be given by the department to assess academic competency.

Students are limited to the second and third options if Midwestern University College of Dental Medicine-Arizona does not offer a makeup course. They are limited to the second option if the college chooses not to offer a directed readings program.

If the student passes a repeated course, the original failure remains on the transcript as an "F." The failed course is no longer used in the computation of the GPA following repeat of the course. If the course is retaken at MWU, the student will be required to pay tuition for the course. If the student passes the course a grade of "C" will be entered onto the transcript and this grade will be factored into the overall GPA.

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 is noted in the Student Financial Services section of this handbook.

Travel for Clinical Education/Fieldwork
The professional programs of CDMA require that the students receive instruction in a clinical setting. As a result, it will be necessary for students to make arrangements for transportation and lodging to clinical facilities in rotations that may be off the Midwestern University campus. The University does not generally provide for the cost of transportation or lodging. Travel arrangements are the sole responsibility of the student. 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 responsible for all expenses associated with clinical education, such as transportation, meals, housing, professional attire, laboratory fees, etc.

Withdrawal from Courses
Any student who wishes to withdraw from one or more courses must first receive approval from their respective Course Director. Following approval by the Course Director, the withdrawal must be approved by the Associate Dean for Academic Affairs and the CDMA Dean. If the approval is granted, the student receives one of the following grades: W (withdrew) or W/F (withdrew failing).

Between the start of the fourth week and the end of the eighth week of the quarter, if work completed up to the time of withdrawal is satisfactory, the student will receive a Withdrawal (W) grade. This grade is not counted in any GPA calculations and is not counted in credit hour accruals for graduation. Between the start of the third week of the quarter and end of the eighth week of the quarter, if work completed up to the time of withdrawal is satisfactory, the student will receive a Withdrawal (W) grade. 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 the Preclinical Promotion Committee when reviewing the academic status of a student. Multiple F’s and W/Fs can be grounds for dismissal.

Students are not allowed to withdraw from a course after the end of the eighth week of class, unless there are exceptional circumstances.

Withdrawal from the College/University
The decision to withdraw from the University is a serious matter. Any student who withdraws from a college or 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 Dean of the decision to voluntarily withdraw and voluntarily relinquish his/her position in the program. The student must contact the Dean’s Office and must complete the appropriate clearance procedures. The withdrawal process includes the clearing of all financial obligations of MWU and an exit interview. 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 Student Financial Services sections on Notification of Withdrawal and Return of Title IV Funds/MWU Refund Policy.

FACULTY
Dental and Preclinical
Mark Abzug, D.D.S.
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Assistant Professor/Clinical Care Coordinator

Steven Call, D.D.S.
University of Oklahoma
Assistant Professor/Clinical Care Coordinator

Alexander Carroll, D.D.S.
University of Southern California
Assistant Professor/Clinical Care Coordinator

Robert T. Coffey, D.D.S.
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Assistant Professor
David Dodell, D.M.D.
Tufts University School of Dental Medicine
Assistant Professor

George Dougherty, D.D.S.
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Assistant Professor/Clinical Care Coordinator

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Iowa State University
Dean of Basic Sciences and Professor

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Professor

Dana Devine, D.O.
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Associate Professor

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Assistant Professor

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Professor

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Assistant Professor

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Professor

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Professor

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Assistant Professor

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Dalhousie University
Professor

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Arizona State University
Associate Professor

Linda M. Walters, Ph.D.
Loyola University, Stritch School of Medicine
Professor

Y. Gloria Yueh, Ph.D.
University of Connecticut
Associate Professor

Clinical Psychology

Philinda Hutchings, Ph.D., ABPP
Director and Professor

Deborah Lewis, Ph.D., ABPP
Professor
MISSION
The mission of Midwestern University Arizona College of Optometry (AZCOPT) is to educate optometrists and residents in an interdisciplinary healthcare environment. The College fosters professional attitudes and behaviors that encourage life long learning, and scholarship to serve the needs of the public and improve the health and well-being of society.

GOALS
- Provide broad and innovative educational opportunities in the basic, visual and clinical sciences
- Plan and develop a diversity of clinical experiences to allow our students to enter the practice of optometry
- Support and nurture an environment of intellectual inquiry and activity by students, residents and faculty
- Promote interdisciplinary education programming to develop student appreciation of other health professionals
- Ensure that students have a strong basic and vision science foundation
- Promote student involvement in community service
- Develop a high quality residency program
- Establish 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

ACREDITATION
AZCOPT has been granted the pre-accreditation classification of "Preliminary Approval" by the Accreditation Council on Optometric Education (ACOE), of the American Optometric Association (AOA), 243 N. Lindbergh Blvd., St. Louis, MO 63141-7881. "Preliminary Approval" is the only classification available to a new professional program.

Midwestern University is accredited by The Higher Learning Commission, A Commission of the North Central Association of Colleges and Schools, located at 230 South LaSalle St., Suite 7-500, Chicago, Illinois 60604-1413; 312/263-0456.

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 and students are introduced to clinical practice in simulation laboratories and through introductory courses. 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 is intensive clinical training that will include some 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.

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), Optometric Admission Test (OAT) 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. Possess a minimum cumulative GPA and science coursework GPA of 2.75 on a 4.00 scale.
2. Complete a baccalaureate degree from regionally accredited institutions. A B.A. degree is acceptable but a B.S. degree is preferred.
3. Submit the results of the Optometry Admission Test (OAT).
A minimum Academic Average and Total Science standard score of 300 are recommended of all applicants. In order to be considered for the class to be admitted in the Fall of each academic year, the OAT must be taken and results submitted by April 30, 2011. OAT scores older than five years are not acceptable.

4. Complete the necessary course prerequisites. All prerequisite courses must be completed with grades of C or better. Pass/fail courses are not acceptable for prerequisite courses. Only courses designed for science majors or pre-professional students are acceptable for the science prerequisites.

5. Provide two letters of recommendation.

6. Have a good understanding of optometric medicine. Candidates are strongly encouraged to shadow and observe a practicing optometric physician in the clinical setting.

7. Participate in extracurricular and/or community activities that indicate a well-rounded background and demonstrate a service orientation.

8. Have interpersonal and communication skills necessary to relate effectively with others.

9. Pass the Midwestern University criminal background check.

10. Have 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/5 Qtr hours |
| Physiology * | 3 Sem/5 Qtr hours |
| General/inorganic chemistry with lab | 8 Sem/12 Qtr hours |
| Organic chemistry with lab | 4 Sem/6 Qtr hours |
| Biochemistry | 3 Sem/5 Qtr hours |
| Physics | 6 Sem/10 Qtr hours |
| Calculus | 3 Sem/5 Qtr hours |
| Microbiology | 3 Sem/5 Qtr hours |
| Statistics | 3 Sem/5 Qtr hours |
| Psychology | 3 Sem/5 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/5 Qtr credit hours) and Anatomy and Physiology II (3 Sem/5Qtr credit 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:

a. Cumulative and science grade point averages below 3.00 on a 4.00 scale.

b. Academic Average and Total Science OAT scores below 300.

c. Prerequisite science coursework completed more than 10 years ago. More recent (within five years) math and science coursework is preferred.

**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, six hours in non-remedial English composition, and three hours in speech/public speaking.

Applicants who wish to receive transfer credit for prerequisite coursework completed outside the US 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 or Fax 414/289-3411 (www.ece.org, e-mail: info@ece.org)
- World Education Service (WES): 212/966-6311 or Fax 212/739-6100 (www.wes.org, e-mail: info@wes.org)

International applicants who do not provide documentation of acceptable US 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.

**Application Process and Deadlines**

AZCOPT uses a two-step application process. Applicants must submit both a completed application from the Optometry Centralized Application Service (OptomCAS) and a College supplemental application.

1. **OptomCAS Application**

Applicants are required to submit online applications and application fees to OptomCAS by April 1, 2011. 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 who have taken coursework and/or earned a degree from a foreign
institution must also submit a course-by-course evaluation of their transcript from an OptomCAS-approved evaluation service.)

Students must apply for admission via OptomCAS at www.opted.org or 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 July 15th 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 and their AZCOPT supplemental application early in the cycle. AZCOPT will consider completed applications on a first-come, first-served basis until all seats are filled.

2. Optometry Admission Test (OAT)
   Applicants must arrange for scores from the OAT to be sent directly to Midwestern University. Only test scores received directly from the testing agency will be accepted. OAT scores must be no older than 5 years.

   This examination includes questions on biology, general chemistry, organic chemistry, physics, quantitative reasoning and reading comprehension. The test can be taken at numerous centers in the United States, Canada, and Puerto Rico. An examinee may take the examination up to four times during the year. Additional information on the OAT may be found at www.opted.org or in writing to:
   Optometry Admission Testing Program
   211 East Chicago Avenue, suite 600
   Chicago, Illinois 60611-2678
   800/232-2159

3. Letters of Recommendation
   Applicants must submit two letters of recommendation from professionals to OptomCAS (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. Supplemental Application
   After receiving OptomCAS applications from the centralized application service, the Office of Admissions will e-mail a supplemental application to all applicants who meet the minimum cumulative and prerequisite coursework GPA requirement of 2.75 on a 4.00 scale. Applicants must complete and submit their supplemental applications with the required information and their application fee through the online portal to Midwestern University Office of Admissions on or before April 30, 2011. 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 web site. 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, Arizona 85308
623/572-3215 or 888/247-9277
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 toward a later part of the admissions cycle. Interviews are typically held between September and May. Invited applications must attend an on-campus interview to achieve further consideration in the interview process.

An on-campus visit, which includes an interview session, generally takes four hours. Each interviewee will meet with at least two interviewers. Applications 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 Midwestern University and AZCOPT, financial aid programs, student services, campus housing; and 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, to deny, or to 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 four weeks of their interview.
Students who have been accepted for a given year must matriculate during that year. No admission deferments will be granted. Students who fail to matriculate must reapply for admission to the College the following year.

All requests for application withdrawal must be made in writing.

Technical Standards
A candidate for the degree of Doctor of Optometry must have abilities and skills in five areas: I) observation; II) communication; III) motor; IV) intellectual, conceptual, integrative, and quantitative; and V) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

I. 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 somatic sensation and is enhanced by the functional use of all of the other senses.

II. 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.

III. 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.

IV. 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.

V. 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 certify that they understand and meet these Technical Standards. Candidates must provide such certification prior to matriculation. Candidates who may not meet the Technical Standards must inform the Director of Admissions, who will then contact the Dean of Students. The Dean of Students, in consultation with the academic dean, will identify and discuss what accommodations, if any, the College would need to make that would allow the candidate to complete the curriculum. 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 in their professional program.

Matriculation Process
To initiate the matriculation process, newly accepted students must return both their signed matriculation agreement and their initial deposit by the date designated in their matriculation agreement. To conclude the matriculation process, a student must also:

1. Submit deposit monies by the date designated in their matriculation agreements. Deposits are applied toward the first quarter’s tuition.

2. Submit official final transcripts from all colleges attended post-high school by the deadline of three weeks (21 calendar 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. Successfully complete all outstanding prerequisites with the grades of C or better (grades of C- are not acceptable).

4. Submit documented laboratory proof of the completed required immunizations.

5. Submit proof of medical and disability insurance coverage. Students may select either a plan offered by a MWU-approved carrier or a comparable plan offered by an outside carrier of their choice.

6. Meet the Technical Standards for the College.

7. Provide documentation verifying that sufficient funds have been deposited in a U.S. bank to cover all expenses while attending Midwestern University (applies only to non-U.S. citizens/nonpermanent residents).

8. Provide documentation that any additional coursework or service requirements stipulated by the School has been completed.

9. Submit additional documents as required by the Office of Admissions.

10. Authorize and pass the Midwestern University criminal background check.

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11. Sign and submit a Midwestern University Drug-Free Workplace and Substance Abuse Policy Statement.
12. Complete the physical exam and submit the form.
13. Sign and submit a Credit Policy Statement.

Students who either fail to satisfy these matriculation requirements or omit or falsify information required on official admissions documents will automatically forfeit their seats at AZCOPT. Students accepted for admission who do not comply with stated timelines for submission of all required materials will not receive further notification from AZCOPT regarding forfeitures.

Articulation Agreement Between Midwestern University Programs
Students enrolled in a Midwestern University program are guaranteed an admission interview with another Midwestern University program if the student:
1. Is currently in good standing in the academic program in which the student is enrolled 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 Midwestern University grade point average, derived from all courses completed at Midwestern, 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 that matriculated into the professional degree program in the previous year.

A guaranteed interview does not guarantee admission into the professional program.

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.

Transfer Admission Policy
AZCOPT may elect to accept transfer students from other U.S. accredited schools of optometry for students who remain 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 Optometric Admissions Test (OAT)

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 approves 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 moving of the student prior to the start of the next academic term.

Graduation Requirements
To be eligible for graduation and receive the degree Doctor of Optometry, 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;
- Satisfactorily complete all academic requirements with a cumulative GPA of at least 2.00;
- Pass Part I and take Part II of the National Boards administered by the National Board of Examiners in Optometry. It is the responsibility of the individual student to pass national board examinations;
- Be recommended for conferral of the degree Doctor of Optometry by the University Faculty Senate;
- Settle all financial accounts with the University; and
- Complete all graduation clearance requirements as instructed by the Office of the Registrar.

Licensure Requirements
To obtain licensure, graduates must have completed the requirements established by each state or national licensing board. Licenses require successful passage of the National Board Examinations and may require the passage of an additional state licensing exam. Postdoctoral requirements may vary among states. The National Board of Examiners (NBEO) administers complete integrated examinations in three parts that reflect the different stages of a candidate’s optometric education and training. Part I covers Applied Basic Science, Part II covers Patient Assessment and Management and Part III covers Clinical Skills. Part I and Part II are approximately 1.5 days in length and Part III is 1.0 day in length. The earliest date for a student candidate to take the Part I examination is March of the third professional
year in an accredited institution. A Board Review Course is incorporated into the curriculum to help the student prepare for Part I. 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. A second board review course is incorporated into the curriculum to prepare the candidate for Part II. All students are required to pass Part I and to take Part II of the National Boards to graduate. It is the responsibility of the individual student to pass national board examinations. Students are eligible to take the Part III examination at the conclusion of their fourth year. However, scores for Part III will not be released until the National Board of Examiners has received notification from the candidate’s institution that the candidate has graduated. For additional information regarding licensure, contact the web site, www.optometry.org or

National Board of Examiners in Optometry
200 S. College Street, #1920
Charlotte, NC 28202
Phone: 800-969-EXAM(3926) or
704-332-9565
FAX: 704-332-9568
E-mail: nbeo@optometry.org

CURRICULUM
The College reserves the right to alter the curriculum as it deems appropriate.

First Year
Total Quarter Credit Hours Required 64.6

Fall Quarter
Quarter Hours
BASI 1501 Integrated Basic Sciences I 4.7
BASI 1502 Integrated Basic Sciences II 5.5
BASI 1503 Integrated Basic Sciences III 5.2
CORE 1560 Interdisciplinary Healthcare I 0.5
OPTO 1500 Wellness and Daily Living 1
OPTO 1510 Introduction to Clinical Care I 2
OPTO 1511 Contemporary Issues in Health and Care Ethics 1

Winter Quarter
Quarter Hours
BASI 1504 Integrated Basic Sciences IV 5.7
BASI 1505 Integrated Basic Sciences V 6.2
BASI 1506 Integrated Basic Sciences VI 3.6
OPTO 1540 Geometric and Physical Optics I 4
CORE 1570 Interdisciplinary Healthcare II 0.5
OPTO 1520 Introduction to Clinical Care II 2
OPTO 1560 Ocular Anatomy 2

Spring Quarter
Quarter Hours
BASI 1507 Integrated Basic Sciences VII 3.8
BASI 1508 Integrated Basic Sciences VIII 3.6
BASI 1509 Integrated Basic Sciences IX 4.8
OPTO 1550 Geometric and Physical Optics II 4
OPTO 1530 Introduction to Clinical Care III 2
CORE 1580 Interdisciplinary Healthcare III 0.5
OPTO 1580 Ocular Physiology 2

Second Year
Total Quarter Credit Hours Required 56.5

Fall Quarter
Quarter Hours
OPTO 1620 Visual Science: Monocular Function 3
OPTO 1630 Ophthalmic Optics I 4
OPTO 1640 Ocular Disease I 3
OPTO 1650 Primary Eyecare Procedures I 3.5
OPTO 1670 Research Design and Biostatistics 2
PHAR 1601 General Pharmacology I 3
OPTO 1622 Visual Science: Ocular Motility 2

Winter Quarter
Quarter Hours
OPTO 1642 Ocular Disease II 3
PHAR 1621 General Pharmacology II 4
OPTO 1632 Ophthalmic Optics II 4
OPTO 1652 Primary Eyecare Procedures II 3.5
OPTO 1656 Expanded Clinical Care 1
OPTO 1675 Visual Neurophysiology 2
OPTO 1672 Capstone Project: Literature Review and Study Design 1
OPTO 1690 Internal Clinic Rotation Education I (ICARE) 1
Electives 1-3

Spring Quarter
Quarter Hours
OPTO 1691 Ocular Pharmacology 2
OPTO 1644 Ocular Disease III 3
OPTO 1624 Visual Science: Binocular Function 4
OPTO 1625 Visual Optics 2
OPTO 1654 Primary Eyecare Procedures III 3.5
OPTO 1695 Professional Communication and Cultural Competence 1
OPTO 1692 Internal Clinic Rotation Education II (ICARE) 1
Electives 1-3
### Third Year

**Total Quarter Credit Hours Required** 77.8

<table>
<thead>
<tr>
<th>Summer Quarter</th>
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<tbody>
<tr>
<td>OPTO 1700 Principles and Methods of Physical Assessment</td>
<td>3</td>
</tr>
<tr>
<td>OPTO 1720 Anomalies of Binocular Vision, Strabismus And Amblyopia</td>
<td>3</td>
</tr>
<tr>
<td>OPTO 1750 Contact Lens I</td>
<td>3</td>
</tr>
<tr>
<td>OPTO 1760 Capstone Project: Data Collection and Analysis</td>
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<tr>
<td>OPTO 1770 Primary Eye Care Clinic I</td>
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<thead>
<tr>
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<tbody>
<tr>
<td>OPTO 1730 Ocular Therapeutics</td>
<td>3</td>
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<tr>
<td>OPTO 1771 Primary Eye Care Clinic II</td>
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<tr>
<td>OPTO 1780 Board Review: Applied Basic Science</td>
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<tr>
<td>OPTO 1790 Clinical Case Analysis I</td>
<td>2</td>
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<tr>
<td>OPTO 1722 Vision Therapy and Sports Vision</td>
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<tr>
<td>OPTO 1752 Contact Lens II</td>
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<tbody>
<tr>
<td>OPTO 1772 Primary Eye Care Clinic III</td>
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<tr>
<td>OPTO 1782 Evidence Based Medicine/Ocular Emergencies</td>
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<tr>
<td>OPTO 1745 Epidemiology, Public Health and the Optometric Profession</td>
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<tr>
<td>OPTO 1754 Contact Lens III</td>
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<tr>
<td>OPTO 1792 Clinical Case Analysis II</td>
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<tr>
<td>OPTO 1725 Pediatric Optometry</td>
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<tr>
<td>OPTO 1785 Visual Rehabilitation</td>
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<tr>
<td>OPTO 1773 Primary Eye Care Clinic IV</td>
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<tr>
<td>OPTO 1787 Neurooptometry</td>
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<tr>
<td>OPTO 1788 Optometric Gerontology and Special Populations</td>
<td>2</td>
</tr>
<tr>
<td>OPTO 1723 Vision Perception and Learning Disabilities</td>
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<tr>
<td>OPTO 1755 Legal and Professional Aspects of Optometry</td>
<td>2</td>
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<tr>
<td>OPTO 1765 Optometric Practice Management</td>
<td>2</td>
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### Fourth Year

**Total Quarter Credit Hours Required** 53

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<tr>
<th>Summer Quarter</th>
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<tr>
<td>OPTO 1800 Optometric Patient Care I</td>
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<td>OPTO 1805 Optometric Patient Care II</td>
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<tr>
<td>OPTO 1812 Capstone Project Completion</td>
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<td>OPTO 1801 Board Review Course II Electives</td>
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<tr>
<td>OPTO 1810 Optometric Patient Care III</td>
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</tr>
<tr>
<td>OPTO 1815 Optometric Patient Care IV</td>
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<th>Quarter Hours</th>
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<tbody>
<tr>
<td>OPTO 1820 Optometric Patient Care V</td>
<td>6-9</td>
</tr>
<tr>
<td>OPTO 1825 Optometric Patient Care VI</td>
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<table>
<thead>
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<th>Spring Quarter</th>
<th>Quarter Hours</th>
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<tbody>
<tr>
<td>OPTO 1830 Optometric Patient Care VII</td>
<td>6-9</td>
</tr>
<tr>
<td>OPTO 1835 Optometric Patient Care VIII</td>
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### Professional Electives

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:

<table>
<thead>
<tr>
<th>Electives</th>
<th>Quarter Hours</th>
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<tbody>
<tr>
<td>OPTO 1680 Conversational Spanish I</td>
<td>3</td>
</tr>
<tr>
<td>OPTO 1681 Conversational Spanish II</td>
<td>3</td>
</tr>
<tr>
<td>OPTO 1682 Selected Studies</td>
<td>1-3</td>
</tr>
<tr>
<td>OPTO 1795 Third Year Clinical Skills Enhancement</td>
<td>1-3</td>
</tr>
<tr>
<td>OPTO 1895 Fourth Year Clinical Skills Enhancement</td>
<td>1-3</td>
</tr>
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### 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.

**BASI 1501 Basic Science Integrated Sequence I**

BASI 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 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 defines the basic structure, function and biochemical characteristics of two
BASI 1503 Basic Science Integrated Sequence III

This course will provide an overview of infectious diseases, integument and blood disorders. Module 5: Introduction to Infectious Diseases provides fundamental understanding of basic concepts in microbiology to accurately identify and treat 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.
5.2 credits

BASI 1504 Basic Science Integrated Sequence IV

This course provides an overview of the Peripheral Nervous System (Module 8) and the Musculoskeletal System (Module 9). Initial lectures will discuss the embryology, histology, and anatomy of nervous tissue. Mechanisms of neurotransmission including development of action potentials and synaptic transmission will also be discussed. Structure and function of the autonomic nervous system will be covered and common diseases of peripheral nerves will be included. Module 9 covers the structure and function of skeletal and smooth muscle and the development of bone and cartilage. Neuromuscular transmission and the molecular basis of muscle contraction will be discussed. Diseases of bone and soft tissues will be included. This module contains three laboratory sessions that cover upper extremity anatomy.
5.7 credits

BASI 1505 Basic Science Integrated Sequence V

BASI 1505 contains two modules. This course will provide an introduction to the structure and function of the Cardiovascular (Module 10) and Respiratory Systems (Module 11). The cardiovascular module will begin with a discussion of the embryological development of the heart and circulatory system. Other topics covered are cardiac muscle function, electrophysiology of cardiac muscle, cardiac cycle and cardiac performance. Control of the cardiovascular function will integrate discussions of hemodynamics, regional circulation and arterial blood pressure. Discussion of the respiratory system will include mechanics of breathing, gas transport and regulation of respiration. Relevant microbiology, pathophysiology and pathology will be covered in both modules.
6.2 credits

BASI 1506 Basic Science Integrated Sequence VI

BASI 1506 contains two modules. The first module will provide an overview of the Urogenital System (Module 12). The second module covers Endocrine System (Module 13) function. Topics to be covered in module 12 include the renal tubular transport mechanisms, the production of urine and the control of extracellular fluid volume and acid/base balance. Diseases of the urogenital tract will be discussed. In module 13 the disciplines of histology and physiology provide an overview of the basic structure and normal function of the endocrine system. Coverage will include hypothalamic control of endocrine secretion and the regulation of individual endocrine organs. Common disorders of the endocrine system are discussed by the pathology faculty.
3.6 credits

BASI 1507 Basic Science Integrated Systems VII

This course is composed of one module titled Gross Anatomy of the Head and Neck (Module 14). 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.
3.8 credits

BASI 1508 Basic Science Integrated Systems VIII

This course is composed of one module entitled Clinical Neuroscience (Module 15). This module provides instruction in the structure and function of the nervous system. Topics
included are: the basic internal anatomy of the central nervous system, the structure and function of the visual, somatosensory and descending motor systems, and the cerebral cortex. Common pathologies and clinical concerns are discussed.

3.6 credits

**BASI 1509 Basic Science Integrated Systems IX**

This course is composed of two modules. The first module provides an overview of the Structure and Function of the Male and Female Reproductive Systems (Module 16). The second module provides instruction in the Gastrointestinal System (Module 17) and includes topics such as: chewing, swallowing and digestion. In both modules, gross anatomical, histological, physiological, microbiological, and pathological aspects of the systems are discussed as appropriate.

4.8 credits

**CORE 1560, 1570, 1580 Interdisciplinary Healthcare**

The Interdisciplinary Healthcare course involves the Colleges of Dental Medicine, Health Sciences, Optometry, Osteopathic Medicine, and Pharmacy. The course is designed to teach all clinically-based students about each other’s clinical programs and how they interact together as part of an interdisciplinary healthcare team: cardiovascular sciences, clinical psychology, dental medicine, nurse anesthesia, occupational therapy, optometry, osteopathic medicine, pharmacy, physician assistant, physical therapy and podiatry students learn together about the importance of an interdisciplinary approach to patient care. Lectures will be given in a seminar format in conjunction with panel presentations and discussions by interdisciplinary team members from each of the clinical programs.

0.5 credits per quarter

**OPTO 1500 Wellness in Daily Living**

Discussion of the principles of the balance of the physical, mental, social and spiritual needs for the achievement of health and happiness. Topics include personal goal setting, nutrition and diet, exercise, sleep, relaxation and meditation among others.

1 credit

**OPTO 1510, 1520, 1530 Introduction to Clinical Care I, II, III**

This course sequence is an introduction to the primary optometric examination including medical and ocular history, visual acuity, color vision, cover test, depth perception, pupillary reaction, external ocular examination, retinoscopy and ophthalmoscopy. Students will be required to use an electronic patient record and patient appointment software.

2 credits each course

Prerequisite for OPTO 1520 Introduction to Clinical Care II: OPTO 1510 Introduction to Clinical Care I

Prerequisite for OPTO 1530 Introduction to Clinical Care III: OPTO 1520 Introduction to Clinical Care II

**OPTO 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 and the dynamic role of optometry in present day health systems.

1 credit

**OPTO 1540, 1550 Geometric and Physical Optics I, II**

The optics of reflection, refraction at single spherical surfaces, thick lenses, prisms, and thin lenses will be covered in this sequence. Characteristics of electromagnetic waves, diffraction, interference and polarization will be explained. Students will gain an appreciation of optics of telescopes, microscopes, other instruments, and the human eye.

4 credits each course

Prerequisite for OPTO 1550 Geometric and Physical Optics II: OPTO 1540 Geometric and Physical Optics I

**OPTO 1560 Ocular Anatomy**

The course presents a detailed discussion of ocular gross and microscopic anatomy as a basis for understanding systemic and ocular pathophysiology as well as some anomalies of monocular and binocular visual processes. A general review of histology is presented as background for an intensive consideration of the microscopic anatomy of the normal eye.

2 credits

**OPTO 1560 Ocular Physiology**

The course allows the student to understand and appreciate the physiology and pathophysiology of the tissues and physiological units of the eye including the eyelids, ocular tear film, cornea, aqueous humor, iris, lens, vitreous, retina and the visual pathways. Students will gain an understanding of the relationship of ocular physiology to ocular pharmacology and ocular pathophysiology.

2 credits

Prerequisite: OPTO 1560 Ocular Anatomy

**OPTO 1580 Ocular Physiology**

**OPTO 1620 Visual Science: Monocular Function**

The basic aspects of monocular vision, including light and dark adaptation, color vision, spatial and temporal resolution will be discussed. Gross electrical potentials and photometry will be explained. Students will learn how to measure visual performance and understand its application to clinical optometry.

3 credits

**OPTO 1622 Visual Science: Ocular Motility**

This course focuses on characteristics, control, and deficits of the five somatic eye movement systems (convergence, saccadic version, pursuit, version, fixation maintenance, vestibular reflex) and the autonomic systems subserving...
accommodation, pupillary diameter and reflexes. The physiology of the extraocular muscles and their relationship to strabismus is included in the course.

2 credits

OPTO 1624 Visual Science: Binocular Function
Students will learn about binocular sensory mechanisms of vision. This course will focus on the geometry of space and stereovision, and the underlying neuroanatomy and physiology of binocular vision. This course will include a discussion of the horopter, retinal correspondence, stereopsis, fusion, fixation disparity, rivalry and aniseikonia.

4 credits

OPTO 1625 Visual Optics
This course considers the eye as an optical system and includes the optical and physical components of the eye. Includes schematic eye models, refractive error correction, dioptics of the eye, stimulus to accommodation, retinal image size and quality, purkinje images, entoptic phenomena, presbyopia, aphakia, intraocular implants and radiation effects.

2 credits

OPTO 1630, 1632 Ophthalmic Optics I, II
This course sequence covers design and application of ophthalmic materials; study of the physical and optical characteristics of ophthalmic single vision and multifocal lens designs; ophthalmic prisms; absorptive lenses; and the measurement and fitting of lenses and frames.

4 credits each course
Prerequisite for OPTO 1632 Ophthalmic Optics II: OPTO 1630 Ophthalmic Optics I

OPTO 1640, 1642, 1644 Ocular Disease I, II, III
This course sequence covers in depth signs and symptoms, pathophysiology, clinical course, differential diagnosis, treatment and management of ocular diseases including the anterior and posterior segment and ocular adnexa.

3 credits each course
Prerequisite for OPTO 1642 Ocular Disease II: OPTO 1640 Ocular Disease I
Prerequisite for OPTO 1644 Ocular Disease III: OPTO 1642 Ocular Disease II

OPTO 1650, 1652, 1654 Primary Eyecare Procedures I, II, III
This course sequence covers instrumentation, examination methods, psychophysical techniques, appropriate patient instructions, protocols and recording of findings. Instruction is provided to foster progressive development of basic examination techniques and assessment of binocular skills, ocular health and primary low vision, vision therapy and contact lens evaluation. Students must successfully complete a proficiency examination at the end of each course before progressing into the next course in the sequence.

3.5 credits each course
Prerequisite for OPTO 1652 Primary Eyecare Procedures II:
OPTO 1650 Primary Eyecare Procedures I
Prerequisite for OPTO 1654 Primary Eyecare Procedures III:
OPTO 1652 Primary Eyecare Procedures II

OPTO 1656 Expanded Clinical Care
This course expands on the basic introduction to primary optometric examination including medical and ocular history, visual acuity, color vision, pupillary testing, external ocular examination, retinoscopy and ophthalmoscopy. Multiple additional testing strategies will be introduced to the clinician.

1 credit

OPTO 1670 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.

2 credits

OPTO 1672 Capstone Project: Literature Search and Study Design
The student will decide on a project hypothesis, conduct a literature search and design the study. The project may be an extensive literature review, a series of clinical cases or an experiment of basic or clinical research design under the mentorship of a faculty member.

1 credit

OPTO 1675 Visual Neurophysiology
This course presents a discussion of the neurophysiological aspects of vision. Basic neurophysiological principles will be reviewed as well as retinal anatomy as a basis for understanding ocular visual neuro-pathophysiology to allow for a better understanding of some anomalies of monocular and binocular visual processes.

2 credits

OPTO 1690, 1692 Internal Clinic Rotation Education I, II (ICARE)
Students will rotate through the Midwestern University Eye Institute and participate in direct patient care in the primary care clinic. Clinic rotations will include primary care at the Eye Institute, primary care in the MWU Multispecialty Clinic, contact lens, vision rehabilitation, binocular vision/pediatrics, sports vision, electrodiagnostics clinic, diagnostic imaging center and the optical dispensary.

1 credit each course
**OPTO 1691 Ocular Pharmacology**
This course focuses on the pharmacology of diagnostic and therapeutic agents. Specific topics include pharmacokinetics of the eye, use of autonomic agents, anti-allergic, anti-inflammatory and anti-infectious agents, and agents used to treat glaucoma. In addition, ocular effects of systemic medications will be presented.
2 credits
Prerequisite: PHAR 1601, 1621 General Pharmacology I,II

**OPTO 1695 Professional Communication and Cultural Competence**
This course covers principles of patient interviewing, patient education, techniques to enhance adherence, effective written communication and inter-professional referrals. Students will gain an understanding and be able to manage patients from diverse cultural backgrounds such as children, the elderly, individuals with disabilities and ethnic minorities.
1 credit

**OPTO 1700 Principles and Methods of Physical Assessment**
Students learn how to collect a comprehensive health history and conduct a physical examination with emphasis on head, ear, eye, nose and throat neurological screening. This course discusses the relationship of findings from the health history and physical examination to ocular health conditions and their medical management. Students learn how to interpret clinical chemistry tests results; recognize criteria for referral of patients to other providers; and learn principles of cardiopulmonary resuscitation, continuous chest compression and emergency office procedures.
3 credits

**OPTO 1720 Anomalies of Binocular Vision, Strabismus and Amblyopia**
This course is an overview of the diagnosis and principles of management of non-strabismic oculomotor, accommodative and vergence anomalies. Principles of evaluation and management of strabismus and amblyopia are covered.
3 credits

**OPTO 1722 Vision Therapy and Sports Vision**
This course emphasizes diagnosis, treatment and management of accommodative, binocular, perceptual, integrative and visual cognitive dysfunctions. Students gain an appreciation of the application of this knowledge to the enhancement of sports-related visual skills.
3 credits

**OPTO 1723 Visual Perception and Learning Disabilities**
This course is a study of the role of visual function, perception, sensory integration and cognition in the learning process. The management of visually related learning problems and disabilities, and the communication about such disabilities with parents, educators, and other professionals will be emphasized.
3 credits

**OPTO 1725 Pediatric Optometry**
Examination techniques, diagnosis, treatment and management for the infant and child are the focus of this course.
3 credits

**OPTO 1730 Ocular Therapeutics**
The course presents an overview of the treatment and management of ocular disease with emphasis on the appropriate dosages, interactions and contraindications of pharmaceutical agents. Laser procedures, how they work, their indications and adverse effects are discussed.
3 credits
Prerequisite: OPTO 1691 Ocular Pharmacology

**OPTO 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

**OPTO 1750, 1752, 1754 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. Additionally, the course sequence considers more advanced and challenging contact lens fitting for patients such as children, high and irregular astigmatism, Keratoconic patients, post-surgical and posttrauma fitting considerations as well as providing care for patients seeking prosthetic eyes.
3 credits each course
Prerequisite for OPTO 1752 Contact Lens II: OPTO 1750 Contact Lens I
Prerequisite for OPTO 1754 Contact Lens III: OPTO 1752 Contact Lens II

**OPTO 1755 Legal and Professional Aspects of Optometry**
This course covers legal, ethical, and professional concerns of optometric practice, including legal decision making, the regulatory role of government and administrative agencies, licensing procedures, professional liability and malpractice, ethical considerations, and the legal rights of patients in optometric practice.
2 credits
OPTO 1760 Capstone Project: Data Collection and Analysis
This course is a continuation of OPTO 1672. The student will further develop the capstone project, collect the data and perform statistical data analysis on data results.
2 credits

OPTO 1765 Optometric Practice Management
This course is an overview of the socio-economic considerations in the provision of primary and specialized optometric care. Invited lecturers in the field of finance, marketing and law along with established practitioners will provide the background for the development of successful optometric practices.
2 credits

OPTO 1770, 1771, 1772, 1773 Primary Eye Care Clinic I, II, III, IV
The student will provide primary eye care services under the supervision of clinical faculty. OPTO 1770 will emphasize the patient’s medical and ocular history, proper examination procedures and the correct recording of findings. OPTO 1771, 1772 and 1773 will emphasize the progressive mastery of the diagnosis, treatment and management of visual dysfunctions and ocular conditions.
OPTO 1770 Primary Eye Care Clinic I, 7.7 credits
OPTO 1771, 1772, 1773 Primary Eye Care Clinic II, III, IV, 6.7 credits each course

OPTO 1780 Board Review: Applied Basic Science
This is a review course in preparation of Part I (Applied Basic Science) of the National Boards.
2 credits

OPTO 1782 Evidence Based Medicine/Ocular Emergencies
The course will present the diagnostic and treatment strategies for common ocular emergencies ranging from minimal trauma to sudden vision loss. Students will gain skills in practicing evidence-based medicine in the management of ocular disease.
2 credits

OPTO 1785 Visual Rehabilitation
This course is an overview of the epidemiology, examination and management of patients with significant visual impairment. The use of optical, non-optical and electronic devices in the rehabilitation process and the role of other professionals such as occupational therapists and mobility specialists will be discussed.
3 credits

OPTO 1787 Neurooptometry
Diagnosis, treatment and management of neuro-eye diseases, ocular manifestations of neurological diseases, and principles of neurooptometric rehabilitation are discussed.
2 credits

OPTO 1788 Optometric Gerontology and Special Populations
This course includes discussion of the effects of aging on the visual function, perception and cognition, functional consequences of vision and aging, and interdisciplinary aspects of care and community resources and the treatment options that are available. Examination needs of special populations such as the mentally and physically impaired are also covered.
2 credits

OPTO 1790, 1792 Clinical Case Analysis I, II
Case presentations from the college clinic or optometric literature that introduce clinical diagnosis, treatment and management of patients using evidence-based clinical protocols will be the focus.
2 credits each course

OPTO 1800, 1805 Optometric Patient Care I, II
This is the first in a series of full time rotation courses. Students will provide primary eye care services in primary eye care service clinics or specialty clinics of the Midwestern University Eye Institute or selected rotation sites.
6 credits each course

OPTO 1801 Board Review: Patient Assessment and Management
This is a review course in preparation of Part II (Clinical Science) of the National Boards.
2 credits

OPTO 1810, 1815, 1820, 1825, 1830, 1835 Optometric Patient Care III, IV, V, VI, VII, VIII
These are six full time rotation courses. Students will provide primary eye care and advanced optometric care at the College’s Eye Institute or selected state, regional, national or international rotation sites. Clinical care will be complemented by case discussions. Each rotation is 4 or 6 weeks long, depending on the rotation site. Students must complete two rotations per quarter. Students must complete a minimum total of 24 weeks of full time rotation.
6-9 credits each course
12 credits per quarter, minimum

OPTO 1812 Capstone Project Completion
Beginning in the second year, students will develop the skills to design a project and perform statistical analysis of data. The project may be an extensive in depth literature review, a series of clinical cases or experiments of basic or clinical
research. Students will be mentored by a faculty member and devote a year to conduct the necessary literature review and collect data. Finally, students will present their manuscript in a publishable format, and deliver a public presentation of the work during the summer of their fourth professional year.

3 credits

**PHAR 1601, 1621 General Pharmacology I, II**
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.
PHAR 1601, 3 credits
PHAR 1621, 4 credits
Prerequisite for PHAR 1621 General Pharmacology II:
PHAR 1601 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.

**OPTO 1680 Conversational Spanish I**
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.
3 credits

**OPTO 1681 Conversational Spanish II**
This is a continuation of OPTO 1680. Students develop greater skill in basic communication in Spanish. This course emphasizes the vocabulary associated with the optometric examination. This course is for students with minimal knowledge of the Spanish language.
3 credits
Prerequisite: OPTO 1680 Conversational Spanish I

**OPTO 1682 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 (repeatable)
Prerequisite: Permission from the course director

**OPTO 1795 Third Year Clinical Skills Enhancement**
Individualized supervised clinical experiences to enhance the examination skills of students are the focus of this course.
1-3 credits

**OPTO 1895 Fourth Year Clinical Skills Enhancement**
Individualized supervised clinical experiences to enhance the examination skills of students are the focus of this course.
1-3 credits

**STUDENT ACADEMIC POLICIES**
The following academic policies apply to all AZCOPT 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 Department of Education, or other unforeseen circumstances, students will be notified in writing prior to the effective date of the new policy.

**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.

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:
   a. be placed on academic probation for a specified period of time;
   b. take an alternative approved course offered at another college or university;
   c. be considered for re-examination;
   d. repeat the course(s) in which there is a failure when the course is offered again in the curriculum;
   e. be placed in an extended program; or
   f. be dismissed from the College.
Academic Standards
An annual didactic grade point average will be used as the central measure of academic performance. It is calculated from all didactic courses for a particular professional year. Grades earned in courses taken prior to matriculation in the professional program, grades earned for courses taken at another institution while enrolled 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.

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 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 adequate 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 more than one F in a quarter, or has earned a grade of F in one or more courses that year, the student will be either dismissed or given the option to be in an extended program and repeat all of the courses in that year in which grades of F were received. This extended program year must take place in the year immediately following. A student is allowed to go through an extended program only once.

If the student does not meet the criteria for satisfactory academic performance at the end of the extended program, he/she will be dismissed.

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.

The following policies also guide decisions made by the Student Promotion and Graduation Committee:
1. At the discretion of the course director, a student with one failing grade may be administered a re-examination (retest). Re-examinations are not allowed if a student has more than one failing course grade in a quarter. A student may not be allowed to take more than a total of four re-examinations during their professional optometric course of study at the College.
2. A student must pass all required courses before entering the third year of the professional program.
3. Students must successfully resolve all “I” (Incomplete) 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.

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. The Dean makes the final decision on appeals. 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.

The student being evaluated may request to appear before the Committee during its deliberation.

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.

Externship Failure (refers to OPTO 1800, 1805, 1810, 1815, 1820, 1825, 1830 and 1835 Optometric Patient Care I-VIII)
When a student either fails or receives a withdrawal failure (WF) in an externship he/she must petition the Student Promotion and Graduation Committee within 30 calendar days after the last day of the failed or withdrawn failed externship to retake the same type of externship. After consideration of the circumstances of the failure or WF, the Student Promotion and Graduation Committee may exercise any of the following options:
1. Require the student to take coursework;
2. Recommend that the student take coursework;
3. Recommend that the student undergo a period of independent study; or
4. Require the student to wait a defined time period before repeating the externship.

The Committee’s options are not limited to the above and will be determined on a case-by-case basis. The timing of the retake will be as early as possible once the student has satisfied the Committee’s requirements and is subject to availability of sites as determined by the College. The retake,
if granted, must be completed within 12 calendar months of the date the petition is received by the Dean’s Office. If the student fails or receives a WF for the externship on the retake, he/she is dismissed from studies at AZCOPT. Students are allowed only one failed or withdrawn failed externship and one retake of the failed or withdrawn failed externship while enrolled at AZCOPT.

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 Student Promotion and Graduation Committee 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 Assistant or Associate Dean, AZCOPT. The Assistant or Associate Dean 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 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 completed.

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.

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.

Prerequisites for Courses
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 with the course description in the catalog. On a case-by-case basis, prerequisites may be waived upon approval by the Assistant/Associate Dean of the division that delivers the course.

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 Dean’s Office 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.

Course Credit
Course credits are generally determined according to the following formula: one credit is assigned to a course for three laboratory contact hours per week; two case discussion, recitation, or workshop contact hours per week; one formal lecture contact hour per week; or three contact hours of other activities per week. Each week (40 hours) of full time rotation is equivalent to 1.5 credits. Exam time could be considered part of contact time such that the instructor would have the option to count time spent on assessments as part of contact time.

Disciplinary Probation
Disciplinary probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 of the Midwestern University Student Handbook. 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 or a whole letter grading system. Elective courses may be offered as pass/fail upon the direction 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, 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 (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.

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 in one of two ways: repetition or re-examination of the course. The decision to permit a student to repeat or to take a re-examination of the course rests with the department offering the course and the Committee. Following either successful repetition or re-examination of the course, the permanent record of the student will be updated to indicate that the failing grade has been successfully corrected.

If re-examination of the course was successfully completed, a grade of C or P if the course is a pass/fail course, is registered in place of the F, and the student’s cumulative grade point average will reflect the change.

If a student repeats a course, the course is entered twice in the permanent record of the student. 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.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Points Per Credit</th>
<th>Grade</th>
<th>Quality Points Per Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00 Superior Attainment</td>
<td>I</td>
<td>Incomplete Coursework</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
<td>P</td>
<td>Passing</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
<td>W</td>
<td>Withdrawal with no penalty and no credit</td>
</tr>
<tr>
<td>B</td>
<td>3.00 Meritorious Attainment</td>
<td>W/F</td>
<td>Withdrawal/Failing</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
<td>IP</td>
<td>In-Progress</td>
</tr>
<tr>
<td>C</td>
<td>2.33</td>
<td>—</td>
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</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>Failure</td>
<td>0.00</td>
</tr>
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</table>

Re-examination (Retest)
Re-examination occurs when a student fails a course, but qualifies for a re-examination. It is the prerogative of the course director to offer or not offer a re-examination for a course failure and to determine the eligibility criteria for a re-examination. If a course director has a re-examination policy, it should be stated in the course syllabus.

If a student qualifies for a re-examination, a grade of “I” or “IP” should be submitted to the Registrar at the end of the quarter. If the student passes the re-examination, the grade of “I” or “IP” will be converted to the minimal passing grade of the college/program. If the student fails the re-examination, the grade of “I” or “IP” will be converted to a grade of “F.”

Retake
Retake occurs when formal repetition of an entire course or a portion of the course is required due to course failure. A course may be retaken when:
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/Academic Review Committee of each college/program to recommend a retake of a course. The academic review committee following department approval will determine the nature of the retake and the time frame for completion of the repeated course. The course may be repeated at MWU or at an outside institution. The options for repeating a course at MWU may include a directed readings remedial course with examinations to repeating the course in its entirety the next academic year. In either case, the student must be registered for the course and will be charged the appropriate tuition. A repeated course at an outside institution must be approved by the department/program 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 in order to apply the credit toward MWU degree requirements. Students are responsible for all costs associated with repeating a failed course at another institution.

Transportation to/from Externship Sites
It is the student’s responsibility to assure that he/she has appropriate arrangements for transportation to/from externship sites throughout the curriculum. Transportation is not provided by the College.

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