MIDWESTERN UNIVERSITY

Glendale, AZ

CATALOG 2008-2009

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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

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
  • Podiatric Medicine Program
  • Nurse Anesthesia Program
  • Clinical Psychology Program

College of Dental Medicine

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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.

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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 health care 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 health care. I am proud to say that our students and alumni reflect the positive human values we believe are essential within the changing health care 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. Goeppeinger, Ph.D.
President & Chief Executive Officer

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MISSION

Midwestern University’s historical and sustaining philosophy dedicates the institution and its resources to the highest standards of academic excellence to meet the educational needs of the health care 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 and the College of Health Sciences (CHS) began in 1992. 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, 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 (CDM) 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, student housing, and an on-campus multidisciplinary clinic.

Midwestern University has developed strong partnerships with health care 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 (30 N. LaSalle Street, Suite 2400, Chicago, IL 60602-2504; 312/263-0456; <www.ncacihe.org>). Please refer to the specific college sections of this catalog for further information on program and professional accreditation.

**CONFERRED 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, the bookstore, student mailboxes, plus staff support offices.
- Midwestern University Clinic, includes family medicine, osteopathic manipulative medicine, podiatry, optometry, clinical psychology, and pharmacy services.
- 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, art and craft rooms, yoga/pilates room, handball courts, exercise equipment and showers/locker rooms.
- Glendale Hall, featuring classroom, labs and faculty offices.
- A new auditorium that seats 2,900, and breaks down to 5 state-of-the-art classrooms.
- 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 to 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
CRIMINAL BACKGROUND CHECKS

Due to growing concerns nationwide regarding the suitability of today’s health care providers, many hospitals and other institutions or businesses providing health care services require disclosure of an individual’s criminal history. In addition, many state statues also require disclosure of an individual’s criminal history in order to apply for certain health care certificates and licenses. Existence of a criminal history may subject an individual to denial of initial license or health care certificates and licenses. In response to this growing trend, Midwestern University requires matriculating students to submit to a criminal background check.

It is the policy of Midwestern University that all students are to 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. In accordance with the laws of the State of Illinois, CCOM students are required to undergo fingerprinting as part of the criminal background check process.

The criminal background check involves obtaining a waiver from a matriculating or current student to authorize an external agency 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 academic dean so the University can make a determination whether the criminal history will negatively impact the student’s admission status or academic progress.

Criminal background checks will be conducted through the Department of Student Services as part of the initial student matriculation process and on an as-needed basis thereafter while a student is enrolled at Midwestern University.

1. All matriculating students must fill out the required paperwork in order to authorize the Department of Student Services to conduct the criminal background check. Students who are offered to matriculate are provided with a copy of the policy and criminal background check authorization form as part of the matriculation agreement packet.
2. The Department of Student Services will initiate a criminal background investigation.
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 history of a misdemeanor or felony conviction exists, the Dean of Students in consultation with the academic dean (or their designees) will determine whether or not the student should be disqualified from matriculation or continued enrollment. 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 matriculation and/or dismissal from the program and University. Students must disclose any felony charge/conviction, regardless of whether or not the felony charge/conviction was subsequently reduced to a misdemeanor.
5. Failure of the student to present appropriate forms to the Department of Student Services for the purpose of conducting criminal background checks will bar the student’s initial matriculation and/or continued enrollment.
6. Students with a positive criminal background check are individually responsible for checking the licensing and certification requirements in any state where the student is interested in participating in a 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.
HARASSMENT/HOSTILE WORKING ENVIRONMENT
Midwestern University believes in the dignity and worth of its students, faculty, staff, interns, and residents and will not tolerate unacceptable conduct or behavior that 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. Those individuals who believe that they have been harassed may obtain redress promptly and equitably through formal and informal procedures of the University, as outlined in the policy section of the MWU Student Handbook.

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, visual or written) 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. Among the types of conduct prohibited by this policy are teasing, jokes, slurs, epithets, and negative stereotyping based on another person’s protected status. Even where the conduct is not sufficiently severe or pervasive to rise to the level of a legal violation, MWU discourages any such conduct in the workplace and/or any of our related educational settings and reserves the right to take remedial action for all conduct it deems inappropriate.

This policy applies to all members of the University community, each of whom is encouraged to report promptly complaints about harassment. Anyone found to be in violation of this harassment policy shall be subject to disciplinary action, which may include, but is not limited to, disciplinary warning, disciplinary probation, demotion, transfer, suspension, or dismissal.

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

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

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

A third party may also file a complaint under this policy if the sexual conduct of others in the educational or work environment has the purpose or effect of substantially interfering with the third party’s welfare, academic or work performance.

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
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888/247-9277
admissaz@midwestern.edu

Office of Admissions
Midwestern University
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630/515-6171
800/458-6253
admissil@midwestern.edu

STUDENT SERVICES
The mission of the Department 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 between the colleges that can be carried on throughout students’ professional lives.

The Department of Student Services is located in the Barrel Student Center on the Glendale campus and is composed of the Offices of the Dean, Assistant Dean, Student Activities,
Student Counselor and Residence Life. The Department coordinates a variety of student support service functions within the University. The Department 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 counseling, MWU Student Recycling Program, intramural sports, and other developmental activities. The Department 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 at each campus are represented through a campus-wide Student Senate. Each Student Senate is composed of 15 members. Four members represent each college within the campus. The remaining 3 members are the Speaker of the Student Senate, Vice Speaker, and the Secretary. Meeting every other month, the Student Senate provides a mechanism for governance of campus-wide activities and functions. It also provides a vehicle for the exchange of ideas and perceptions concerning student issues that cross college lines.

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

College Level
Individual college student councils (Student Government Associations-SGAs) function to provide governance for student issues related to the individual colleges, as well as conducting all class and college-wide elections. Adoption of bylaws governing the individual college student councils is at the discretion of the elected/appointed officers of these councils. 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 offices; (6) duties of student council members; (7) meeting schedules; (8) parliamentary procedure; (9) procedural considerations (quorums, role of individual class officers, etc.); and (10) adoption and amendment procedures.

Student Organizations
The following student organizations are recognized by the Student Senate, respective Student Councils, and the Dean of Students and have been approved by the Dean of the respective college. Students interested in obtaining more information about any of these organizations or having any questions concerning how to apply for membership, should contact the president(s) of the respective organization(s). A list of the officers is available from the Department of Student Services. Descriptions of each organization are found in the Student Handbook on the Student Services Website.

MWU-Glendale Clubs/Organizations
Glendale Campus
Athletics Club
The Catholic Club
Christian Medical Dental Association (CMDA)
Family Matters Club
Jewish Student Union
Latter Day Saints Student Association (LDSSA)
Midwestern University Intercultural Student Health Association (MISHA)
Muslim Student Association
Rainbow Network
Running Club

Arizona College of Osteopathic Medicine
American College of Osteopathic Family Practitioners (ACOFP)
American Medical Student Association (AMSA)
Association of Military Osteopathic Physicians & Surgeons (AMOPS)
Student Counseling
The Glendale campus has a full-time student counselor. The Student Counselor is 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 Department of Student Services to those students having academic problems through the Department 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 Recreation and Wellness Hall. These facilities currently include a weight room, sand volleyball court, an outdoor basketball court, a ping-pong table, and, for resident students, a swimming pool and onsite volleyball area.

Additionally, students may participate in numerous activities sponsored by the University, including volleyball, soccer, basketball, ping-pong tournaments, softball competitions, and group activities such as martial arts training, yoga, running, and hiking.

STUDENT FINANCIAL SERVICES
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.

Students may contact the Glendale Office 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.

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.

**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. In addition, students who have been convicted of the possession or sale of illegal drugs for an offense that occurred while receiving federal Title IV aid may not be considered eligible for future, additional federal aid. Students who have an established history of debt nonpayment may qualify for federal loan programs but do NOT qualify for campus-based aid.

**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 Office of Student Financial Services.

**Financial Aid On-Line Application**
On-line application instructions for the upcoming financial aid award year are made available on an annual basis during January and February 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.

**Financial Aid Programs**
The Office of Student Financial Services helps coordinate three types of financial aid: scholarships and grants, employment programs, and loans.

**Scholarships and Grants**

**All Programs**
MWU Unmet Need Scholarship: Awarded to students who demonstrate the most significant financial need as determined by their Free Application for Federal Student Aid. 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 three 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.

**Medical Programs, Podiatry, and Pharmacy Programs**
WICHE: Arizona College of Osteopathic Medicine, Arizona Podiatric Medicine Program, and College of Pharmacy-Glendale participates 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 write to 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 consult the MWU Student Financial Services Office, WICHE Professional Student Exchange Program, 3035 Center Green Drive, Suite 200, Boulder, CO 80301-2204 (303/541-0210), or the WICHE Web site at <http://www.wiche.edu>.

**Health Science Programs**

1. Federal Pell Grant: Undergraduate students with exceptional financial need who do not possess a baccalaureate degree may qualify for up to $4,731 per academic year from this federally funded program. These monies are a form of grant assistance and do not have to be repaid.

2. National SMART Grant: Third or fourth year undergraduate students who do not possess a baccalaureate degree may qualify for up to $4,000 per academic year from this federally funded program. In order to be considered for this grant, students must be U.S. citizens, eligible for a Federal Pell Grant, majoring in biomedical sciences and enrolled full-time. In addition, the student must also have maintained a cumulative grade point average of at least 3.0 in coursework required for biomedical sciences.

3. Leveraging Educational Assistance Partnership (LEAP) Program: This state grant program awards up to $500 per academic year to needy students enrolled at least half-time who are permanent residents of the State of Arizona. Monies must be applied to tuition and do not have to be repaid.

4. Federal Supplemental Education Opportunity Grant: Undergraduate students who do not possess a baccalaureate degree who demonstrate exceptional financial need may qualify for up to $3,311 per academic year from this federally funded, campus-based aid program.
5. Postsecondary Education Grant (PEG) Program: This program is administered by the Arizona Commission for Higher Education. This state grant program awards up to $2,000 per academic year for up to four years. You must be a graduate of an Arizona high school, enrolled at least half-time and have Arizona state residency for the past one year. Only undergraduate students who do not possess a baccalaureate degree may qualify for this program.

6. WICHE: The physician assistant program and the occupational therapy program, Glendale Campus, participates 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 write to 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 consult the MWU Student Financial Services Office, WICHE Professional Student Exchange Program, 3035 Center Green Drive, Boulder, CO 80301-2204 (303/541-0210), or the WICHE Web site at <http://www.wiche.edu>.

Employment Programs
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 biweekly at the rate of $8.00 per hour for regular work study and $10.00 per hour for community service work study, effective July 1, 2008 through June 30, 2009.

Student Loans
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 for this program 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 law, and is subject to the availability of funds. For the 2007-2008 academic year the amount was $61,242 per student.

All Programs
1. Federal Perkins Loan: Qualified undergraduate and graduate students with exceptional financial need may borrow from this campus-based loan at the current 5% interest rate. Loan amounts and availability of funding are dependent on annual Federal allocations. Awards typically range from $1000 to $3500 per academic year. A student may borrow an aggregate maximum of $40,000 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 Stafford Loan: Qualified undergraduate students may borrow up to $5,500 per academic year, with an aggregate maximum of $23,000 for undergraduate study. Qualified graduate or master’s level students may borrow up to $8,500 per academic year, with an aggregate maximum of $65,500 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 Stafford Loan: Qualified undergraduate students may borrow up to $10,500 (if independent) or $5,000 (if dependent) per academic year, with an aggregate maximum of $46,000 (if independent) or $23,000 (if dependent) for undergraduate study (including amounts borrowed under the Subsidized Stafford program). Qualified graduate level students may borrow up to $20,500 per academic year with an aggregate maximum of $138,500 for undergraduate and graduate study. First and second year AZCOM, first year dental and first year AZPod students may qualify to borrow up to $40,500 and first year CPG students may qualify to borrow up to $37,167 per academic year with an increased aggregate loan...
maximum of $189,125, (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 Parent Loan for Undergraduate Students (PLUS): Parents of qualified, dependent, undergraduate students may borrow up to the budgeted cost of attendance less other aid. Parents borrowing the PLUS loan must repay their loan at a fixed interest rate of 8.5%. Repayment of the loan begins 60 days after the last disbursement for the loan period occurs. A parent may qualify for a deferment if attending college on at least a half-time basis. Parents should check with the lender for deferment eligibility.

5. Federal Graduate PLUS loan: 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 8.5%. Repayment of the loan begins 60 days after the last disbursement for the loan period occurs. A student may qualify for a deferment if attending college on at least a half-time basis. Students should check with the lender for deferment eligibility.

6. Private Educational Loans: 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 is usually based on the Prime, LIBOR or T-Bill rate plus a 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 the lender for further details on postponement or deferment of loan payments.

Additional information regarding scholarship and loan programs can be found in the Midwestern University Financial Aid Handbook. Students are encouraged to check with local churches, 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.

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 pro-rated, and expected program completion per academic year (% of coursework completed in terms of credit hours per quarter) pro-rated.

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, (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 academic 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 academic 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 academic 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. 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.

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/hers 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 based on personal mitigating circumstances.

MWU Standards of Satisfactory Academic Progress for Financial Aid Eligibility

<table>
<thead>
<tr>
<th>Academic Program</th>
<th>Standard &amp; Maximum Time Frames for Program Completion (in years)</th>
<th>Expected Program Completion Per Academic Year (% of coursework completed)</th>
<th>Minimum Cumulative GPA Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZCOM (full-time)</td>
<td>4 6</td>
<td>17%</td>
<td>2.00</td>
</tr>
<tr>
<td>AZCOM (extended studies)</td>
<td>5 7</td>
<td>14%</td>
<td>2.00</td>
</tr>
<tr>
<td>CPG-Pharm.D.</td>
<td>3 5</td>
<td>20%</td>
<td>2.00</td>
</tr>
<tr>
<td>CHS-Biomedical Sciences (B.B.S.)</td>
<td>2 3</td>
<td>33%</td>
<td>2.25</td>
</tr>
<tr>
<td>CHS-Biomedical Sciences (M.B.S.)</td>
<td>2 4</td>
<td>25%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-Biomedical Sciences (M.A.)</td>
<td>1 1.5</td>
<td>66%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-PA M.M.S.</td>
<td>2.25 (27 mos.) 3.33 (40.5 mos.)</td>
<td>30%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-M.O.T.</td>
<td>2.25 (27 mos.) 3.33 (40.5 mos.)</td>
<td>30%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-Bioethics, (M.A.)</td>
<td>2 5</td>
<td>20%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-Bioethics Cert.</td>
<td>2 5</td>
<td>20%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-Cardiovascular Science (M.S.)</td>
<td>2 3</td>
<td>33%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS Podiatric Medicine (D.P.M.)</td>
<td>4 6</td>
<td>17%</td>
<td>2.00</td>
</tr>
<tr>
<td>CHS CRNA</td>
<td>2.25 (27 mos.) 3.33 (40.5 mos.)</td>
<td>30%</td>
<td>2.75</td>
</tr>
<tr>
<td>CHS-Clinical Psychology (Psy.D.)</td>
<td>4 7</td>
<td>14%</td>
<td>2.75</td>
</tr>
<tr>
<td>CDM (full-time)</td>
<td>4 6</td>
<td>17%</td>
<td>2.00</td>
</tr>
<tr>
<td>CDM (extended studies)</td>
<td>5 7</td>
<td>14%</td>
<td>2.00</td>
</tr>
</tbody>
</table>
The above policy is subject to change during the 2008-2009 academic year. If revised, an addendum will be distributed to all enrolled students.

Academic Status Chart for Determining Financial Aid Eligibility

<table>
<thead>
<tr>
<th>Academic Status</th>
<th>credit hours per quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time</td>
<td>12 credit hours minimum</td>
</tr>
<tr>
<td>Three-Quarter Time</td>
<td>9-11</td>
</tr>
<tr>
<td>Half-Time</td>
<td>6-8</td>
</tr>
<tr>
<td>Less than Half-Time</td>
<td>5</td>
</tr>
</tbody>
</table>

Please Note: Classes in which students are auditing (receiving a pass/fail grade) 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, "F" Failure, or "W" Withdrawal.

The above policy is subject to change during the 2008-2009 academic year. If revised, an addendum will be distributed to all enrolled students.

Leave of Absence Policy and Procedure

A. Any student requesting a leave of absence while enrolled at Midwestern University must adhere to the policies and procedures established by his/her academic 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 tuition or any educational expenses during the leave of absence. However, in order to continue coverage for long-term disability insurance and/or health 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 a military reason, jury duty, or a circumstance covered under the Family and Medical Leave Act of 1993 (FMLA).

5. 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.

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 granted an approved leave of absence by his/her academic dean that exceeds 90 days must adhere to the leave of absence policy and reinstatement procedures established by the dean.

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 reason, 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 academic 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 premiums during the leave. In addition a student on a leave of absence may continue to live in on-campus housing for the duration of the leave, but must pay in advance per quarter or must establish a payment plan with the Accounts Receivable Office. 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 academic 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;
      (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 academic 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.

Please Note: Changes in federal, state, and/or university policies could affect the Office of Student Financial Services information printed in this catalog. MWU reserves the right to make changes in any or all of the information contained therein, and to apply such revision to registered and accepted students as well as to new admissions.

**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 academic 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 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.

**Return of Federal 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, Federal Pell Grant, Federal SEOG Grant, LEAP Grant, National SMART Grant, Federal Perkins loans, subsidized Federal Stafford loans, unsubsidized Federal Stafford loans, Graduate PLUS loans and the Federal Work-Study (FWS) program. However, LEAP and 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.
• 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. Students withdrawing from the University may be eligible for a partial refund of disability insurance fees.

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.
• 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. Students withdrawing from the University may be eligible for a partial refund of disability insurance fees.

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

G. All refunds will be distributed in the following order as prescribed by federal law.
1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Perkins Loan
4. Federal Graduate PLUS Loan
5. Federal PLUS Loan
6. Federal Pell Grant
7. National SMART Grant
8. Federal SEOG
9. Other Title IV Aid Programs (LEAP Grant)
10. Other Federal Sources of Aid (PCL)
11. Other state or private aid*
12. Institutional aid (MWU Unmet Need Scholarship, CPG Loan and Dr. Lucas Loan)**
13. 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.

H. Students who borrowed and received monies from the unsubsidized/subsidized Federal Stafford loans, Federal 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).

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

J. 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.

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, except for the Bioethics and Master of Health Profession Education programs, which are all billed on a per credit hour basis. 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 site at http://online.midwestern.edu. Options for payment include debit card, credit card or direct debit from your checking or savings account. MWU accepts Visa, MasterCard, American Express, and the Discover Card 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:

Midwestern University
ATTN: Office of Student Financial Services
Accounts Receivable Department
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.

Fee Charges
All full and part-time degree seeking students enrolled in a full academic year (3 or 4 quarters) 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 hours; CHS Graduate >23 hours, CHS Bachelors >21 hours; CHS Podiatric Medicine >27 hours; CDM >30 credit hours.

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 a 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 http://online.midwestern.edu to set up the payment plan.
2. Payment plans will be effective for the entire quarter.
3. A fee of $20 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% 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. The quarter is 3 months long. $10,500/3 = $3,500 payment 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 2008-2009 academic year in September 2008 who wishes to prepay his/her 2009-2010 tuition must make this prepayment for the first year of study. Prepayment of the entire program’s tuition must be paid in full by the first day of matriculation.

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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.

**Direct Deposit**

Direct deposit for financial aid refund checks is mandatory. Students requesting to appeal 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 submitted 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 the deposit has cleared prior to writing checks.

A direct deposit made in error must immediately be returned to MWU.

**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 bills on time so that they are not dropped from the rolls of their appropriate college.

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

1. 1% 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 $5.00 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 your Dean’s office.
5. Dropped from rolls 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. Account reported 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:

- Circumstances beyond the student’s control (i.e., non-arrival of financial aid, scholarship, or grant funds by the due date);
- A payment plan has been approved by the Office of Student Financial Services;
- 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 you will be required to pay by cashier’s check or money order. No exception will be made.

**Glendale Tuition and Fees (for academic year 2008-2009)**

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 2% and 7% annually.

<table>
<thead>
<tr>
<th>Program</th>
<th>Residency</th>
<th>Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZCOM</td>
<td>In-State &amp; Out-of-State</td>
<td>$43,304</td>
</tr>
<tr>
<td>CPG</td>
<td>In-State &amp; Out-of-State</td>
<td>$36,004</td>
</tr>
<tr>
<td>PA M.M.S.</td>
<td>In-State &amp; Out-of-State</td>
<td>$30,374</td>
</tr>
<tr>
<td>OT M.O.T.</td>
<td>In-State &amp; Out-of-State</td>
<td>$26,708</td>
</tr>
<tr>
<td>Bio. Sci. B.B.S.</td>
<td>In-State &amp; Out-of-State</td>
<td>$18,906</td>
</tr>
<tr>
<td>Car. Sci. M.S.</td>
<td>In-State &amp; Out-of-State</td>
<td>$26,627</td>
</tr>
<tr>
<td>Bioethics M.A.</td>
<td>In-State &amp; Out-of-State</td>
<td>$528/credit hr.</td>
</tr>
<tr>
<td>MHPE</td>
<td>In-State &amp; Out-of-State</td>
<td>$528/credit hr.</td>
</tr>
<tr>
<td>AZPod</td>
<td>In-State &amp; Out-of-State</td>
<td>$27,214</td>
</tr>
<tr>
<td>CRNA</td>
<td>In-State &amp; Out-of-State</td>
<td>$27,777</td>
</tr>
<tr>
<td>PsyD</td>
<td>In-State &amp; Out-of-State</td>
<td>$22,535</td>
</tr>
<tr>
<td>Dental Medicine *</td>
<td>In-State &amp; Out-of-State</td>
<td>$48,881</td>
</tr>
</tbody>
</table>

For the 2008-2009 academic year, all programs (both full-time and part-time) have a yearly $350 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: Supply fee $3,250; Instrument Rental Fee $1,500; Sim Lab and Clinic Fee $3,900.
SUMMER QUARTER 2008
Memorial Day *No Class*
OCM IV Didactic Lectures
Classes Resume (PS10/PS09)
Orientation (PAI/NAI/PS11)
Commencement *No Class*
Classes Begin (PAI/NAI/PS11) Resume (OTII/BMS/PMI/PMII/CPI)
OCM III Introduction to Clerkship
Independence Day *No Class*
Last Day of Class (PS10/PS09)
Quarterly Exams (PS10/PS09)
Last Day of Class (PAI/NAI/PS11/OTII/BMS/PMI/PMII/CPI)
Quarterly Exams (PAI/NAI/PS11/OTII/BMS/PMI/PMII/CPI)
Quarter Break (PAI/NAI/PS11/OTII/BMS/PMI/PMII/CPI)

FALL QUARTER 2008
Classes Begin (PS09)
Orientation (MSI/OTI/PMI/BMS/CVSP/PSI/DMI)
Program Completion (PAIII)
Labor Day *No Class*
Classes Begin
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Last Day of Class (PS09)
Quarterly Exams (PS09)
Last Day of Class
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Quarterly Exams
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Thanksgiving Break
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Thanksgiving Break (PS10)

WINTER QUARTER 2008
Classes Begin (PS10) This is a 9-week quarter
Classes Begin
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
White Coat Ceremony
Winter Break
(MSI/MSII/PS10/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Classes Resume
(MSI/MSII/PS10/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Martin Luther King, Jr. Day *No Class*
Last Day of Class (PS10)
Quarterly Exams (PS10)
Last Day of Class
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Quarterly Exams
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
Spring Break
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTII/BMS/CVSP/PSI/DMI)
SPRING QUARTER 2009

Classes Resume (PS10) February 2, 2009
Classes Resume
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/OTI/OTII/BMS/CVSPI/CPI/CPII/DMI)

Last Day of Class (PS10) March 9, 2009
Quarterly Exams (PS10)
Quarter Break (PS10)

Last Day of Class
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSPI/CPI/CPII/DMI)
Quarterly Exams
(MSI/MSII/PS11/PAI/NAI/PMI/PMII/PMIII/OTI/OTII/BMS/CVSPI/CPI/CPII/DMI)

OCM III Exam Week (MSIII) April 10, 2009
Quarter Break (PS11) April 13 - 17, 2009
Quarter Break (NAI/PMI/PMII/OTI/OTII/BMS/CVSPI/CPI/CPII/DMI)
Quarter Break (MSII) April 20 - 24, 2009
Quarter Break (MSII)
Quarter Break (MSIII) April 20 - 24, 2009
Prep for Clinical Practice (PAI/CVSPI) May 15, 2009
Quarter Break (PAI/CVSPI)

COMMENCEMENT (MS, CVSP, OT, PM, BMS) *See Syllabus for Class Schedule* May 18 - 22, 2009
COMMENCEMENT (PS09) *See Syllabus for Class Schedule* May 18 - 22, 2009
COMMENCEMENT (PA, NA) *See Syllabus for Class Schedule* May 18 - 22, 2009

COMMENCEMENT (MS, CVSP, OT, PM, BMS) *See Syllabus for Class Schedule* June 5, 2009
COMMENCEMENT (PS09) *See Syllabus for Class Schedule* June 12, 2009
COMMENCEMENT (PA, NA) *See Syllabus for Class Schedule* August 28, 2009
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.

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.

ACCREDITATION
The Arizona College of Osteopathic Medicine is accredited by the Commission on Osteopathic College Accreditation (COCA). COCA is recognized as the accrediting agency for colleges of osteopathic medicine by the United States Office 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 American Osteopathic Association, 142 E. Ontario St., Chicago, IL 60611; 800/621-1773.

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.

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 2006, AZCOM received nearly 2,400 applications for its 140 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.

Admission Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Biology with Lab</td>
<td>8 Semester/12 Quarter hours</td>
</tr>
<tr>
<td>General Chemistry with Lab</td>
<td>8 Semester/12 Quarter hours</td>
</tr>
<tr>
<td>Organic Chemistry with Lab</td>
<td>8 Semester/12 Quarter hours</td>
</tr>
<tr>
<td>Physics</td>
<td>8 Semester/12 Quarter hours</td>
</tr>
<tr>
<td>English Composition</td>
<td>6 Semester/9 Quarter hours</td>
</tr>
</tbody>
</table>

1. Complete the above prerequisite courses. No grade less than C will be accepted for any prerequisite course. (A grade of C- will not be accepted.)

2. To be competitive, an applicant should possess both a science and total GPA over 3.00 on a 4.00 scale as well as a bachelor’s degree. A minimum science and overall GPA of 2.75 on a 4.00 scale is required to receive a supplemental application.

3. Complete a bachelor’s degree at an accredited college or university 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.
To initiate the application process, all applicants must submit two letters of recommendation. One letter must be from either a premedical advisory committee or science professor who has taught the applicant. The second letter must be from either a D.O. or an M.D. Letters from osteopathic physicians are strongly recommended. Letters written by immediate family members will not be accepted. All letters of evaluation must be submitted by the evaluators. The Office of Admissions does not accept letters submitted by students.

Demonstrate a sincere understanding of and interest in osteopathic medicine.

Reflect a people/service orientation through community service or extracurricular activities.

Reflect proper motivation for and commitment to health care as demonstrated by previous work, volunteer, or other life experiences.

Possess the oral and written communication skills necessary to interact with patients and colleagues.

Pass a criminal background check.

Abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.

Students must sign a statement that they meet the technical standards upon their acceptance. Candidates who may not meet the technical standards are encouraged to contact the Director of Admissions to discuss and identify what accommodations, if any, the College would need to make in order that the candidate might be able to meet the standards.

International Applicants

International applicants who are not US citizens should contact the admissions department for specific instructions.

Application Process

**Step One: AACOMAS Application – January 1, 2009 Deadline** To initiate the application process, all applicants must apply online via the centralized application service administered by AACOM at http://aacomasaacoma.org/. The AACOMAS application is typically available in early June. As part of this process, you must submit official MCAT scores (for tests taken no earlier than April 2005) and official transcripts directly to AACOMAS. The Office of Admissions will not accept MCAT scores or transcripts submitted directly to Midwestern University. The deadline for submission of the AACOMAS application is January 1.

**Step Two: AZCOM Supplemental Application – March 13, 2009 Deadline** Upon receipt of the AACOMAS application from the application service, the Midwestern University Office of Admissions will email the supplemental application to all applicants who possess both a minimum overall GPA and science GPA of 2.75. Applicants must complete and submit the supplemental application form 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 3, 2008.

**Step Three: Letters of Recommendation – March 13, 2009 Deadline** Applicants must submit two letters of recommendation. One letter must be from a prehealth advisory committee or science professor who has taught the applicant. The second letter must be from 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 3, 2008. Letters must adhere to the following guidelines:

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

**Step Four: Completed Applications – March 13, 2009 Deadline** All application materials, including the AACOMAS application, MCAT scores (as reported to AACOMAS), two required letters of recommendation, and all supplemental application materials with the application fee must be received in the Office of Admissions on or before March 3, 2008. Only completed applications received by the Office of Admissions on or before the deadline date will be reviewed for potential fall 2008 enrollment.

**Step Five: Application Review/Interview Decisions** AZCOM uses a rolling admissions process to review completed applications and make interview decisions. Applications will not be reviewed until all required application materials have been received by the Office of Admissions, including the AACOMAS application, official MCAT scores (as reported to AACOMAS),
supplemental application materials, processing fee, and both required letters of recommendation. Please complete your file as soon as possible to be competitive in this process and to ensure full consideration of your application.

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 website 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 email address. All requests for withdrawing an application must be done in writing. Applicants are expected to act professionally in their interactions with AACOMAS and with AZCOM. Please follow AACOM’s applicant protocol at all times.

Application Deadline
The official AACOMAS application deadline is January 1st; however, applicants are strongly encouraged to apply early in the cycle. Due to the large number of applications and the limited number of seats available, applications will be considered on a first-come, first-served basis only until all seats are filled. Typically, 50% of all admissions offers are made by the end of December.

Interview/Selection Process
To be considered for an on-campus interview, applicants must meet all of the admissions requirements listed previously. After the Office of Admissions receives all of the required application materials, the applicant’s file is reviewed to determine if the applicant merits an invitation to interview, based on established criteria of the admissions committee. Applicants who are invited to interview will be contacted by the Office of Admissions and instructed on how to schedule their interview via our 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.

If an applicant accepts an interview, he/she joins several other interviewees in meeting 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 each applicant about his/her academic, personal, and health care preparedness for medical school, rating the applicants on a standardized evaluation form relative to each of these variables. At the conclusion of the interviews, the team members forward their evaluation for each applicant 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 the student of his/her status within three or four weeks of the interview.

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

Technical Standards for Admission
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, it follows that 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: 1) observation; 2) communication; 3) motor; 4) intellectual, conceptual, integrative, and quantitative; and 5) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

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

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 do the following:

1. Submit deposit monies and administrative fees by the dates designated in his/her matriculation agreement—the entire amount is applied toward the student’s first quarter tuition.

2. Submit official transcript(s) from all colleges attended post-high school by the date designated in his/her matriculation agreement. (Note: The information provided on the student’s AACOMAS application is verified against the information provided on the student’s transcript(s). If the course and degree information on the application cannot be verified, the student’s offer of admission is revoked.)

3. Submit a completed medical file as instructed in the packet sent by the Office of Student Services.

4. Submit proof of medical insurance coverage. The student may select either a plan offered by AZCOM or an AZCOM-approved outside carrier.

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. Pass a criminal background check.

8. Abide by Midwestern University Drug-Free Workplace and Substance Abuse policy.

9. Complete physical exam and submit form.

10. Sign Credit Policy Statement.

To conclude the matriculation process, a student must do the following: 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. For students who are accepted to MWU less than one month prior to the first day of classes, they will have 30 calendar days from the date of their acceptance to submit all official transcripts to the Office of Admissions. Requests for exceptions to this policy must be made to the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.

If a student either fails to satisfy these matriculation requirements and/or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat at the College. The student receives no further notification relative to this forfeiture.

Combined D.O./Master’s Program
Students in good academic standing may apply to the AZCOM Dean for this combined program. Through the Biomedical Sciences Program of Midwestern University, D.O. students may enroll in this dual-degree option in either Bioethics (M.A.) or Health Professions Education (M.H.P.E.). Both degrees are intended to supplement the educational experience and career opportunities for D.O. students. The Bioethics program will provide the student the background necessary to understand the process by which ethical decisions are made related to patient care and health care practice. The Health Professions Education program will provide the student with the background necessary to become an effective educator in the field of medicine. Degrees can be completed while simultaneously completing the requirements for the D.O. degree. See the Biomedical Sciences Program catalog or call the Office of Admissions for more details.

Deferred Admission
Dequections are only considered under extreme circumstances where a student is physically unable to begin classes. If granted, a student may defer their admission for one year only.

To initiate the deferred admission process, a student must make his/her request in writing to the Director of Admissions by the date designated in his/her matriculation agreement. The request must be accompanied by a letter from the student’s physician documenting the conditions that prevent the student from beginning his/her medical education. The Director then responds to the request with a letter detailing the specific conditions associated with deferral. Typically, the conditions include the following:

1. The student must submit his/her remaining deposit monies by the first week of December during the year preceding his/her matriculation at the time of request of deferral.

2. The student must provide a letter from his/her physician stating that the student can begin his/her medical education.

The student is NOT required to interview again or submit another supplemental application or letters of evaluation.

Reapplication Process
After receiving either a denial or end-of-cycle letter, an applicant may reapply for the next enrollment cycle. Before reapplying, however, the applicant should seek the advice of an admissions counselor.
To initiate the reapplication process, the applicant must submit an application to AACOMAS. The application is then processed in the same manner as any other.

**Transfer Admission**

AZCOM may elect to accept transfer students from other U.S. osteopathic medical schools as long as these students are in “good academic standing” and have an acceptable reason(s) for seeking a transfer. By the Commission on Osteopathic College Accreditation (COCA) standards, the last 2 years of instruction must be completed within the college of osteopathic medicine granting the DO degree.

To be considered for transfer, a student must meet the College’s general requirements for admission. He/she must also observe the following procedure:

1. All inquiries for transfer to AZCOM must be submitted to the Admissions Office.
2. The Admissions Office will confirm the availability of rotation sites through the Division of Clinical Education.
3. If sites are available, an application is sent.
4. Complete application is returned to the Admissions Office and must also 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 application is forwarded to the Associate Dean for Clinical Education.
6. Application is reviewed by the Associate Dean for Clinical Education who conducts an interview with the applicant and the Chairs.
7. Their recommendation is forwarded to the Dean of AZCOM.
8. Applicant is notified by the Dean of the final 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 complete all graduation clearance requirements as instructed by the Office of the Registrar.

Effective for the entering class of 2004 with an expected graduation date of 2008, 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.

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### CURRICULUM

#### First Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall Quarter (10 weeks)</strong></td>
<td>CORE 1460 Interdisciplinary Health Care 0.5</td>
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<tr>
<td></td>
<td>ANAT 1511 Gross Anatomy I 5.0</td>
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<td></td>
<td>BIOC 1511 Biochemistry I 7.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FMED 1511 Clinical Correlates/ICM I 3.0</td>
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</tr>
<tr>
<td></td>
<td>HIST 1511 Histology/Embryology I 4.4</td>
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<td></td>
<td>OMED 1511 Osteopathic Medicine I 2.5</td>
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<tr>
<td></td>
<td>PSYC 1511 Intro. to Human Behavior I 1.0</td>
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<td>PHYS 1521 Physiology I 5.5</td>
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<td>ANAT 1522 Gross Anatomy II 5.0</td>
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<td>CORE 1480 Interdisciplinary Health Care 0.5</td>
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<td>FMED 1531 EBM/Epidemiology I 1.5</td>
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<td>MICR 1531 Immunology 3.0</td>
<td></td>
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<tr>
<td></td>
<td>NEUR 1531 Neuroscience 6.5</td>
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<td>PHYS 1532 Physiology II 5.5</td>
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<td>CMED 1532 OCMI/Early Clinical Experience I 0.5</td>
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<td>FMED 1533 Clinical Correlates/ICM III 3.5</td>
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<td>OMED 1533 Osteopathic Medicine III 2.5</td>
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#### Second Year

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<tr>
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<td>MICR 1611 Microbiology I 5.0</td>
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<td></td>
<td>PHAR 1611 Pharmacology I 4.0</td>
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<tr>
<td></td>
<td>PATH 1611 Pathology I 6.0</td>
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<td></td>
<td>FMED 1612 Topics in Medicine I 1.5</td>
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<td></td>
<td>CMED 1613 OCMI/Early Clinical Experience II 0.5</td>
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<td></td>
<td>FMED 1614 Clinical Correlates/Case Presentations IV 3.0</td>
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<tr>
<td></td>
<td>ICMD 1614 Intro. to Clinical Medicine IV 1.5</td>
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<td>OMED 1614 Osteopathic Medicine IV 2.5</td>
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</tr>
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<td></td>
<td><strong>ELECT</strong> Mandatory Elective(s)</td>
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</tr>
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<td></td>
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<tr>
<td><strong>Winter Quarter (10 weeks)</strong></td>
<td>MICR 1622 Microbiology II 5.0</td>
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<td></td>
<td>PATH 1622 Pathology II 6.0</td>
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<td>PHAR 1622 Pharmacology II 4.0</td>
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### Spring Quarter (10 weeks)

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<tr>
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<tr>
<td>CLMD 1631</td>
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<td>PATH 1633</td>
<td>Pathology III</td>
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<td>PSYC 1634</td>
<td>Psychopathology IV</td>
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<td>FMED 1636</td>
<td>Clinical Correlates/Case Presentations VI</td>
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**ELECT Mandatory Elective ___

**Total 22.0

### Third Year *

**Summer, Fall, Winter, and Spring Quarters (44 weeks)**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>CARD 1701</td>
<td>Cardiology (4 weeks)</td>
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<tr>
<td>CLMD 1701</td>
<td>Osteopathic Clinical Medicine III-CE</td>
<td>7.0</td>
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<tr>
<td>CLMD 1702</td>
<td>Osteopathic Clinical Medicine III-PE</td>
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</tr>
<tr>
<td>FMED 1701</td>
<td>Family Medicine (12 weeks)**</td>
<td>12.0</td>
</tr>
<tr>
<td>IMED 1701</td>
<td>Gen. Internal Medicine I (4 weeks)</td>
<td>4.0</td>
</tr>
<tr>
<td>OBGY 1701</td>
<td>Obstetrics/Gynecology (4 weeks)</td>
<td>4.0</td>
</tr>
<tr>
<td>PEDI 1701</td>
<td>Pediatrics (4 weeks)</td>
<td>4.0</td>
</tr>
<tr>
<td>PSYC 1701</td>
<td>Psychiatry (4 weeks)</td>
<td>4.0</td>
</tr>
<tr>
<td>SURG 1701</td>
<td>General Surgery (4 weeks)</td>
<td>4.0</td>
</tr>
<tr>
<td>FMED 1702</td>
<td>Rural/Underserved Medicine (4 weeks)</td>
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<tr>
<td>ELECT</td>
<td>Elective (4 weeks)</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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<td>54.0</td>
</tr>
</tbody>
</table>

*This includes orientation and a holiday break/vacation.

**Family Medicine includes 8 weeks of General Family Medicine and 4 weeks of Family Medicine/OMM.

### Fourth Year

**Summer, Fall, Winter, and Spring Quarters (44 weeks)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>EMEC 1801</td>
<td>Emergency Medicine (4 weeks)</td>
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<tr>
<td>NEUR 1801</td>
<td>Neurology (2 weeks)</td>
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<tr>
<td>IMED 1802</td>
<td>Gen. Internal Medicine II (4 weeks)</td>
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<tr>
<td>SURG 1802</td>
<td>Subspecialty Surgery II (4 weeks)</td>
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<tr>
<td>CLMD 1803</td>
<td>Osteopathic Clinical Medicine IV</td>
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</tr>
<tr>
<td>IMED 1803</td>
<td>Subspecialty Medicine (4 weeks)</td>
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</tr>
<tr>
<td>IMED 1804</td>
<td>Critical Care (4 weeks)</td>
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<tr>
<td>ELECT</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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<td>54.0</td>
</tr>
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</table>

Radiology is incorporated into all rotations. Anesthesiology is incorporated into all surgical rotations. Students may arrange academic breaks to attend out of area interviews and study for COMLEX Level II. Students receive one holiday break.

### Total Curricular Hours

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours</th>
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<tr>
<td>First Year</td>
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<tr>
<td>Second Year</td>
<td>66.5</td>
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<tr>
<td>Third Year</td>
<td>54.0</td>
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<tr>
<td>Fourth Year</td>
<td>54.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>249.4</td>
</tr>
</tbody>
</table>

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. Students may begin as early as the Spring quarter of their first year and must complete this requirement by the end of the second year.

Course availability varies from year to year. The most current offerings may be viewed on the MWU intranet.

### Clinical Rotations

Students must complete and successfully pass required clinical rotations in the following disciplines: family medicine, internal medicine, surgery, pediatrics, psychiatry, osteopathic manipulative medicine, obstetrics/gynecology, and emergency medicine. These rotations cannot be done at out-of-system sites.

Students must also complete elective rotations in recognized fields of medicine that include the following areas: anesthesiology, cardiology, family medicine (division of community medicine and/or division of osteopathic manipulative medicine), dermatology, gastroenterology, hematology/oncology, infectious disease, nephrology, neurology, neuro-surgery, nuclear medicine/endocrinology/metabolism, obstetrics/gynecology, ophthalmology, orthopedic surgery, otorhinolaryngology, pathology, rheumatology/immunology, cardiovascular/thoracic surgery, and urology.

Students can pursue clinical rotations at other osteopathic, allopathic, or military institutions; however, they must plan their elective program with the Office of Clinical Education in order to obtain academic credit for these rotations. Elective rotations can also be taken in any of the required core rotation disciplines. Only two electives can be taken in one discipline. Determination of what rotations qualify as being in the same discipline is decided by the Department of Clinical Education.

### 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 illustrate 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**
This Department is responsible for required clinical rotations in family medicine, and rural medicine. 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 public health/preventive medicine, rehabilitation medicine, sports medicine, dermatology, environmental medicine/toxicology, and addiction medicine.

**Department of Integrated Medicine**
This Department is responsible for required clinical rotations in psychiatry, emergency medicine and other 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 Internal Medicine**
This Department is responsible for required clinical rotations in general internal medicine, cardiology, neurology and critical care. 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 cardiology, critical care, rheumatology, gastroenterology, hematology/oncology, neurology, allergy/immunology, endocrinology, infectious disease, pulmonary disease, nephrology and geriatrics.

**Department of Microbiology**
Infectious diseases have always had a tremendous impact on virtually every aspect of daily life. Currently, greater than one third of all cases seen by family practice physicians involve infectious diseases or immunologically related disorders. 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**
This Department is responsible for required clinical rotations 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**
This Department 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**
This Department is responsible for required clinical rotations 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.
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**

Physiology is the branch of the life sciences concerned with the function of living systems. Health is customarily defined in physiologic terms: disease is perceived as a deviation from the normal physiologic states of the body. In addition, disease states, and their associated symptomatology, are understood and diagnosed through a refined appreciation of the diverse regulatory processes that maintain the normal, functional status of the human body. The Physiology Department offers courses that provide a comprehensive understanding of the functions of the various 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**

This Department is responsible for required clinical rotations in general surgery. 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 ophthalmology, otolaryngology, plastic and reconstructive surgery, orthopedic surgery, proctology, anesthesiology, neurological surgery, thoracic/cardiovascular surgery, vascular surgery, and urology.

**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. This course is 5.0 credit hours.

**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. This course is 5.0 credit hours.

**BIOC 1511 Biochemistry I**

This course features modules on 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 the storage and expression of genetic information; and intermediary metabolism emphasizing the degradation and synthesis of carbohydrates, lipids, and amino acids. Clinical aspects as well as the regulation and coordination of biologic processes during the fed and fasted states are emphasized. The workshops introduce the biochemical basis of common clinical laboratory tests and/or they illustrate clinical applications of biochemical concepts. This course is 7.0 credit hours.

**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. This course is 4.0 credit hours.

**CARD 1701 Core Cardiology Rotation**

This third year, 4-week rotation is designed to provide the student with a fundamental knowledge base in 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 should include reading, lectures, seminars, small group sessions, and patient care management. This course is 4.0 credit hours.

CLMD 1631 Osteopathic Clinical Medicine II
Presented in the spring quarter of the second year, this course combined didactic lectures and laboratories to prepare students for both the COMLEX I and their upcoming clinical rotations. Both lectures and laboratories emphasize clinical knowledge and skills that are essential to making a successful transition to clinical medicine. The subjects presented include Family Medicine, Integrated Medicine with an emphasis on Radiology, Internal Medicine, OB/GYN, Pediatrics, Surgery, Osteopathic Principles and Practices, and Cardiology. This course is 3.0 credit hours.

CLMD 1701 Osteopathic Clinical Medicine III-CE
The course begins with an introduction to the course during which didactic lectures and laboratories are held in order to prepare students to begin their rotations. Objective Structured Clinical Examinations (OSCE) are conducted at the beginning of the third year to evaluate the student’s history and physical examination skills. After rotations begin, didactic lectures are presented every other week for two hours. These lectures emphasize clinical medicine and its applications. The material is presented in both didactic lectures and case presentations in order to assure a well-rounded approach to important clinical information in a stimulating and interactive format. Faculty and guest lecturers in a variety of fields combine their knowledge and experience in presenting this course. In addition, two hour bi-weekly rotation specific small group learning sessions are provided during all MS-III core rotations. At the end of the third year, a comprehensive written examination is administered. Students must pass this examination to progress to the fourth year and as a requirement for graduation. This course is 7.0 credit hours.

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. This course is 3.0 credit hours.

CLMD 1803 Osteopathic Clinical Medicine IV
Presented in the fourth year, this intensive full day three-week course emphasizes clinical case presentations, didactic lectures and interactive question and answer sessions. It is especially intended to assist the student in acquiring important clinical information as well as helping prepare for COMLEX II, USMLE II and fourth year clinical rotations. Taught by both faculty and guest lecturers, cases are presented to the class in a problem-solving interactive format in order to explore the evaluation and management of multiple clinical presentations. The basic science information supporting the clinical decision making process is integrated into this course. In addition to the didactic lectures, a day-long OMM review is held and an OMM practical examination is administered. At the end of the three-week course, a Final Examination is given over all of the lecture material. This course is 10.0 credit hours.

CMED 1613, OCMII/Early Clinical Experience-II
This course is designed to give the student the opportunity to conduct history and physical examinations on patients in various population groups. The course is divided into five units. Each unit consists of large group lecture and a small group session. The large group lectures will meet weeks 1, 3, 5, 7, and 9 of the quarter. If you miss the large group lecture, there is a DVD available to review before the small group meets. Small groups will meet once per unit, or once every 2 weeks. This course is 0.5 credit hours.

CMED 1624, OCMII/Early Clinical Experience-II
This course is designed to help students make the transition from screening history and physical exam of patients without a chief complaint to a problem focused history and physical exam for the patient with a chief complaint. Emphasis will be on generating differential diagnoses, obtaining a problem focused history and physical exam, oral presentation skills and documentation utilizing the SOAP format. Students will gain experience in formulating diagnostic and treatment plans. The student will participate in three interactive group Objective Structured Clinical Examinations (OSCEs) and two individual OSCEs. The student will conduct a focused history and exam on a standardized patient and write a SOAP note for each individual OSCE. Additionally, the student will complete a self-assessment after watching a tape of the standardized patient (observed by a proctor), write a SOAP note immediately after the encounter, and give an oral presentation to the proctor. The student will receive immediate feedback on their performance. This course is 0.5 credit hours.

CORE 1460 Interdisciplinary Health Care
The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students cardiovascular sciences, nurse anesthesia, occupational therapy, osteopathic medicine, pharmacy, physician assistant and podiatry students 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. The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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. This course is 0.5 credit hours.

**CORE 1470 Interdisciplinary Health Care**
The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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. The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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. This course is 0.5 credit hours.

**CORE 1480 Interdisciplinary Health Care**
The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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. The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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. This course is 0.5 credit hours.

**FMED 1511 Clinical Correlates/ICM I**
ICM/CC 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, blood draw labs, and history and physical experiences. This course is 3.0 credit hours.

**FMED 1522 Clinical Correlates/ICM II**
ICM/CC 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, blood draw labs, and history and physical experiences. This course is 3.0 credit hours.

**FMED 1533 Clinical Correlates/ICM III**
ICM/CC 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, blood draw labs, and history and physical experiences. This course is 3.5 credit hours.

**FMED 1612 Topics in Medicine I**
Topics in Medicine covers doctor-patient communication skills, public health, medical ethics, medical jurisprudence and selected clinical topics in medicine. This course is 1.5 credit hours.

**FMED 1633 Topics in Medicine II**
Topics in Medicine covers doctor-patient communication skills, public health, medical ethics, medical jurisprudence and selected clinical topics in medicine. During spring quarter, all students will become ACLS certified and participate in small groups to acquire various skills that will be applied in the clinical years. This course is 1.5 credit hours.
**FMED 1614 Clinical Correlates/Case Presentations IV**
A case-based format is used 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. This course is 3.0 credit hours.

**FMED 1625 Clinical Correlates/Case Presentations V**
A case-based format is used 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. This course is 3.0 credit hours.

**FMED 1636 Clinical Correlates/Case Presentations VI**
A case-based format is used 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. This course is 3.0 credit hours.

**FMED 1701 Family Medicine/OMM Core Rotations**
The rotation consists of twelve weeks of family medicine experiences that may include both ambulatory and inpatient settings. This service should expose the student to various aspects of the management of patients in a family medicine practice. These rotation experiences may include reading, mini-lectures, and patient care management. One 4-week block of the 12 weeks will be the OMM-FM block where the student will have an opportunity to hone OMM skills in a primary care setting. This course is 12.0 credit hours.

**FMED 1702 Rural and Underserved Core Rotation**
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 does not have to be in Family Medicine but may be in other disciplines that meet the rural/underserved location. This is a third-year required rotation. This course is 4.0 credit hours.

**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, muscular tissue, and nervous tissue. After acquiring this basic knowledge, 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 gastro-intestinal systems, providing a framework for understanding the pathologic changes in diseases of these systems. In the Embryology component of this course, students will learn the general pattern and principles of normal development and the basic aspects of development of the musculoskeletal, circulatory, and gastrointestinal systems. Coordination of this course with the concurrent Gross Anatomy course provides the student with a comprehensive anatomic view of each region studied. This course uses a lecture and laboratory format and is tested through written and practical examinations. This course is 4.4 credit hours.

**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 ear. The development of the urogenital system, 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. The lecture and laboratory components of this course are tested through written and practical examinations. This course is 1.5 credit hours.

**ICMD 1614 Introduction to Clinical Medicine IV**
ICM 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, histories and physicals, admission notes, admission orders, discharge summaries and prescriptions based on their clinical case. The following week, students turn in their write-ups and are presented with the actual approach to the patient, the diagnosis, and the differential diagnoses of the presentation. This course is 1.5 credit hours.

**ICMD 1625 Introduction to Clinical Medicine V**
ICM 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, histories and physicals, admission notes, admission orders, discharge summaries and prescriptions based on their clinical case. The following week, students turn in their write-ups and are presented with the actual approach to the patient, the diagnosis, and the differential diagnoses of the presentation. This course is 1.0 credit hours.
ICMD 1636 Introduction to Clinical Medicine VI
ICM 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, histories and physicals, admission notes, admission orders, discharge summaries and prescriptions based on their clinical case. The following week, students turn in their write-ups and are presented with the actual approach to the patient, the diagnosis, and the differential diagnoses of the presentation. This course is 1.5 credit hours.

IMED 1701 General Internal Medicine Core Rotation I
During the third year, each student will participate in a 4-week rotation in internal medicine. This rotation may include internal medicine learned in hospital ward-based training, department-based training, and ambulatory internal medicine. This course is 4.0 credit hours.

IMED 1802 General Internal Medicine II
During the fourth year, each student will participate in a 4-week rotation in internal medicine. This course is 4.0 credit hours.

IMED 1803 Subspecialty Internal Medicine Core Rotation I
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. This course is 4.0 credit hours.

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, reading about 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. This course is 4.0 credit hours.

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, roles in health, in infectious processes, and in immunologic disorders and deficiencies. This course is 3.0 credit hours.

MICR 1611 Microbiology I
The didactic component of the 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; and the methods of laboratory diagnosis, treatment, and control for each infectious agent. Laboratory exercises and demonstrations help students develop the microbiologic skills applicable for clinical practice, acquaint students with available diagnostic laboratory tests and their interpretation, and augment selected lecture presentations. This course is 5.0 credit hours.

MICR 1622 Microbiology II
This course is a continuation of MICR 1611 and also uses an organ system approach with lectures and laboratories. This course is 5.0 credit hours.

NEUR 1531 Neuroscience
This course utilizes a multidisciplinary approach to provide insight into the fundamental concepts of anatomy and physiology as they relate to the nervous system. The course is divided into three components. In the first unit, a regional approach is used to study the surface landmarks, internal anatomy, and blood supply of the spinal cord, brainstem, and forebrain. This provides the framework and terminology to be used in the second and third units of the course, which adopt a systems approach to the study of the central nervous system. The second unit focuses on the sensory systems, whereas the third unit concentrates on the motor system, limbic system, and higher cortical function. Throughout the second and third units, basic anatomy and physiology are consistently presented in the context of neurologic disorders that involve the particular system being studied. Case studies and lectures by clinicians are utilized to emphasize the correlation of basic and clinical material. Both written and practical examinations are used to assess student progress in the course. This course is 6.5 credit hours.

NEUR 1801 Neurology Rotation
This third year 4-week rotation provides the student with exposure to patients with neurologic disturbances ranging from altered level of consciousness to cranial nerve dysfunctions. The accurate diagnosis of the neurologic patient is emphasized by learning and performing a detailed neurological examination and, where indicated, to select
appropriate diagnostic testing. Students may choose between a 4-week rotation in neurology or psychiatry during the third year, subject to availability. This course is 4.0 credit hours.

**OBYG 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, introduce the student to basic procedures relevant to the practice of OB/GYN, 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. This course is 4.0 credit hours.

**OMED 1511 Osteopathic Medicine I**
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. Additional diagnostic procedures and manipulative treatment procedures are taught in the laboratory. The second year's course of study is an expansion and continuation of the previous year's course and simple, basic manipulative procedures. This course is 2.5 credit hours.

**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. The student is evaluated by weekly quizzes as well as quarterly written and practical examinations. At the conclusion of the first year, the medical student is expected to demonstrate proficiency in diagnostic palpation and simple, basic manipulative procedures. This course is 2.5 credit hours.

**OMED 1614 Osteopathic Medicine IV**
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. Additional diagnostic procedures and manipulative treatment procedures are taught in the laboratory. The second year's course of study is an expansion and continuation of the previous year's work. The material is presented in the context of clinical problem solving. The sequence of material given in the second year is coordinated with material presented in other second-year courses. The student is evaluated by weekly quizzes as well as quarterly written and practical examinations. This course is 2.5 credit hours.

**OMED 1625 Osteopathic Medicine V**
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. Additional diagnostic procedures and manipulative treatment procedures are taught in the laboratory. The second year's course of study is an expansion and continuation of the previous year's work. The material is presented in the context of clinical problem solving.
OMED 1636 Osteopathic Medicine VI
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. Additional diagnostic procedures and manipulative treatment procedures are taught in the laboratory. The second year’s course of study is an expansion and continuation of the previous year’s. The material is presented in the context of clinical problem solving. The sequence of material given in the second year is coordinated with material presented in other second-year courses. The student is evaluated by weekly quizzes as well as quarterly written and practical examinations. The culmination of six quarters of instruction and practice in Osteopathic Medicine is the "Find it/Fix it" practical examination that simulates the student’s ability to diagnose and treat an actual patient. This course is 2.5 credit hours.

PATH 1611 Pathology I
Designed to introduce the medical students to the basic concepts of pathology, this course stresses altered cellular, genetic, and molecular mechanisms and attempts to convey to the medical students 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 the medical students with a complete, medical overview of the disease process in relation to its histological, functional, and structural changes. The medical students also 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. This course is 6.0 credit hours.

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. This course is 6.0 credit hours.

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. This course is 5.0 credit hours.

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. This course is 4.0 credit hours.

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 action, drug testing in humans, and prescription writing. In addition, this course describes in great detail the pharmacologic actions and clinical uses of autonomic, cardiovascular, and central nervous system drugs. This course is 4.0 credit hours.

PHAR 1622 Pharmacology II
This course is 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, 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. This course is 4.0 credit hours.

PHAR 1633 Pharmacology III
This course is a continuation of PHAR 1622. 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, 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. This course is 3.0 credit hours.

**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 will be included in the cardiovascular section of the course. Small group case discussions and workshops facilitate the development of critical thinking and problem solving skills as the students use basic physiologic concepts to understand the pathogenesis of signs and symptoms in specific case studies. This course is 5.5 credit hours.

**PHYS 1522 Physiology II**
This course is a sequel to PHYS 1521 that builds on the physiologic foundations developed during the preceding semester. The initial section of the course presents 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. Small group discussions continue to refine critical thinking and problem solving skills as the students identify the physiologic and pathophysiologic mechanisms underlying the signs and symptoms described in pertinent clinical case studies. This course is 5.5 credit hours.

**PSYC 1511 Introduction to Human Behavior I**
This module begins with an introduction of the doctor-patient relationship. The student will be exposed to patient interviewing techniques. The biopsychosocial model is also covered. The human life cycle will be described, including pregnancy, birth, early infancy, latency period, the adolescent period, the family, early adulthood, and trial of courtship and marriage. Special topics include childhood violence and abuse and domestic violence. This course is 1.0 credit hours.

**PSYC 1522 Introduction to Human Behavior II**
The human life cycle continues covering middle age, the aging process, death and dying, and human sexuality. Special topics include rape, incest, sexual harassment, and abortion issues. This course is 1.0 credit hours.

**PSYC 1533 Introduction to Human Behavior III**
Special topics related to human behavior will be covered, including forensic issues, nutritional issues, ethical issues, religion and spirituality in health and illness, issues of alternative medicine, social responsibilities of physicians, psychological underpinnings of medical symptoms, and the impaired physician. This course is 1.0 credit hours.

**PSYC 1634 Psychopathology IV**
Psychopathology and treatment will be discussed in detail for two blocks of three hours each. Case presentations and video presentations will provide the students with a first-hand look at psychiatric illnesses. These will be electives for more in-depth study of the major psychiatric illnesses that the primary care physician will see in his/her practice. This course is 1.0 credit hours.

**PSYC 1701 Psychiatry Rotation**
This 4-week rotation is designed to provide the student with a fundamental knowledge base in psychiatry, 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. Both ambulatory and inpatient settings are utilized. Students have an option to complete a rotation in psychiatry or in neurology according to student interest and availability. This course is 4.0 credit hours.

**SURG 1701 General Surgery Core Rotation**
This third year, 4-week rotation is designed to provide the student with a fundamental knowledge base in surgery and introduce the student to basic procedures relevant to the practice of general surgery. Ward based, department based, and ambulatory based settings are utilized to expose the student to various aspects of managing surgical patients. Students are introduced to the practice of anesthesiology and should have the opportunity to develop basic skills in airway management. This course is 4.0 credit hours.

**SURG 1802 Subspecialty Surgery II**
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, etc. While this is a required rotation, there is no post-rotation examination for the surgical subspecialties. This course is 4.0 credit hours.

**ELEC 1701 Elective Rotation**
Students are required to complete 4 weeks of elective time during the third year. Electives may be split into two week blocks. No one week rotations are allowed, but one week blocks may be used for traveling to interviews and study time. Four weeks of elective time may be used for a research
elective if the research proposal is approved by the Associate Dean of Clinical Education. Additional policies regarding electives are provided in the Clinical Education Policies handbook. This course is 4.0 credit hours.

**ELEC 1801 Elective Rotations**

Students are required to complete 22 weeks of electives during the fourth year. Electives may be split into two week blocks. No one week rotations are allowed, but one week blocks may be used for traveling to interviews and study time. Four weeks of elective time may be used for a research elective if the research proposal is approved by the Associate Dean of Clinical Education. Four weeks of elective time may be used for an international rotation, which may be done only during the MS-IV year after approval by the Department of Clinical Education. Additional policies regarding electives are provided in the Clinical Education Policies handbook. This course is 22.0 credit hours.

**MWU/MATRIX SYSTEM: AN OSTEOPATHIC POSTDOCTORAL TRAINING INSTITUTION (OPTI)**

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, AZCOM’s curriculum is broad reaching in scope and encompasses a multifaceted approach to graduate medical education that focuses on primary care. With unique teaching opportunities at some of the finest health care facilities in the country, AZCOM’s affiliated hospitals consistently lead the nation in terms of cutting-edge technology, treatment, and care. Postdoctoral programs include rotating internships; specialty track internships in Internal Medicine, Obstetrics/Gynecology; special emphasis tracks; 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. Interns rotate through the primary services: emergency medicine, family medicine, internal medicine, obstetrics/gynecology, surgery, and pediatrics, some of which may be completed at affiliated hospitals and medical centers.

Residency or fellowship training is offered in the following disciplines:
- Cardiology Critical Care
- Emergency Medicine
- Emergency Medicine/Family Medicine
- Emergency Medicine/Internal Medicine
- Family Medicine
- Family Medicine/Osteopathic Manipulative Medicine
- Gastroenterology
- General Surgery
- General Vascular Surgery
- Geriatrics
- Internal Medicine
- Interventional Cardiology
- Neurosurgery
- Obstetrics/Gynecology
- Ophthalmology
- Orthopedic Surgery
- Osteopathic Manipulative Medicine
- 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 the 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 with the Dean within three working days following official notification of the committee decision.
### 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 Remediation*</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 or Pass-Promote</td>
</tr>
<tr>
<td>2 Failures (same quarter)</td>
<td>ESP or Suspension</td>
<td>Probation</td>
<td>Summer or Next Academic Year</td>
<td>Fail-ESP or Dismiss Pass-Promote</td>
</tr>
<tr>
<td>3 Failures (over more than one academic year)</td>
<td>ESP or Suspension</td>
<td>Probation</td>
<td>Next Academic Year</td>
<td>Fail-Dissmiss Pass-Promote</td>
</tr>
<tr>
<td>3 Failures (one academic year)</td>
<td>Dismissal</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4 Cumulative Failures (in preclinical years)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*May be modified by the Preclinical Promotions Committee

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

Failures in elective courses carry the same weighting as failures in core curriculum courses

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

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### 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 Remediation*</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-Dissmiss Pass-Promote</td>
</tr>
<tr>
<td>2 or more Failures</td>
<td>Recommend Dismissal</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*May be modified by the Preclinical Promotions Committee

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

Failures in elective courses carry the same weighting as failures in core curriculum courses

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

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### Clinical Promotions Committee

The 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, are required to meet with the committee as well as those who have not met the professional standards set forth in the Osteopathic Oath. 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. The Chair of this committee is the Associate Dean of Clinical Education. 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 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 passed Level I and Level II of the National Board of Osteopathic Medical Examiners examinations, and who have paid all tuition and fees.
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>Remediate Rotation or Course</td>
<td>Academic Warning**</td>
<td>Fail - Repeat Academic Year or Dismissal Pass - Promote or Graduate</td>
</tr>
<tr>
<td>Two Failures</td>
<td>Remediate Rotation or Course</td>
<td>Academic Probation</td>
<td></td>
</tr>
<tr>
<td>Three Failures</td>
<td>Repeat Academic Year or Dismissal</td>
<td>Academic Probation</td>
<td></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.

Re-examination/Retest
Re-examination (Retest) 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. The re-examination(s) must be completed within 10 working days beginning from the first Monday following 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". If the Registrar does not receive a change of grade form within 10 working days, the "I" will automatically be changed 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 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. 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 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.

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 should 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 department in consultation with the AZCOM Dean’s Office. 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 for dismissal or academic deceleration into the ESP program, a student may appeal, in writing, the decision 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.

Attendance Policy
AZCOM encourages students to attend all lectures, laboratory activities, and clinical assignments. First- and second-year students must attend the first class of each course during each quarter, as well as the first day of class after scheduled vacations. Third- and fourth-year students must attend all clerkship rotations. Departments may establish their own attendance requirements.

Commitments made prior to matriculation at AZCOM.
In the event that you have made a commitment prior to matriculating at AZCOM, you must understand that there may be curricular priorities that are not compatible with your tentative schedule. It is required that a student make a request of each course director and department chair during the first week of the academic year regarding requests for time off. Every effort will be made to accommodate the commitment. MWU does not guarantee that prior commitments will be approved.

Non-rotation events while on clinical rotations.
Attendance at, and on-call requirements for clinical rotations take precedence over non-rotation events. Students must be sure that the requirements of each clinical rotation are understood and will be met prior to scheduling non-rotation events. AZCOM will make every effort to accommodate non-rotation events, however the first requirement (priority) of a physician (and medical student) is patient care.

COMLEX Exam Policy
All students must pass the National Board of Osteopathic Medical Examiners (NBOME) COMLEX Level I, Level II CE, and Level II PE examinations prior to graduation. The initial attempt to pass the Level I examination must occur within 30 days after the completion of all MS2 course requirements. The initial attempt to pass the Level II CE and Level II PE examinations must occur prior to the end of Block 6 of the MS4 year.

COMLEX Eligibility
Eligibility to attempt the Level I examination requires successful completion of the Winter Quarter of the MS2 year, approval of the Preclinical Promotion Committee (PCP), and approval of the Dean of the osteopathic college. Eligibility to schedule the Level II examinations may occur after the 5th block of the MS3 year. Level II examinations may be taken after July 20 of the MS4 year following successful completion of Level I, and approval by the Dean of the osteopathic college. The United States Medical Licensing Examination (USMLE) is not a substitute for any component of the COMLEX examination.
COMLEX Level I Failure

Any student that fails the Level I examination will be allowed to complete the clinical rotation that he/she is participating in at the time of failure notice. The student will be assigned to a minimum of one month remediation to study for the next attempt. The student will not participate in clinical rotations during this time. The student must meet with his/her faculty mentor and the appropriate Dean as soon as possible to determine the most appropriate course of action to prepare for the second attempt.

Any student that fails the Level I examination a second time will be allowed to complete the clinical rotation that he/she is participating in at the time of failure notice. The student will be assigned to a minimum of three months remediation to study for the third attempt. The student will not participate in clinical rotations during this time. The student must meet with a Task Force (composed of his/her faculty mentor, the Dean of Student Services, selected Chairs of Basic and Clinical Science Departments, and the appropriate Dean) as soon as possible to determine the most appropriate course of action to prepare for the third attempt. Any student that fails the Level I examination a third time must appear before the CPC to determine the course of action, up to and including suspension or dismissal.

COMLEX Level II CE or PE Failure

Any student that fails the Level II CE or PE examination must meet with the Chair of the CPC and the appropriate Dean as soon as possible to determine the most appropriate course of action with regard to whether clinical rotations may or may not be continued and how to prepare for the second attempt.

Any student that fails either component of the Level II examination a second time must appear before the CPC to determine the course of action.

Course Credit

Course credits are generally determined according to the following formulation: 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 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 perform 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/probation occurs for student acts of professional misconduct as defined in Appendices 2 and 4 in the Student Handbook. Disciplinary warning/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 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 ill health. Proposed schedules for all students on an extended study program are sent to department chairs for their approval.

Academic.

A student will be placed in the Extended Study Program for academic reasons at the discretion of the Promotions Committee having jurisdiction over the student’s academic progress. A student placed in the ESP for academic reasons is automatically placed on academic probation and may not be returned to good academic standing until all failures are remediated. If a student is placed on the ESP, such action does not modify or limit the Promotion Committee’s options for recommendation for dismissal. Thus, the student may be dismissed for academic reasons while in the 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 and on academic probation. They are required to retake failed courses during the regular academic year and are not eligible for summer remediation courses either at AZCOM or at any other medical school. The Preclinical Promotions Committee individually reviews ESP students who fail academic courses. Students who voluntarily enter the ESP (see below) may be allowed to remediate courses over the summer, at AZCOM or another approved institution, at the discretion of the Preclinical Promotions Committee.

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 Appeal Policy
I. 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. 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 reappeal. 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 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 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 (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 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>For professional programs</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. To resolve an incomplete grade, an instructor must fill out and submit a Change of Grade form to the Registrar. 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>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>W</td>
<td>--</td>
<td>0.000</td>
<td>Withdrawal can be given during the first three weeks of the quarter. There is no penalty and no credit.</td>
</tr>
<tr>
<td>W/P</td>
<td>--</td>
<td>0.000</td>
<td>Withdrawal/Passing is given after 3 or more weeks from the beginning of the quarter; grade indicates that the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculations 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 after 3 or more weeks from the beginning 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>0.000</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>0.000</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.*
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.

Graduation Walk-Through Policy
1. 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 one quarter immediately following the official scheduled end of the academic program for his/her class.
2. To seek permission, the student must submit a formal request to participate in the graduation ceremony to the Dean of AZCOM. The request should be submitted no later than eight weeks prior to the official AZCOM graduation date.
3. The Dean is responsible for verifying that the student will fulfill their requirements for graduation by the end of the summer quarter. The request will be forwarded by the Dean to the Clinical Promotion Committee. If approved, the committee will add the student to the proposed list of candidates for graduation, denoting on the listing that the student will not have completed the academic requirements by the official graduation date. This list will be forwarded 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.

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 this handbook.

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.

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. The state accepts a certificate issued by the National Board of Osteopathic Medical Examiners.
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.

Retaking Failed Courses
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 three ways:
1. Students must 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.
3. Departments may offer, and students can elect to take, a faculty-supervised remedial course.

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 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.

Satisfactory Academic Progress
As required by federal law, reasonable standards of satisfactory academic progress have been established by AZCOM for the Doctor of Osteopathic 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.

Supervision of Medical Students by Physicians Only
While on clinical rotations, medical students must have direct, on-premises supervision by a physician who is licensed to practice medicine in the state in which care is being provided. Students may not be supervised by other health care providers.

Suspension
Academic suspension may occur when a student has failed one or more courses or has accumulated two or more quarters of cumulative GPA less than required by his/her program. Academic suspension may or may not be preceded by academic probation. This action entails the removal 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. Academic suspension is noted on the student’s transcript.

The student who has been suspended does not have to reapply 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.

Travel for Clinical Education/Fieldwork
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.

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 Program Director and the AZCOM Dean. If the approval is granted, the student receives one of the following grades: W (withdrew), W/P (withdraw passing), or W/F (withdraw failing).

Withdrawal (W) can be given only during the first three weeks of the course. There is no penalty and no credit. 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/Passing (W/P) 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 fourth week and the end of the quarter, if work completed up to the time of withdrawal is below a “C” level, the student will receive a Withdrawal/Failing (W/F) 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 a Pre-Clinical Promotion Committee when reviewing the academic status of a student. Multiple F’s and W/F’s 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**

**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.**  
AT Still University, Kirksville College of Osteopathic Medicine  
Dean, Arizona College of Osteopathic Medicine  
Assistant Professor

**Thomas H. O’Hare, D.O.**  
Midwestern University, Chicago College of Osteopathic Medicine  
Associate Dean, Department of Clinical Education  
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.**  
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Associate Dean, Department of Postdoctoral Education  
Associate Professor

**Mark R. Speicher, MHA**  
Duke University  
Associate Dean, Academic Affairs

**Department of Anatomy**

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

**Wade Grow, Ph.D.**  
University of Idaho  
Associate Professor

**Christopher Heesy, Ph.D.**  
Stony Brook University  
Assistant Professor

**T. Bucky Jones, Ph.D.**  
Ohio State University  
Assistant Professor

**Gregory A. Mihailoff, Ph.D.**  
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Professor

**Randall L. Nydam, Ph.D.**  
University of Oklahoma  
Associate Professor

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

**Linda M. Walters, Ph.D., Chair**  
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University of Toronto  
Assistant Professor

**Department of Biochemistry**

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**David F. Mann, Ph.D., Chair**  
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Professor

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**Y. Gloria Yueh, Ph.D.**  
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Director of Assessment  
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Michael Rollins, M.D.
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Scott Schleifer, D.O.
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Kenneth Stephon, D.O.
Riyaz Sumar, M.D.
Neil Superfon, D.O.
Atul Syal, M.D.
Babak Tehranchi, D.O.
Ruben Valdez, M.D.
Vinodh Vasudevan, M.D.
Michael Vines, M.D.
Anthony Will, D.O.
Roger Willcox, M.D.
John Williams, M.D.
Thomas Wills, D.O.
Mark Winograd, M.D.
Barry Wiss, D.O.
Jan Zieren, D.O.

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University of Northern Colorado
Professor
Sam Katzif, Ph.D.
Georgia State University
Assistant Professor
Tyler A. Kokjohn, Ph.D.
Loyola University
Professor
Kathryn J. Leyva, Ph.D.
Northern Arizona University
Associate Professor
Robin R. Parmley, Ph.D.
Rush University
Assistant Professor

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University of Kansas Medical Center
Assistant Professor
Laszlo Kerecsen, M.D.
Medical School of Debrecen
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Dalhousie University
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Assistant Professor
Michael C. Quinlan, Ph.D.
Arizona State University
Associate Professor

Fred D. Romano, Ph.D., Chair
Loyola University
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.

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 health care system, professional practice management, and pharmacy law and ethics. Required courses in the clinical science area include drug literature evaluation and the pharmaco-therapeutics 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.

CONFERRAL OF DEGREES
The parent institution of MWU-CPG, Midwestern University, has been granted authority by the Arizona State Board for Private Postsecondary Education to confer the Doctor of Pharmacy degree.

ACCREDITATION
The College of Pharmacy–Glendale’s Doctor of Pharmacy degree 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, URL www.acpe-accredit.org. The accreditation status of the College is reviewed by ACPE on a regular basis and is open to student and public comment.
INSTRUCTIONAL PROGRAM
At MWU–CPG, students pursue the Doctor of Pharmacy (Pharm.D.) degree. MWU–CPG’s 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 MWU–CPG. Students complete, on a year-round basis, required courses, elective professional courses, and clinical/experiential education.

ADMISSIONS
Midwestern University, College of Pharmacy - Glendale (MWU-CPG) considers for admission those applicants who possess the academic and professional promise necessary to become outstanding members of the pharmacy profession. The admissions process is highly selective; approximately 2,220 applications were received for the 2007 entering class. The next application deadlines are December 1, 2008 for the PharmCAS application and January 15, 2009 for the MWU-CPG supplemental application (see the Application Process section); however, applicants are strongly encouraged to apply early in the process as the majority of the class is expected to be filled by January 1st.

Evaluation of completed applications will begin in July 2008 and continue until all seats in the class are filled. This initial evaluation will determine which applicants are eligible for an on-campus interview; a final evaluation will determine which applicants are eligible for acceptance. Given the competitive admissions environment, multiple criteria are used to select the most qualified candidates from an applicant pool that exceeds the number of seats available. Grade point averages, PCAT scores, letters of evaluation, professional preparedness and motivation, personal qualities, communication skills, ability to be a team player and decision making will all be considered when reviewing an applicant’s file.

Admission Requirements for Applicants Seeking June 2009
To be considered for admission to MWU–CPG, an applicant must:

1. Have completed or be in the process of completing 62 semester hours or 90 quarter hours of non-remedial, prerequisite coursework from a regionally accredited U.S. college or university, or recognized post secondary Canadian institution that uses English as its primary language of instruction and documentation. The student must earn a grade of C (not C-) or better in each prerequisite course.
2. All pre-pharmacy coursework requirements must be completed by the end of spring semester or spring quarter prior to matriculation to MWU–CPG.
3. Earn a minimum cumulative grade point average and science grade point average of 2.50 on a 4.00 scale. PharmCAS calculates the overall and science grade point average. Grades from all non-remedial courses completed post-high school are used to calculate the grade point average.
4. Submit scores from the Pharmacy College Admissions Test (PCAT) directly to PharmCAS (see Application Process Section). Note: Only test scores earned in June 2005 or more recently will be accepted.
5. Reflect a people/service orientation through community service or extracurricular activities.
6. Reflect proper motivation for and commitment to the pharmacy profession as demonstrated by previous work, volunteer, or other life experiences.
7. Possess the oral and written communication skills necessary to interact with patients and colleagues.
8. Complete MWU–CPG’s on-campus interview process (by invitation only).
9. Pass the Midwestern University criminal background check.
10. Abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy.

Prerequisite Courses

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

Total Credit Hours | 62 | 90 |
INTERNATIONAL APPLICANTS: If an applicant has completed coursework at a foreign college or university, or a recognized post secondary Canadian institution that does not use English as its primary language of instruction and documentation, the student must submit an official, detailed course-by-course evaluation of this coursework. The student must obtain this evaluation from one of the following services:

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

Foreign transcript evaluations should be sent directly to PharmCAS (see Application Process section).

International applicants must also complete at least 30 semester hours of his/her prerequisite coursework (including at least 15 semester hours in the sciences, 6 hours in non-remedial English composition, and 3 hours of speech/public speaking) at 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.

Technical Standards
The technical standards for admission set forth by 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: 1) observation; 2) communication; 3) motor; 4) intellectual, conceptual, integrative, and quantitative; and 5) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and somatic sensation and is enhanced by the functional use of all of the other senses.

2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.

3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.

4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.

5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.

Candidates must provide certification that they understand the technical standards upon their acceptance. Candidates who may not meet the technical standards are encouraged to contact the Director of Admissions to discuss and identify what accommodations, if any, MWU–CPG would need to make in order that the candidate might be able to meet the standards.

Application Process
MWU-CPC uses a two-step application process. The applicant 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 Web-based PharmCAS application (www.pharmcas.org) which is available usually in June of the academic year preceding the year in which they plan to matriculate. Applicants must send transcripts directly to the offices of PharmCAS. Applicants who have taken coursework and/or earned a degree from a foreign institution 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 December 1, 2008. In addition to the on-line application and application fee, applicants are strongly encouraged to also forward official transcripts from all colleges and universities attended to PharmCAS by the December 1st date. PharmCAS will not consider an
application complete and will not begin the verification process until all official transcripts are received.

2. Pharmacy College Admissions Test (PCAT):
   Arrange for scores from the Pharmacy College Admissions Test to be sent directly to PharmCAS using PCAT code 104. This exam is offered by Harcourt Assessment (also known as Pearson, 1-800-622-3231, www.pcatweb.info). 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. Only test scores earned in June 2005 or more recently will be accepted.

   *Note:* It is highly recommended that applicants take the June, August, or October PCAT exams in the year prior to which they are seeking entry. For first time test takers, January PCAT exams taken in the year in which an applicant seeks entry will not be accepted. Please check with Harcourt Assessment for more details regarding the exam dates.

3. Letters of Evaluation:
   The applicant must request letters of evaluation from two professionals to be submitted directly to PharmCAS. MWU-CPG will only accept letters received directly from PharmCAS. It is preferred that one letter be from a college professor who has actually taught the applicant or a pre-health advisor/committee, science professor, or a health professional who knows the applicant well. The deadline for submission of the letters of evaluation is January 15, 2009.

4. Supplemental Application:
   After receiving an applicant’s processed information from PharmCAS, the Midwestern University Office of Admissions will send a supplemental application form to applicants who meet the minimum cumulative GPA requirement of 2.50 on a 4.00 scale. The deadline for submitting the College supplemental application to the Office of Admissions is on or before January 15, 2009.

   *Note:* All application materials, the PharmCAS application, verification of transcripts by PharmCAS, PCAT scores (as reported to PharmCAS), two letters of evaluation (submitted to PharmCAS), and MWU-CPG supplemental application with the application fee must be received in the Office of Admissions on or before January 15, 2009. Only completed applications received by the Office of Admissions on or before the deadline date will be reviewed for potential entrance into the program.

   Applicants are responsible for tracking the receipt of their application materials and verifying the status of their application on the University website. The Office of Admissions will send qualified applicants instructions for creating an Interact Now account along with the supplemental application. Applicants must create and utilize their Interact Now account to track and check their application status on-line. Applicants are also responsible for notifying the Office of Admissions of any changes in their mailing address or e-mail address.

5. On-Campus Interview:
   Once an applicant’s file is complete, the Director of Admissions and the Admissions Committee review an applicant’s GPA and PCAT scores to determine the applicant’s interview eligibility. If they consider the applicant eligible for an on-campus interview, an invitation will be sent to the applicant. All interviews are scheduled on a first-call/first-scheduled basis. No interviews will be granted until an individual’s application process is complete. Interview invitations are typically extended from September through February.

   During the interview process, the applicant will meet with an interview panel consisting of pharmacy faculty members, pharmacists and/or pharmacy students. Panel members will evaluate the applicant’s professional motivation and preparedness, personal qualities, communication skills, and decision-making ability by rating the applicant on a standardized evaluation scale. The interview panel members will also review each interviewee’s MWU-CPG supplemental application to facilitate the interview process. After reviewing the applicant’s completed application and interview evaluation, the Admissions Committee can recommend accepting, denying, or placing the applicant on an alternate list. This recommendation is 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.

   *Note:* An applicant who has been accepted for a given year must matriculate during that year. No admission deferments are allowed. If a student fails to matriculate, the student must reapply the following year if he/she wishes to be admitted to the College.

   The PharmD program at MWU-CPG is rigorous and challenging. In light of this, the Admissions Committee will assess the quality and rigor of the pre-pharmacy academic records presented by each applicant. When assessing an applicant’s pre-pharmacy academic record, 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. While 2.50 on a 4.00 scale is the minimum overall and science grade point average for consideration, to be competitive for admission, a higher overall grade point average is recommended. The average overall and science grade point averages of applicants admitted in 2007 were 3.45 and 3.41, respectively, on a 4.00 scale.
b. View component and composite PCAT scores below the 50th percentile with particular concern. While there are no minimum PCAT scores, the average composite PCAT score of applicants admitted in 2007 was in the 85th percentile.

c. Pay special attention to applicants that include pre-pharmacy math and science coursework that was completed more than 10 years ago. It is preferred that applicants have recent (within five years) pre-pharmacy math and science coursework.

d. Consider the institution where coursework was taken, the extent to which science prerequisites have been completed, the credit load per term, the difficulty of coursework taken, and trends in grades as factors when evaluating the quality and rigor of an applicant’s pre-pharmacy academic record.

Reapplication Process
After receiving either a denial or end-of-cycle letter, an applicant may reapply to MWU–CPG for the next academic year. Before reapplying, however, the applicant should seek the advice of an admissions counselor.

To initiate the reapplication process, the applicant must submit a new application to PharmCAS. The application is then processed in the same manner as any other application.

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 are in good academic standing and have legitimate reasons for seeking a transfer.

All requests for transfer information should be referred to the Office of the Dean, MWU–CPG so that the potential transfer applicant can be counseled prior to submitting an application.

To be considered for transfer, a student must meet MWU-CPG’s general requirements for admission. He/she must also submit the following documents by January 15, 2009:

1. A letter to the Director of Admissions indicating why he/she wishes to transfer and explaining any difficulties encountered at his/her current institution;

2. A completed MWU-CPG transfer application;

3. Official transcripts from all schools attended—undergraduate, graduate, and professional;

4. A catalog and a detailed pharmacy syllabus 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. The letter must indicate the student’s current academic status and/or terms of withdrawal/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 necessary by the Director of Admissions or Dean of MWU–CPG.

The Office of Admissions will collect and forward the student’s portfolio to the Office of the Dean, MWU-CPG for review. If the review is positive, the Dean will instruct the Admissions Committee to interview the transfer student applicant. The Admissions Committee will provide its recommendation to the Dean. If the transferring student is admitted and requests advanced standing, the Dean’s Office will forward the student’s request 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 Dean’s Office prior to enrolling in the required advanced pre-pharmacy 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 pre-pharmacy level or higher at a regionally accredited U. S. college or university;

3. Earn a grade of at least C (not C–) in all courses taken; and

4. Maintain a cumulative GPA of 2.50 or greater.

Students fulfilling these requirements will be permitted to reapply to the University and MWU-CPG. The student should obtain the application from the Dean’s Office and not through PharmCAS. A completed readmission application must be submitted by January 15, 2009 to the Dean’s Office. The completed application of a reapplying PS-1 student 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 Dean’s Office to the Student Promotion and Graduation Committee for review and recommendation. The respective committees will review the application for evidence of improved academic potential. Each committee’s recommendations are forwarded to the Dean for action.

No guarantee of admission is implied, and questions related to advanced standing and similar issues will be addressed as they are for any new applicant. Readmission can only be granted once.

Matriculation Process
The matriculation process begins after a student receives notification of his/her acceptance. The student must return his/her signed matriculation agreement. The student must also do the following:
1. Submit deposit monies by the dates designated in his/her matriculation agreement. The entire amount is applied toward the student’s 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, then their acceptance or continued enrollment in the College may be jeopardized.

   Note: PharmCAS does not forward transcripts to MWU–CPG.
3. Complete a medical file as requested by the Office of Student Services.
4. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved outside carrier or a comparable plan offered by an outside carrier of the student’s 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 a student visa only).
6. Sign an authorization form allowing for a criminal background check.
7. Sign a Midwestern University Drug-Free Workplace and Substance Abuse Policy statement.
8. Complete a physical exam and submit the appropriate form.
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.

If a student either fails to satisfy the above matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat at MWU–CPG. The student receives no further notification from MWU–CPG relative to this forfeiture.

CURRICULUM FOR STUDENTS WHO WERE ADMITTED PRIOR TO OR IN FALL 2007
MWU–CPG reserves the right to revise the curriculum at any time when deemed necessary.

**Fall Quarter, First Year (17qhrs-17.5 qhrs)**
- CORE 460 Interdisciplinary Health Care 0.5 qhr
- PHYS 501 Human Physiology I 4 qhrs
- PSCI 551 Biochemistry I 3.5 qhrs
- PSCI 541 Pharmaceutics I 4 qhrs
- PPRA 571 Health Care Systems 3 qhrs
- PPRA 591 Intro. to Professional Practice I 2 qhrs
- PPRA 594 Intro. Pharmacy Practice Experience 0.5 qhrs

**Winter Quarter, First Year (17qhrs-17.5 qhrs)**
- CORE 470 Interdisciplinary Health Care 0.5 qhr
- PHYS 502 Human Physiology II 4 qhrs
- PSCI 552 Biochemistry II 3.5 qhrs
- PSCI 542 Pharmaceutics II 4 qhrs
- PPRA 572 Research Methods and Epidemiology for Health Care Professionals 3 qhrs
- PPRA 592 Intro. to Professional Practice II 2 qhrs
- PPRA 594 Intro. Pharmacy Practice Experience 0.5 qhrs

**Spring Quarter, First Year (18 qhrs)**
- CORE 480 Interdisciplinary Health Care 0.5 qhr
- MICR 513 Microbiology 3 qhrs
- PPRA 523 Applied Pharmaceutical Care I 4.5 qhrs
- PSCI 553 Immunology 3 qhrs
- PHID 501 Integrated Sequence I 6 qhrs
- PPRA 593 Intro. to Professional Practice III 1 qhr

**Summer Quarter, First Year (17 qhrs)**
- PPRA 524 Pharmacy Law 2 qhrs
- PPRA 544 Applied Pharmaceutical Care II 2 qhrs
- PSCI 564 Pharmacokinetics & Biopharmaceutics 3 qhrs
- PHID 502 Integrated Sequence II 4 qhrs
- PPRA 534 Public Health and Service Learning 2 qhrs
- PHID 503 Integrated Sequence III 4 qhrs

**Fall Quarter, Second Year (15 qhrs)**
- PPRA 694 Intro. Community Experience 7.5 qhrs
- PPRA 695 Intro. Institutional Experience 7.5 qhrs

**Winter Quarter, Second Year (17 qhrs)**
- PPRA 665 Behavioral Medicine and Ethics 2 qhrs
- PPRA 676 Evidence-Based Medicine 3 qhrs
- PHID 604 Integrated Sequence IV 5 qhrs
- PHID 605 Integrated Sequence V 4 qhrs
- PPRA/PSCI 6xx Electives 3 qhrs

**Spring Quarter, Second Year (16.5 qhrs)**
- PPRA 675 Pharmacy Practice Management 3 qhrs
- PHID 606 Integrated Sequence VI 5 qhrs
- PHID 607 Integrated Sequence VII 5.5 qhrs
Summer Quarter, Second Year (17 qhrs)
- PPRA 657 Disease Management I (3 qhrs)
- PPRA 667 Complementary Medicine (2 qhrs)
- PPRA 677 Health Economics and Outcomes Assessment (3 qhrs)
- PHID 608 Integrated Sequence VIII (6 qhrs)
- PPRA/PSCI Electives (3 qhrs)

Fall Quarter, Third Year (14 qhrs)
- PPRA 737 Disease Management II (3 qhrs)
- PHID 709 Integrated Sequence IX (4.5 qhrs)
- PPRA 701 Acute Care Management (3.5 qhrs)
- PPRA/PSCI Electives (3 qhrs)

Winter and Spring Quarters, Third Year (48 qhrs)
- Advance Pharmacy Practice Experience Rotations: 32 weeks
- PPRA 791 Advanced Pharmacy Practice (9.0 qhrs)
- PPRA 792 Advanced Pharmacy Practice (9.0 qhrs)
- PPRA 793 Advanced Pharmacy Practice (7.5 qhrs)
- PPRA 794 Advanced Pharmacy Practice (7.5 qhrs)
- PPRA 795 Advanced Pharmacy Practice (7.5 qhrs)
- PPRA 796 Elective Experience (7.5 qhrs)

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:
  - PSCI/PPRA Special Project/Research (1.5 qhrs)
  - PSCI/PPRA Special Project/Research (3.0 qhrs)
  - PSCI 606 Dangerous Plants and Animals (1.5 qhrs)
  - PPRA 611 Advanced Cardiac Life Support (3.0 qhrs)
  - PPRA 613 Managing Prescription Benefits (1.5 qhrs)
  - PPRA 616 Issues in Infectious Diseases (1.5 qhrs)
  - PSCI 619 Medical Spanish (1.5 qhrs)
  - PPRA 623 Use and Abuse of Drugs (3.0 qhrs)
  - PPRA 626 Clinical Toxicology (1.5 qhrs)
  - PPRA 629 Clinical Applications of PDA’S in Health Care (1.5 qhrs)
  - PPRA 638 Pharmacy-Based Health Screenings (1.5 qhrs)
  - PPRA 639 History of Pharmacy in America (1.5 qhrs)
  - PSCI 642 Introduction to Classical Homeopathy (1.5 qhrs)
  - PPRA 646 Diabetes: A Patient’s Perspective (1.5 qhrs)
  - PSCI 647 Pharmaceutical Formulation and Analysis (1.5 qhrs)

Winter Quarter, First Year (16.5/18 qhrs)
- CORE 470 Interdisciplinary Health Care (0.5 qhr)
- PHID 1501 Human Physiology I (3 qhrs)
- PPRA 1501 Professional Skills Development I (3.5 qhrs)
- PPRA 1533 Patient Decision Making (3 qhrs)
- PSCI 1540 Pharmaceutical Calculations (2 qhrs)

Spring Quarter, First Year (16.5/18 qhrs)
- CORE 480 Interdisciplinary Health Care (0.5 qhr)
- PHID 1501 Integrated Sequence 1 (4 qhrs)
- PHID 1502 Integrated Sequence 2 (4 qhrs)
- PPRA 1503 Professional Skills Development 3 (2 qhrs)
- PPRA 1551 Biochemistry (3 qhrs)

CURRICULUM FOR STUDENTS ADMITTED IN JUNE 2008 OR THEREAFTER
MWU–CPG reserves the right to revise the curriculum at any time when deemed necessary.

Summer Quarter, First Year (15.5 qhrs)
- PHYS 1501 Human Physiology I (3 qhrs)
- PPRA 1501 Professional Skills Development I (3.5 qhrs)
- PPRA 1533 Patient Decision Making (3 qhrs)
- PSCI 1540 Pharmaceutical Calculations (2 qhrs)

Fall Quarter, First Year (18.5 qhrs)
- CORE 460 Interdisciplinary Health Care (0.5 qhr)
- PHYS 1502 Human Physiology II (3 qhrs)
- PPRA 1502 Professional Skills Development 2 (3.5 qhrs)
- PPRA 1524 Pharmacy Law and Public Policy (2.5 qhrs)
- PPRA 1534 Introduction to Public Health (2 qhrs)
- PSCI 1541 Pharmaceutics I (4 qhrs)
- PSCI 1551 Biochemistry (3 qhrs)

Winter Quarter, First Year (16.5/18 qhrs)
- CORE 470 Interdisciplinary Health Care (0.5 qhr)
- PHID 1501 Integrated Sequence 1 (4 qhrs)
- PHID 1502 Integrated Sequence 2 (4 qhrs)
- PPRA 1503 Professional Skills Development 3 (2 qhrs)
- PPRA 1535 Comm. Partnership in Public Health (half of class) (1.5 qhrs)
- PSCI 1542 Pharmaceutics II (4 qhrs)
- PSCI 1552 Molecular Biology and Human Genetics (2 qhrs)

Spring Quarter, First Year (16.5/18 qhrs)
- CORE 480 Interdisciplinary Health Care (0.5 qhr)
- MICR 513 Microbiology (3 qhrs)
- PHID 1503 Integrated Sequence 3 (4 qhrs)
PPRA 1504 Professional Skills Development 4 2 qhrs
PPRA 1535 Comm. Partnership in Public Health (half of class) 1.5 qhrs
PSCI 553 Immunology 3 qhrs
PSCI 1564 Pharmacokinetics & Biopharmaceutics 4 qhrs

**Summer Quarter, Second Year (12 qhrs)**
PPRA 1694 Introductory Community Experience 6 qhrs
PPRA 1695 Introductory Institutional Experience 6 qhrs

**Fall Quarter, Second Year (18 qhrs)**
PHID 1604 Integrated Sequence 4 5 qhrs
PHID 1605 Integrated Sequence 5 3.5 qhrs
PPRA 1605 Professional Skills Development 5 1.5 qhrs
PPRA 1665 Ethical Decision Making 2 qhrs
PPRA 1672 Research Methods & Epidemiology for Health Care Professionals 3 qhrs
PPRA/PSCI Electives 3 qhrs
6/7xx

**Winter Quarter, Second Year (16 qhrs)**
PHID 1606 Integrated Sequence 6 5.5 qhrs
PHID 1607 Integrated Sequence 7 4 qhrs
PPRA 1606 Professional Skills Development 6 1.5 qhrs
PPRA 1676 Evidence-Based Health Care 2 qhrs
PPRA/PSCI Electives 3 qhrs
6/7xx

**Spring Quarter, Second Year (18 qhrs)**
PHID 1608 Integrated Sequence 8 4.5 qhrs
PHID 1609 Integrated Sequence 9 4 qhrs
PPRA 1607 Professional Skills Development 7 1.5 qhrs
PPRA 1667 Complementary and Alternative Medicine 2 qhrs
PPRA 1675 Pharmacy Practice Management 3 qhrs
PPRA/PSCI Electives 3 qhrs
6/7xx

**Summer Quarter, Third Year (15.5 qhrs)**
PPRA 1701 Acute Care Management 4 qhrs
PPRA 1708 Professional Skills Development 8 1.5 qhrs
PPRA 1737 Disease State Management 4 qhrs
PPRA 1776 Human Resource Management 3 qhrs
PPRA/PSCI Electives 3 qhrs
6/7xx

**Fall, Winter, and Spring Quarters, Third Year (54 qhrs)**
Advanced Pharmacy Practice Experience Rotations:
36 weeks for a total of 54 qhrs.

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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:

- PPRA/PSCI Special Project/Research 1.5 qhrs
- PPRA/PSCI Special Project/Research 3 qhrs
- PPRA 611 Advanced Cardiac Life Support 3 qhrs
- PPRA 613 Managing Prescription Benefits 1.5 qhrs
- PPRA 616 Issues in Infectious Diseases 1.5 qhrs
- PPRA 626 Clinical Toxicology 1.5 qhrs
- PPRA 629 Clinical Applications of PDA in Healthcare 1.5 qhrs
- PPRA 638 Pharmacy-Based Health Screenings 1.5 qhrs
- PPRA 646 Diabetes: A Patient’s Perspective 1.5 qhrs
- PPRA 648 Personal Finance for the Health Care Professional 1.5 qhrs
- PPRA 649 Pain and Symptom Management In Terminally Ill Patients 1.5 qhrs
- PPRA 650 Journal Club 1.5 qhrs
- PPRA 653 Applied Microbiology for Healthcare Professionals 1.5 qhrs
- PPRA 655 Applied Healthcare for Spanish Speaking Populations 1.5 qhrs
- PPRA 711 Pharmacological Management of Chronic Pain 1.5 qhrs
- PPRA 712 Clinical Management of Patients With HIV/AIDS 1.5 qhrs
- PPRA 713 Introduction to Geriatrics 1.5 qhrs
- PPRA 714 Political Advocacy and Leadership 1.5 qhrs
- PSCI 606 Dangerous Plants and Animals 1.5 qhrs
- PSCI 619 Medical Spanish 1.5 qhrs
- PSCI 623 Use and Abuse of Drugs 3 qhrs
- PSCI 642 Introduction to Classical Homeopathy 1.5 qhrs
- PSCI 647 Pharmaceutical Formulation and Analysis 1.5 qhrs
- PSCI 652 Recent Advances in Pharmacology 1.5 qhrs
- PSCI 654 Sterile Products 1.5 qhrs
- PSCI 710 Advanced Endocrine Toxicology 1.5 qhrs
Experiential Rotations
Students are required to complete introductory shadow experiences, 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 hospital 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.

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
CORE 460, 470, 480 Interdisciplinary Health Care
The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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.
0.5 credits each

MICR 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

PHID 501-503, 604-608, 709, Integrated Sequence I-IX
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.
PHID 501, 6 credits, Prerequisite: PHYS 501, 502; Physiology I, II; PSCI 552 Biochemistry II
PHID 502, 4 credits, Prerequisite: PHID 501 Integrated Sequence I
PHID 503, 4 credits, Prerequisite: PHID 502 Integrated Sequence II
PHID 604, 5 credits, Prerequisite: PHID 503 Integrated Sequence III
PHID 605, 4 credits, Prerequisite: PHID 604 Integrated Sequence IV
PHID 606, 5 credits, Prerequisite: PHID 605 Integrated Sequence V
PHID 607, 5.5 credits, Prerequisite: PHID 606 Integrated Sequence VI
PHID 608, 6 credits, Prerequisite: PHID 607 Integrated Sequence VII
PHID 709, 4.5 credits, Prerequisite: PHID 608 Integrated Sequence VIII

PHID 1501-1503, 1604-1608, 1709, Integrated Sequence I-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.
PHID 1501, Introduction, Nutrition, and Anemia, 4 credits, Prerequisite: PHYS 1501 Physiology I, PHYS 1502 Physiology II; PSCI 1551 Biochemistry
PHID 1502, ANS, GI, GU, Ophthalmology, 4 credits, Prerequisite: PHID 1501 Integrated Sequence 1
PHID 1503, Endocrinology, 4 credits, Prerequisite: PHID 1502 Integrated Sequence 2
PHID 1604, Cardiovascular I, 5 credits, Prerequisite: PHID 1503 Integrated Sequence 3
PHID 1605, Cardiovascular II, 3.5 credits, Prerequisite: PHID 1604 Integrated Sequence 4
PHID 1606, Central Nervous System I, 5.5 credits, Prerequisite: PHID 1605 Integrated Sequence 5
PHID 1607, Central Nervous System II, 4 credits, Prerequisite: PHID 1606 Integrated Sequence 6
PHID 1608, Infectious Disease, 4.5 credits, Prerequisite: PHID 1607 Integrated Sequence 7
PHID 1609, Viral and Oncology, 4 credits, Prerequisite: PHID 1608 Integrated Sequence 8

PHYS 501 Human Physiology I
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 endocrine system. Basic and applied terminology as well as the basic morphology of systems is discussed; also,
the relationship between anatomy and function of the systems considered is included.
4 credits

PHYS 502 Human Physiology II
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, reproductive, respiratory, and gastrointestinal systems. Basic and applied terminology as well as the basic morphology of systems is discussed as well as the relationship between anatomy and function of the systems considered.
4 credits

PHYS 1501 Human Physiology I
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 II
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 523 Applied Pharmaceutical Care (APC) I
This course focuses on the application of pharmaceutical care principles, pharmaceutical knowledge, and professional communication techniques to solve medication problems and provide patient-focused drug therapy management in the ambulatory care (community) pharmacy environments. Areas of emphasis include professional communication, recognition of adverse drug events and medication errors, and the basic operational activities performed by pharmacists in acute care settings. This workshop-based course requires students to get involved in the application of pharmaceutical care skills in various case scenarios as well as workshop role plays, discussions, and presentations.
4.5 credits
Prerequisite: PSCI 542 Pharmaceutics II

PPRA 524 Pharmacy Law
The basic principles of law are reviewed as they relate to the practice of pharmacy under federal, state, and local regulations. The special problems involving the control of narcotics, poisons, and other controlled substances are reviewed. Some laws relative to business activities and discussions of professional ethics are also included.
2 credits

PPRA 534 Public Health & Service Learning
This course presents the basic and critical issues in public health within the context of population health care 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 health care needs of specific populations.
2 credits

PPRA 544 Applied Pharmaceutical Care II
This course focuses on the application of pharmaceutical care principles, pharmaceutical knowledge, and professional communication techniques to solve medication problems and provide patient-focused drug therapy management in acute care pharmacy environments. Areas of emphasis include professional communication, recognition of adverse drug events and medication errors, and the basic operational activities performed by pharmacists in acute care settings. This workshop-based course requires students to get involved in the application of pharmaceutical care skills in various case scenarios as well as workshop role plays, discussions, and presentations.
2 credits
Prerequisite: PPRA 523 Applied Pharmaceutical Care I

PPRA 571 Health Care 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 health care 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 572 Research Methods and Epidemiology for Health Care Professionals
This course introduces students to the statistical concepts necessary to understand and apply statistics to decision
making and patient care. These concepts include frequency and probability, central tendency, normal population and sampling distributions, hypothesis testing, and an introduction to inferential statistics. Students will also be introduced to the most common methods used to conduct research in pharmacy practice. Topics include research design, data collection, analysis, interpretation, and application of results to the practice of pharmacy.

3 credits

PPRA 591, 592, 593 Introduction to Professional Practice I, II, III
In addition to one’s knowledge of the scientific basis of practice, the ability to communicate and be an effective team member is critical to the pharmacist’s role as an educator, clinician, and member of the health care team. This three course sequence is offered in the PS-I year to provide students with the foundational concepts and skills necessary to function as caring and ethical pharmacists upon graduation and in the future. This will be accomplished through discussion of issues shaping the profession, experiential assignments, and case studies.

PPRA 591, 2 credits
PPRA 592, 2 credits, Prerequisite: PPRA 591 Introduction to Professional Practice I
PPRA 593, 1 credit, Prerequisite: PPRA 592 Introduction to Professional Practice II

PPRA 594 Introductory Practice Experience
This course provides PS-I students the opportunity to observe current pharmacy practice by shadowing pharmacists in a variety of sites. Activities will be assigned to stimulate discussion between the preceptor and student regarding current issues in patient centered care. Students will participate in shadowing experiences at two different sites and participate in on campus discussion of their experiences. Students will be assigned to either the fall or winter quarter.
0.5 credit

PPRA 657 Disease Management I
This course focuses on wellness, prevention, and management of major ambulatory disease states, with an emphasis on cardiovascular conditions. This is accomplished through in-depth coursework, patient interviewing and triage, application of physical assessment skills, and formulation of appropriate therapeutic plans.
3 credits
Prerequisite: PHID 607 Integrated Sequence VII

PPRA 665 Behavioral Medicine and Ethics
This course is designed to provide pharmacy students with the knowledge and sensitivity needed to communicate and intervene effectively in a variety of psychosocial situations with different patient populations. Patient education and communication, cultural and social awareness, and sensitivity issues are presented. Emphasis is placed on normal psychosocial life and adjustment to common problems encountered in the health care environment including pharmacy’s role in dealing effectively with patients and caregivers concerning these circumstances.
2 credits

PPRA 667 Complementary Medicine
This course is designed as a survey of complementary medicine. Students will be introduced to the theory and practice of some of the more popular complementary therapies such as acupuncture, traditional Chinese medicine, homeopathy, herbal medicine, and other dietary supplements. The course will also include the use of complementary medicine associated with the common disease states. Students will have the opportunity to research and present an alternative treatment to the class.
2 credits

PPRA 675 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 676 Evidence-Based Medicine
The goal of this course is to provide students with the skills needed to maintain an evidence-based health care practice, which involves identifying clinical questions, finding the evidence, evaluating the evidence, and applying the information to patients. Students will be asked to answer questions about medications using tertiary resources, conduct literature searches in Pubmed and International Pharmaceutical Abstracts, and evaluate randomized, controlled clinical trials.
3 credits
Prerequisite: PPRA 572 Research Methods and Epidemiology for Health Care Professionals

PPRA 677 Health Economics and Outcomes Assessment
This course introduces students to the methods and tools used within the managed care environment to document, evaluate, and improve upon the medication use process in achieving defined therapeutic outcomes. Areas that will be elaborated include formulary management, drug usage evaluation, adverse drug events, pharmaceutical care, disease management, pharmacoconomics, methods of reimbursement, and health care reform.
3 credits
**PPRA 694 Introductory Community Experience**
This experience provides an opportunity for students to participate in basic patient care and distribution services in a community pharmacy practice setting. All students are expected to utilize their pharmacy knowledge and life experiences thus far to provide patient centered care. Students will communicate with other health care professionals and patients, and answer basic prescription and OTC medication-related questions utilizing a systematic approach to drug information retrieval. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in community pharmacy practice including the areas of patient counseling, medication distribution, extemporaneous products, and application of federal and state pharmacy laws.
7.5 credits
Prerequisite: see academic polices regarding experiential education

**PPRA 695 Introductory Institutional Experience**
This experience provides an opportunity to allow students to participate in basic patient care and distribution services in an institutional pharmacy practice setting. All students are expected to utilize their pharmacy knowledge and life experiences thus far to provide patient centered care. Students will communicate with other health care professionals and patients and answer basic prescription related questions utilizing a systematic approach to drug information retrieval. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in institutional pharmacy practice including the areas of medication distribution systems, sterile product preparation, interprofessional activities, and application of federal and state pharmacy laws.
7.5 credits
Prerequisite: see academic polices regarding experiential education

**PPRA 701 Acute Care Management**
This course integrates advanced problem-solving, monitoring and documentation in the management of patients in the acute care setting. This class will also reinforce the principles of clinical pharmacokinetics and review the management of patients experiencing toxicological emergencies and acute overdose. Emphasis will be placed on the development and documentation of evidence based cost effective treatment regimens and care plans.
3.5 credits

**PPRA 737 Disease Management II**
This course focuses on wellness, prevention, and management of major ambulatory disease states, with further emphasis on cardiovascular, pulmonary, and endocrine conditions. This is accomplished through in-depth coursework, patient interviewing and triage, application of physical assessment skills, and formulation of appropriate therapeutic plans.
3 credits
Prerequisites: PHID 608 Integrated Sequence VIII, PPRA 657 Disease Management I

**PPRA 791-796 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.
7.5-9 credits each, depending on quarter that APPE is completed
Prerequisites: See academic policies regarding experiential education

**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.
PPRA 1501, 3.5 credits,
PPRA 1502, 3.5 credits, Prerequisite: PPRA 1501 Integrated Sequence 1
PPRA 1503, 2 credits, Prerequisite: PPRA 1502 Integrated Sequence 2
PPRA 1504, 2 credits, Prerequisite: PPRA 1503 Integrated Sequence 3
PPRA 1605, 1.5 credits, Prerequisite: PPRA 1504 Integrated Sequence 4
PPRA 1606, 1.5 credits, Prerequisite: PPRA 1605 Integrated Sequence 5
PPRA 1607, 1.5 credits, Prerequisite: PPRA 1606 Integrated Sequence 6
PPRA 1708, 1.5 credits, Prerequisite: PPRA 1607 Integrated Sequence 7

**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 health care 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 health care needs of specific populations. 
2 credits

PPRA 1535 Community Partnership in Public Health
Community Partnership in Public Health 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, providing health education, identifying individual/community needs and community resources. This course places students in contact with specific populations and agencies working within the community that address the needs of the population. Assignments introduce students to the concepts of health promotion, wellness, disease prevention, community development, patient empowerment, at-risk populations, barriers to care, and ultimately the health of populations. 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 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
In daily pharmacy practice, pharmacists encounter a variety of behavioral and ethical issues related to interactions among patients, providers, and health care organizations. This course presents the principles underlying the dynamics of these constantly changing interactions to help future pharmacists better understand, predict, and ultimately change the nature of their interactions with patients, other providers, and health care organizations. Future pharmacists who have mastered the concepts in this course are better equipped to optimize their delivery of pharmaceutical care and ultimately achieve positive patient outcomes.
2 credits

PPRA 1667 Complementary and Alternative Medicine
This course introduces students to the theory and uses of some of the more popular complementary and alternative therapies. Examples include herbal products, dietary supplements, acupuncture, traditional Chinese medicine, and homeopathy. The course includes the use of complementary medicine associated with the common disease states. Students research and present a complementary or 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 Health Care 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 Health Care
In this course, students will learn and apply skills that will improve their ability to practice evidence-based health care
(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 and Epidemiology for Health Care 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 pharmacy practice setting. All students are expected to utilize their pharmacy knowledge and life experiences thus far to provide patient centered care. Students will communicate with other health care professionals and patients, and answer basic prescription and OTC medication related questions utilizing a systematic approach to drug information retrieval. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in community pharmacy practice including the areas of patient counseling, medication distribution, extemporaneous products, and application of federal and state pharmacy laws.

6 credits
Prerequisite: See academic policies regarding experiential education

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. All students are expected to utilize their pharmacy knowledge and life experiences thus far to provide patient centered care. Students will communicate with other health care professionals and patients and answer basic prescription related questions utilizing a systematic approach to drug information retrieval. Pharmacy students, under the supervision of adjunct clinical faculty, gain experience in institutional pharmacy practice including the areas of medication distribution systems, sterile product preparation, interprofessional activities, and application of federal and state pharmacy laws.

6 credits
Prerequisite: See academic policies regarding experiential education

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

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
Prerequisite: PHID 1609 Integrated Sequence 9; PPRA 1607 Professional Skills Development 7

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: See academic policies regarding experiential education

PSCI 541 Pharmaceutics I
Pharmaceutics I is an integration of physical pharmacy, dosage forms, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products; the appropriate evaluation, documentation, and labeling of prescriptions; the mathematical calculations essential to the compounding, dispensing, and delivery of drug products, and the basic skills and techniques necessary for compounding pharmaceutical delivery systems. Pharmaceutics I is the first of two required courses in pharmaceutics for pharmacy students; specific
dosage forms covered in this course include powders, capsules, tablets, suppositories, ointments, and transdermal patches.
4 credits

PSCI 542 Pharmaceutics II
Pharmaceutics II is an integration of physical pharmacy, dosage forms, pharmacy calculations, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products; the appropriate evaluation, documentation, and labeling of prescriptions; the mathematical calculations essential to the compounding, dispensing, and delivery of drug products, and the basic skills and techniques necessary for compounding pharmaceutical delivery systems.

Pharmaceutics II is the second of two required courses in pharmaceutics for pharmacy students. Specific dosage forms covered in this course include solutions, suspensions, emulsions, aerosols, ophthalmics, and parenterals.
4 credits
Prerequisite: PSCI 541 Pharmaceutics I

PSCI 551 Biochemistry I
This course combines lectures and small group discussions called workshops. Lectures address structure/function relationships in major biomolecules, enzymes in biochemistry, human energy metabolism, and major pathways for human protein, carbohydrate, and lipid metabolism. Workshops feature clinical cases and/or problem sets to illustrate the principles of clinical biochemistry as they relate to pH and buffers, enzyme function, and homeostasis.
3.5 credits

PSCI 552 Biochemistry II
This course combines lectures, small group discussions, and group presentations. Lectures address the regulation of metabolism, chemical signaling, cell cycle regulation, principles of gene expression, and basic genetics. Workshops feature clinical case studies that illustrate the biochemistry of Type I and Type II diabetes mellitus and hyperlipidemia. Group presentations are a culmination of both biochemistry courses in that they give the students an opportunity to research, understand, and present to the class the genetics and biochemistry of an inherited human disorder.
3.5 credits
Prerequisite: PSCI 551 Biochemistry

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 immunophrophylaxis are emphasized.
3 credits

PSCI 554 Pharmacokinetics and Biopharmaceutics
This course introduces pharmacy students to the principles of biopharmaceutics and pharmacokinetics. The relationships between physiology, mathematics, and pharmacokinetic theory are explored and applied to pharmacy practice. During this course, students learn how to calculate and interpret pharmacokinetic parameters, discuss and explain pharmacokinetic principles, assess factors that affect drug disposition, design and adjust drug dosage regimens, and predict and explain the mechanism(s) involved in drug interactions.
3 credits

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, prescription and medication orders, weights and measures, percentage 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. The course utilizes various instructional methods in order to develop and establish mathematical competency necessary for future coursework and clinical application.
2 credits

PSCI 1541 Pharmaceutics I
Pharmaceutics I & II are an integration of physical pharmacy, dosage forms, pharmacy calculations, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products; the appropriate evaluation, documentation, and labeling of prescriptions; the mathematical calculations essential to the compounding, dispensing, and delivery of drug products, and the basic skills and techniques necessary for compounding pharmaceutical delivery systems.

Pharmaceutics I is the first of two required courses in pharmaceutics for pharmacy students; specific dosage forms
covered in this course include powders, capsules, tablets, suppositories, ointments, and transdermal patches.

4 credits
Prerequisite: PSCI 1540 Pharmaceutical Calculations.

PSCI 1542 Pharmaceutics II
Pharmaceutics I & II are an integration of physical pharmacy, dosage forms, pharmacy calculations, and pharmaceutical compounding presented by dosage form classification. The course presents the principles important for the administration, preparation, stability, and performance of drug products; the appropriate evaluation, documentation, and labeling of prescriptions; the mathematical calculations essential to the compounding, dispensing, and delivery of drug products, and the basic skills and techniques necessary for compounding pharmaceutical delivery systems.

Pharmaceutics II is the second of two required courses in pharmaceutics for pharmacy students; specific dosage forms covered in this course include solutions, suspensions, emulsions, aerosols, ophthalmics, and parenteral.

4 credits
Prerequisite: PSCI 1541 Pharmaceutics I

PSCI 1551 Biochemistry
This course instills basic principles in biochemistry with particular emphasis on pharmaceutical applications. Lectures address acid/base chemistry, structure and function, and relationships of proteins, enzymes in biochemistry, and major pathways for protein, carbohydrate, and lipid metabolism, and pertinent nutritional topics.

3 credits
Prerequisite: PSCI 1551 Biochemistry

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: PSCI 1551 Biochemistry

PSCI 1564 Pharmacokinetics and Biopharmaceutics
This course introduces pharmacy students to the principles of biopharmaceutics and pharmacokinetics. The relationships between physiology, mathematics, and pharmacokinetic theory are explored and applied to pharmacy practice. During this course, students learn how to calculate and interpret pharmacokinetic parameters, discuss and explain pharmacokinetic principles, assess factors that affect drug disposition, design and adjust drug dosage regimens, and predict and explain the mechanism(s) involved in drug interactions. In addition, students learn to apply basic pharmacokinetic skills to manage therapy of some common clinically monitored medications.

4 credits
Prerequisite: PSCI 1542 Pharmaceutics II

Elective Courses

PPRA 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 601, 1.5 credits; PPRA 602, 3 credits

PPRA 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 605 Integrated Sequence V

PPRA 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 616 Issues in Infectious Diseases
This course is an in depth review of the key issues found in the practice of infectious diseases pharmacotherapy. The class will rely on case presentations to review key areas of infectious diseases pharmacotherapy. Topics may include, but are not limited to, HIV/AIDS, HCAP, fungal infections,
SSTI, and CAP. The course will incorporate self-directed learning, lecture, group case discussion, and written critiques to better understand these important infectious diseases issues.

1.5 credits
Prerequisite: PHID 608 Integrated Sequence VIII

**PPRA 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 629 Clinical Applications of PDAs in Health Care**
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 638 Pharmacy-Based Health Screenings**
Through active participation in lecture discussions as well as laboratory exercises, the student will be prepared to develop health-screening programs in a variety of pharmacy practice settings. The focus is risk factor assessment and hands-on experience with technological devices related to cancer, cardiovascular disease (blood pressure and cholesterol), diabetes, and osteoporosis. This course will address OSHA training, CLIA regulations, policies and procedures, and implementation of screening programs. The course meets once weekly for either a 1.5-hour lecture or a combination of 1-hour lecture and 2-hour lab/workshop. The course evaluation is based upon competency assessment of techniques during lab/workshop and a final student project consisting of developing and presenting a screening program.

1.5 credits

**PPRA 639 History of Pharmacy in America**
The objective of this course is to introduce the pharmacy student to the history of pharmacy. This is accomplished by focusing upon the historical development of pharmacy in the United States. By examining the growth and professionalization of the field, its statutory regulation and its product development, students will be able to apply the lessons of history to current and future practice philosophies. “If we forget history, we are bound to repeat it.” At the end of this course, students will understand and be familiar with the general historical development of American pharmacy, its literature, and its reference tools for historical inquiry. The history of pharmacy is an area that receives little attention in the pharmacy curriculum but its lessons and tradition are of great importance in recognizing and understanding the professionalism required of a pharmacist.

1.5 credits

**PPRA 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 503 Integrated Sequence III

**PPRA 648 Personal Finance for the Health Care Professional**
The objective of this course will be to provide students with the tools needed to financially succeed after graduation. They will be taught personal finance knowledge in the area of taxes, insurance, basic investing, loans and credit, debt consolidation, home purchasing, and basic money management. The course will be taught partly in lecture format, small group interactions, and case studies. Other faculty members and outside guest speakers may speak and lead discussion where appropriate. Students will follow a hypothetical case in the beginning of the course and then be responsible for filling out personal worksheets and developing a financial plan post-graduation. The course will be attendance-based and based on weekly assignments. There will be no examination in the course.

1.5 credits

**PPRA 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 607 Integrated Sequence VII
**PPRA 650 Journal Club**
The goal of this course is for students to improve their ability to find and evaluate recently published information on medications. Information from the major therapeutic areas will be emphasized. In this course, each student will summarize clinically relevant information from an assigned journal weekly. Additionally, each student will present and critique one randomized, controlled trial in detail at least once during the quarter. Grades will be determined on presentation preparedness and style, ability to summarize and critique a randomized, controlled trial, and participation in general discussions. Enrollment will be limited to approximately 10 students so the course can be offered as weekly small group discussions.

1.5 credits
Prerequisite: PPRA 676 Evidence-Based Medicine

**PPRA 653 Applied Microbiology for Health-care Professionals**
This course is an extension of knowledge gained in microbiology. The course will focus on the application of microbiological principles in healthcare. The class will rely on lectures, workshops, and a journal review to expand basic knowledge regarding key pathogens. Topics may include, but are not limited to: an extensive review of important pathogens, antimicrobial testing and reporting, the basics of infection and clinical guideline development.

1.5 credits
Prerequisite: MICR 513 Microbiology

**PPRA 655 Applied Health Care 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 course will focus on the application of bilingual and bicultural key elements in healthcare. The class will use lectures, weekly reading quizzes, workshops (case-studies, role-playing), and a literature review to expand basic knowledge regarding healthcare and cultural issues in the Latino population.

1.5 credits
Prerequisite: Conversational high school or college Spanish

**PPRA 711 Pharmacological Management of Chronic Pain**
The objective of this course is to provide students with a basic understanding of the differences between chronic and acute pain. Pharmacological treatment of acute pain is relatively straightforward; management of chronic pain is often complicated and rarely achieves the patient quality of life goals. 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 607 Integrated Sequence VII

**PPRA 712 Clinical Management of Patients with HIV/AIDS**
Clinical Management of Patients with HIV/AIDS provides a forum for students to learn how to manage these patients using cases of real patients as a point of discussion. The course will expand on content in the integrated sequence. A brief review of the various classes of antiretrovirals will also be provided along with investigational agents currently in the pipeline. Current diagnostic procedures, guidelines, and importance of adherence will also be discussed. The last half of the course will be devoted to case discussions of a variety of patient types including naïve, stabilized, those with opportunistic infections, advanced patients with multiple resistant mutations, and those with one or more co morbidities.

1.5 credits
Prerequisite: PHID 609 Integrated Sequence 9

**PPRA 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, the roles pharmacists have in working with geriatric patients, and an overview of geriatric syndromes. Topics include psychosocial issues, pharmacokinetic and pharmacodynamic changes, geriatric care environments such as long-term care, assisted living, and community, inappropriate medications and Beers Criteria, communication strategies, wellness and preventative topics, falls, weight disorders, and syncope. The course meets once weekly for 1.5 hours for lecture and group discussion. Students are evaluated on weekly drug regimen review assignments along with a senior care activity and comprehensive final exam.

1.5 credits
Prerequisite for Class starting in 2006: PHID 504 IS-4 Endocrinology
Prerequisite for Class starting in 2007 and after: PHID 503 IS-3 Endocrinology

**PPRA 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 593 Introduction to Professional Practice III

PSCI 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 601, 1.5 credits; PSCI 602, 3 credits

PSCI 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 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 623 Use and Abuse of Drugs
This elective course provides an in-depth review of neuropharmacology of substances of abuse including stimulants, depressants and inhalants, medications for mental disorders, ethanol, tobacco, caffeine, dietary supplements and over-the-counter drugs, opioids, hallucinogens, marijuana, anabolic steroids and other performance enhancing drugs. In addition, an overview of drug use, drug use as a social problem, drug products and their regulations, the nervous system, the mechanism of action of drugs, preventing substance abuse and substance abuse and dependence are also covered.
3 credits
Prerequisite: PHID 503, Integrated Sequence 3

PSCI 642 Introduction to Classical Homeopathy
The use of alternative forms of medicine is rapidly growing in the U.S. Homeopathy is a system of medicine that was formalized 200 years ago. The name is derived from the Greek homeo = similar, and pathos = suffering. It is this concept of “similar suffering” that is behind the principle of “like cures like.” A substance that produces symptoms when given to a healthy person is used to heal a sick person who presents with similar symptoms. Topics include history, philosophy, research, and pharmacy. Students become familiar with 5-10 remedies that are commonly used for the treatment of acute conditions. Student participation and class discussion are strongly emphasized.
1.5 credits

PSCI 647 Pharmaceutical Formulation and Analysis
Pharmaceutical Formulation and Analysis is a supplement to Pharmaceutics I & II. 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 compounders understand the importance of product quality and how multiple variables may affect the quality of their products. The course is primarily designed for students interested in specializing in pharmacy compounding, completing pharmaceutics research projects, and/or completing postgraduate training in the pharmaceutical sciences.
1.5 credits
Prerequisite: PSCI 542 Pharmaceutics II

PSCI 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 501 Integrated Sequence I

PSCI 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 of sterile dosage forms, compatibility issues with admixtures, sterility assurance and aseptic technique, packaging, unit operations, such as filtration, sterilization, and lyophilization, routes of administration, and therapeutic issues including large volume
injectable preparation, fluids and electrolytes, and parenteral nutrition. Information on biotechnological parenteral products and advances in parenteral technologies will also be provided. An associated laboratory session will focus on aseptic technique and familiarization with equipment used to prepare and administer parenteral medications.

1.5 credits
Prerequisite: PSCI 542 Pharmaceutics II

**PSCI 710 Advanced Endocrine Toxicology**
This course is an extension of knowledge gained in physiology and the Integrated Sequence series. The course will focus on the integration of principles of toxicology, pharmacology and physiology so that the students will understand 1) why endocrine organs and cells 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 or cell line models should be used when evaluating toxic potential of drugs to endocrine tissues and to what extent can results from animal studies be extrapolated to human risk, and 4) how endocrine function is assessed when determining toxic effects. The class will utilize lectures, discussion groups, and on individual student analysis, presentation, and discussion of a manuscript involving a particular endocrine toxicity. Topics may include, but are not limited to: an extensive review of how the chemical design of drugs, changes in endocrine function throughout life, and gender differences play an important role in determining the type and severity of toxicity resulting from chemical exposure.

1.5 credits
Prerequisite: PHID 503 Integrated Sequence III

**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. Goecel 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 seven 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 two 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.

Walgreen Pharmacy Scholarship
The Walgreen Company provides scholarships to students who have demonstrated strong leadership and communication skills. These students must also have an interest in community pharmacy practice.

Wal-Mart Pharmacy Scholarship
Wal-Mart provides scholarships to students with strong leadership qualities and a desire to enter community pharmacy practice.

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 of the Dean’s Office. 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.

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 remanded 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 in that year in which grades of D or F are received. A student is allowed to go through an extended program only once. 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 Committee will recommend dismissal. 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. Such a student re-enters the next professional year curriculum and resumes a normal course load. A re-entering student who earns a grade of F in any course, or D in two or more courses in an academic year or an annual grade point average of less than 2.00 will 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 experiential rotations.
2. To proceed to rotations, 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 experiential rotations 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 fall quarter.

Academic Standards for Experiential Rotations
If student fails to earn a grade of C or better on an experiential rotation, he/she must petition the SPGC within 30 calendar days after the last day of the rotation to retake the same type of rotation. After consideration of the circumstances, the SPGC may grant the re-take with additional requirements which may include having the student:
1. complete additional coursework to correct knowledge deficiencies;
2. undergo a period of directed independent study to correct knowledge deficiencies; or
3. wait a defined time period before repeating the rotation.

Actions of the SPGC are not limited to the above and recommendations will be determined on a case-by-case basis. The time of the re-take 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 Office of Experiential Education. The retake, if granted, must be completed within 12 calendar months of the date the petition is received by the Dean’s Office. Students are allowed only one retake of a rotation while enrolled at MWU-CPG. Failure to earn a C or better on a second rotation will result in a recommendation for dismissal.

Academic Probation
As stated above, students must maintain an annual GPA of 2.00 in a particular professional year to remain in good academic standing.

If a student’s annual grade point average is less than 2.00 or if the student earns an F in one or more courses or a D in two or more courses in a particular professional year, the student is notified in writing that he/she is being placed on academic probation. Academic probation represents notice that continued inadequate academic performance may result in dismissal from the College.

Class Standing
To achieve the status of a second year student in the professional program (PS-II), students must have successfully completed all requisite first –year courses and earned an annual didactic GPA of 2.00. To achieve the status of a third-year student in the professional program (PS-III), students must have successfully completed all requisite PS-II courses, the two introductory rotations, and earned an annual didactic GPA of 2.00.

Course Withdrawal
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. In the event of exceptional circumstances, the student who withdraws from a course will get a WP or WF based on performance.
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. For other students, the criteria for Dean’s List recognition is a GPA of 3.25 or better for the quarter. This applies for full-time didactic coursework only.

Dismissal

A student may be dismissed from the College for academic reasons upon the recommendation of the SPGC. The dismissal is based on the determination by the Committee that the student has not satisfactorily demonstrated that he or she possesses the aptitude to successfully achieve the standards and requirements set forth in the academic policies and professional expectations for the program. 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 student’s request for an extended program to the Dean. The 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 will be required to repeat courses from that year in which D or F grades were received. A student may be placed on an extended program for academic reasons at the discretion of the SPGC. 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.

Grade Appeal Policy

I. Appeal of Non-failing Course Grades

A student who wishes to appeal a non-failing course grade must make the appeal to the course coordinator within one week following receipt of the grade. The course coordinator 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; or
3. Bias.

If the appeal is denied, the student has the right to appeal the decision to the course coordinator’s immediate supervisor within one week of receipt of the course coordinator’s denial. The course coordinator’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 coordinator’s supervisor is final and must occur prior to the start of the subsequent quarter.

II. Appeal of Course Grades Subject to Review by the Student Promotion and Graduation Committee

A student whose academic progress will be subject to review by the College’s SPGC 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 coordinator’s supervisor. The student is responsible for notifying the chair of the SPGC that a grade appeal has been filed prior to the meeting of the Committee.

All appeals and decisions must be communicated in written form.

Appeal Process (for dismissals or extended program actions)

Following notification of a decision for dismissal or extended program, a student may appeal, in writing, the decision within 3 working days to the Dean. The Dean makes the
final decision on all appeals. The Dean may grant an appeal only if a student can demonstrate one of the following:

1. Material information not available to the Committee at the time of its initial decision;
2. Procedural error; or
3. Bias of one or more Committee members.

Students appealing dismissal must attend classes while awaiting the outcome of their appeal.

Grades
The following includes all grading options and corresponding definitions that may be issued within MWU-CPG for students admitted prior to or in Fall 2007.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.75</td>
</tr>
<tr>
<td>B+</td>
<td>3.25</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.75</td>
</tr>
<tr>
<td>C+</td>
<td>2.25</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
<tr>
<td>W</td>
<td>Withdrawal with no penalty and no credit</td>
</tr>
<tr>
<td>W/F</td>
<td>Withdrawal/Failing</td>
</tr>
<tr>
<td>W/P</td>
<td>Withdrawal/Passing</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete course work</td>
</tr>
<tr>
<td>P</td>
<td>Pass</td>
</tr>
<tr>
<td>AP</td>
<td>Advanced Placement</td>
</tr>
</tbody>
</table>

The following includes all grading options and corresponding definitions that may be issued within MWU-CPG for students admitted in Summer 2008 or thereafter.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
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<td>W</td>
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<td>P</td>
<td>Pass</td>
</tr>
<tr>
<td>AP</td>
<td>Advanced Placement</td>
</tr>
</tbody>
</table>

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 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. Under such circumstances, the student is responsible for providing the department with a written request notifying the department of the circumstances, documenting the problem(s), and asking for authorization to extend the period allotted to complete the unfinished coursework.

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.

Graduation
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.

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

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

Graduation Requirements
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 MWU-CPG Dean.

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 to participate in the graduation ceremony. The letter should be addressed to the Dean of the College. 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 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 then forwards the letter to the SPGC for consideration.

The SPGC 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, until all graduation requirements are met.

Re-examination
Re-examination (Retest) 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” should be submitted to the Registrar at the end of the quarter. The re-examination(s) must be completed within 10 working days beginning from the first Monday following the end of the quarter. If the student passes the re-examination, a 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 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 Dean’s Office, 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 Dean’s Office 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.

Attendance and Student Employment
Upon acceptance to MWU-CPG, 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 courses/rotations are in session and will not take outside employment or activities into consideration when scheduling classes, examinations, reviews, field trips, or individual course, rotation or College functions. Required activities, as well as team project meetings, can be scheduled outside of class time, including weekends, and students are expected to attend these.
activities/meetings. Class attendance is mandatory for all students during experiential rotations. Refer to student rotation manual for specific details regarding this policy.

**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 Rotations and College Functions**
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. Their responsibilities include:

1. Serve as the student’s advisor and academic/professional counselor;
2. Oversee and monitor the academic progress and professional growth of the student;
3. Assist the student in seeking academic and personal counseling services provided by the institution;
4. Serve as an advocate for the student; and
5. Counsel the student during his/her selection of a career within the pharmacy profession.

**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 first professional 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.

**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.

**Faculty Pharmacy Practice**

**Marcus Barton, Pharm.D.**
Washington State University
College of Pharmacy
Adjunct Assistant Professor

**Kim Cauthon, Pharm.D., CGP**
St. Louis College of Pharmacy
Assistant Professor

**Sofia Coracides, Pharm.D.**
Midwestern University College of Pharmacy-Glendale
Adjunct Assistant Professor

**Stephanie J. Counts, Pharm.D.**
University of Arizona
College of Pharmacy
Associate Professor
Michael A. Dietrich, Pharm.D., BCPS
Xavier University of Louisiana
College of Pharmacy
Associate Professor

Karen Gallus, Pharm.D.
University of Minnesota
College of Pharmacy
Assistant Professor

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

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

Erin Johanson, MEd
Northern Arizona University
Adjunct Assistant Professor

Robert C. Johnson, RPh, MS
Wayne State University
Eugene Applebaum College of Pharmacy
Adjunct Professor and Assistant Dean

Chenery Kinemond, Pharm.D.
Midwestern University College of Pharmacy-Glendale
Adjunct Assistant Professor

John Kohli, Pharm.D.
Ohio Northern University
Raabe College of Pharmacy
Assistant Professor

Dawn S. Knudsen, Pharm.D.
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
Interim Dean and Professor

Danny McNatty, Pharm.D., BCPS
State University at Buffalo
School of Pharmacy and Pharmaceutical Sciences
Assistant Professor

Roger Morris, BS, JD
University of Pittsburgh
School of Pharmacy
Adjunct Assistant Professor

Russ Newman, Pharm.D.
University of Arizona
College of Pharmacy
Adjunct Assistant Professor

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

Elizabeth Pogge, Pharm.D.
University of Nebraska
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

Gary H. Smith, Pharm.D., FASHP, FCCP
University of California, San Francisco
School of Pharmacy
Adjunct Professor

Mohammad J. Tafreshi, Pharm.D., BCPS
University of Southern California
School of Pharmacy
Professor

Melinda J. Throm, Pharm.D., BCPS
University of Missouri-Kansas City
School of Pharmacy
Assistant Professor

Stephanie Thune, Pharm.D.
Midwestern University College of Pharmacy-Glendale
Assistant Professor

Ronald Woodbeck, BS, RPh
Long Island University
Arnold and Marie Schwartz College of Pharmacy
Adjunct Assistant Professor

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
Assistant Professor

Mitchell R. Emerson, Ph.D.
University of Kansas Medical Center
School of Medicine
Assistant Professor
Craig A. Johnston, Ph.D.
Michigan State University
College of Human Medicine
Professor and Department Chair

Melanie A. Jordan, Ph.D.
Virginia Commonwealth University
Medical College of Virginia
Assistant Professor

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

Volkmar Weissig, BS, MS, Ph.D., ScD
Martin Luther University -Halle
College of Advanced Technology
Associate Professor
MISSION
The mission of the College of Health Sciences is to educate and graduate competent health care professionals who will meet the health care and service needs of the public in a wide range of community and institutional practice settings. Students enrolled in the College of Health Sciences will become knowledgeable about and establish linkages with the osteopathic profession during the course of the education provided by the College. The College of Health Sciences shall develop and maintain progressive educational programs that meet or exceed professional accreditation standards, and satisfy the eligibility requirements of graduating students to pursue licensure/certification in the appropriate discipline within the United States. This mission is expressed in the educational, research, and service objectives of the College of Health Sciences.

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 Monitoring
All students enrolled in the College are expected to:
1. Maintain satisfactory academic progress in their course of study;
2. Meet all academic and professional standards established by the faculty of their program and the College; and
3. Comply with all standards of professional conduct and deportment expected of a student enrolled in a program of study that leads to eventual practice in a regulated health care profession.

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 Committee for Each Program
This Committee is appointed annually by the Faculty Senate upon recommendation of the Program Director, faculty, and Dean. 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 promotion of the student at the end of each academic year. If unsatisfactory, a prescribed course of action is determined by the committee. The committee also decides whether a student is placed on academic warning, academic probation, administrative probation, suspension, or dismissal. 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, four faculty members from the basic science departments (2 representatives from each campus), the Registrar (ex-officio without vote), and the Dean of Students (ex-officio without vote). The CHS Dean is also an ex-officio member without vote. The CHS Dean appoints the co-chairs, one from each campus, of this Committee, consulting with the University Faculty Senate. Each campus will have a subcommittee that is chaired by the co-chair from each respective campus.
At the end of each academic quarter, the subcommittee will review student appeals from their respective campus. A subcommittee reviewing a student appeal must have three or more CHS Student Promotion and Graduation Committee members from the respective campus where the student resides. Additionally, a majority of faculty members on each subcommittee must be from outside the program from which the student is appealing. At the end of each academic year, this committee reviews the recommendations from the individual Program Student Academic Review Committee and assesses the academic and professional progress and performance of each student. If satisfactory, the committee recommends promotion of the student. In addition, this committee meets each spring and fall to initiate a recommendation for graduation for 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. This committee is also responsible for formulating the criteria for promotion and graduation of students and policies for student appeals which are published in this catalog. The co-chairpersons of the committee are responsible for submitting minutes of each meeting to the CHS Dean.

**Students’ Responsibilities**

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 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 when information concerning academic performance may be distributed.

**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 achieved satisfactory academic progress.

**Professional Graduate Degree Programs:** The academic standing of a student is determined by the student’s cumulative grade point average. 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 Podiatric Medicine Program (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.

**Master of Science in 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.

**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 suspension, or dismissal.

Students will be notified by the Dean when they are placed on academic warning. Any student with academic deficiencies to be addressed by the Program Student Academic Review Committee shall be notified in writing with a delivery confirmation (i.e., express mail, e-mail, certified US mail, hand-delivery) by the Chair of the Program Student Academic Review Committee at least 2 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 Program Student Academic Review Committee in order to present his/her case. In such instances, the student shall inform the Chair of the Program 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.

In all instances, the Chair of the Program Student Academic Review Committee shall be responsible for informing the CHS Dean, in writing, as to the basis and specifics of each decision made by the committee. The CHS Dean is responsible for reviewing all recommendations for consistency with stated College academic policies and practices and for resolving any incongruency.

The Chair of the Program Student Academic Review Committee is responsible for providing notification in writing with a delivery confirmation (i.e., express mail, e-
mail, certified US mail, hand-delivery) to the involved student, informing him/her of the decision of the committee, including dismissal for academic reasons. Notice of dismissal must be delivered in writing with a delivery confirmation (i.e., express mail, e-mail, certified US mail, hand-delivery) within two working days following the decision of the committee. Absent an appeal, the recommendation of the committee shall be final. Once the course of action to be followed has been finalized, the Dean shall be responsible for providing written notification of the action taken to all appropriate academic support offices (i.e., Registrar, Student Financial Services, etc). With the exception of dismissal, all decisions of the Program Student Academic Review Committee shall be implemented by the Program Director. Academic dismissal shall be implemented by the CHS Dean.

<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) or ≥ 2.75 (graduate programs) or ≥ 2.00 (undergrad. programs)</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) or &lt; 2.75 (graduate programs) or &lt; 2.25 (undergrad. programs) or &lt; 2.00 (AZPod)</td>
<td>Academic warning or academic probation for the subsequent quarter</td>
<td>Academic warning and academic probation are not noted on the transcript.</td>
</tr>
<tr>
<td>Satisfactory professional behavior; one course failure**; and/or two quarters of cumulative GPA &lt; 3.00 (Nurse Anesthesia) 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 of the following: a) Retake of the failed course if eligible b) Academic suspension 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 d) Extended course of study Note: Students already on an extended course of study or when returning from LOA/suspension may be subject to suspension or dismissal after one course failure or failure to maintain the required cumulative GPA.</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.</td>
</tr>
<tr>
<td>Satisfactory professional behavior; two course failures**; and/or three quarters of cumulative GPA &lt; 3.00 (Nurse Anesthesia) or &lt; 2.75 (graduate programs) or &lt; 2.25 (undergrad. programs) or &lt; 2.00 (AZPod)</td>
<td>a) Academic suspension*** and probation, or b) Administrative probation and academic probation, or c) Extended course of study and academic probation, or d) Dismissal</td>
<td>Academic suspension, administrative probation, or dismissal are noted on transcript.</td>
</tr>
<tr>
<td>Unsatisfactory professional behavior regardless of academic performance</td>
<td>Disciplinary probation, suspension or dismissal</td>
<td>Disciplinary probation is not noted on transcript, but is kept in the student’s file in the offices of the CHS Dean and Student Services. Suspension or dismissal are noted on transcript.</td>
</tr>
</tbody>
</table>

* May be modified by the Program Student Academic Review Committee or the CHS Student Promotion and Graduation Committee.

** W/F may be considered as a course failure by a program Academic Review Committee.

*** May or may not be preceded by academic warning/probation.
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 for their program during one quarter. An academic warning is in effect for one quarter. When a student is placed on academic warning, it 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 cumulative GPA 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 suspension 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 obtains a cumulative GPA below the minimum required by his/her respective program for a second quarter. Academic probation ends when a student achieves the required minimum cumulative GPA for the probationary quarter. When a student is placed on academic probation, it 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.

Academic Suspension
Academic suspension 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 suspension may or may not be preceded by academic probation. This action entails the removal 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. Academic suspension is noted on the student’s transcript.

The student who has been suspended 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.

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 Program 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.

Advanced Placement/Exemption from Coursework
A student may request exemption from coursework based on previous coursework and/or experience. All requests for advanced standing by newly admitted, transfer, or enrolled students are processed on a course-by-course basis. The student must submit a written request to the course director responsible for the course in which advanced standing is requested, and must have earned a grade of “C” or better. All requests must be submitted prior to the start of the course being considered. Any appeal of a decision not to exempt the student is made to the CHS Dean.

Appeal Process
Following notification of a decision from the Program Student Academic Review Committee, a student may appeal the decision. He/she has three working days to submit a formal written appeal of the decision 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 3-day period. A narrative explaining the basis for the appeal should accompany the request. The student must attend all classes in which they are registered until the appeal process is complete. An appeal must be based on one of the following premises:

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

The co-chair of the CHS Student Promotion and Graduation Committee will select a subcommittee that will review student appeals from their respective campus. A subcommittee reviewing a student appeal must have three or more CHS Student Promotion and Graduation Committee
members from the respective campus where the student resides. Additionally, a majority of faculty members on each subcommittee must be from outside the program from which the student is appealing. 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., express mail, e-mail, certified US mail, hand delivery) by the Chair of the Appeal 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 Appeal Subcommittee in order to present his/her case. In such instances, the student shall inform the Chair of the Appeal Subcommittee, in writing (i.e., express mail, e-mail, certified US mail, hand delivery), of his/her desire to appear before the committee or his/her intent to waive this right. If the student chooses to appear before the committee, this prerogative extends to only the involved student and not to any other individuals. The Subcommittee Chair submits their recommendation to the CHS Dean. The Program Student Academic Review Committee may also appeal the recommendation of the Student Promotion and Graduation Appeal Subcommittee to the CHS Dean. The CHS Dean makes the final decision and then notifies the student, the Program Student Academic Review Committee, and the CHS Student Promotion and Graduation Appeal Subcommittee.

Auditing a Course for Remedial Purposes
The Program Student Academic Review Committee may determine at their discretion that a student who has not satisfactorily completed all required coursework from the previous academic quarter may be recommended for enrollment in previously taken coursework on a temporary, audit basis. Status as a temporary, course-auditing student under these circumstances enables a student to attend classes, receive handouts, and participate in various course activities; however, the student must do so only on a non-graded basis. So long as the student remains in the course as an auditing student, he/she is not eligible to take any exams or in any way participate in formal or informal evaluations with respect to learning or other outcome measures. No course credits or grades may be earned for an audited course. In addition, the student may not be eligible to receive any financial aid disbursements. Depending on course load, students may be charged additional tuition for audited courses. The tuition rate for audited courses is normally half of the regular hourly tuition rate.

Class Standing
To achieve the status of a second-, third-, or fourth-year student in a professional program of the College, students must have completed all academic requirements for the preceding year (i.e., first, second, or third 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
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 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 Midwestern University educational programs.

Disciplinary Probation
Disciplinary 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 the 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.

Extended Course of Study
It is possible to decelerate an academic course load if there are extraordinary circumstances. Accordingly, an individual’s academic course load may be reduced so that the student enters what is termed an extended course of study. Such a program rearranges the course schedule so that the normal time period for the program is extended, usually not to exceed 150% of the normal time-to-completion of the program (i.e., a program normally of two years’ duration ordinarily will not be extended beyond three years). The formulation of the extended course of study is the
responsibility of the Program Student Academic Review Committee in consultation with the Registrar and must be approved by the CHS Dean. The CHS Dean is responsible for notifying all academic support areas affected by this status change (i.e., Registrar, Office of Student Financial Services, etc.). Any student requesting or placed in an extended program is advised to meet with the Office of Student Financial Services to review the implications, if any, of this action on his/her financial aid status and eligibility. Only enrolled students may enter an extended program. To enter an extended program, either one or both of the following conditions must be met.

**Personal Hardship:** If a student is experiencing unusual stresses in life and a modified academic load could alleviate added stress, the student may petition the program director for an extended course of study. This petition is not automatically granted and is approved only in exceptional circumstances. Interested students are advised to consult with the Program Director to ascertain whether an extended course of study is offered by that program. The Program Director is responsible for evaluating the petition and submitting a recommendation concerning a student’s request for an extended course of study to the Program Student Academic Review Committee. If recommended for approval, this recommendation is submitted to the CHS Dean. The CHS Dean is responsible for notifying the student that his/her request has been approved.

**Academic Reasons:** A student may be placed on an extended program for academic reasons at the discretion of the Program Student Academic Review Committee and 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 standing until the extended program is completed. If a student is placed on an extended program, such action does not modify or limit either the Program Student Academic Review Committee or the CHS Student Promotion and Graduation Committee actions for dismissal. Thus, the student may be dismissed for academic reasons while on an extended program. Students on an extended course of study may be subject to suspension or dismissal after one course failure or failure to maintain the required cumulative GPA. A student placed on an extended program for academic reasons will be returned to good academic standing when he/she re-enters the prescribed academic program and completes all courses or clinical rotations that were unsatisfactory and are required for graduation.

It is the responsibility of the chair of these committees to inform the Dean, Registrar, and the Office of Student Financial Services whenever an extended course of study has been adopted and approved by the committee. Only matriculated students may request placement in an extended course of study. The Program Director is responsible for evaluating the request and determining eligibility for placement in the extended curricular track approved by the Program Student Academic Review Committee. Once the CHS Dean has authorized this change in status, the student is immediately placed in this track. In addition, the CHS Dean is responsible for notifying all academic support areas affected by this status change (e.g., Registrar, Office of Student Financial Services, etc.).

**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 issues. 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 full amount of interaction.

CHS faculty mentors act as liaisons between the faculty and students. Their responsibilities include:

1. Serving as the student’s academic/professional advisor;
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. Advising the student during his/her selection of a career within the profession.

**Grade Appeal 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 reporting 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. 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 reappeal. The decision of the course director’s supervisor is final.
Appeal of Course Grades Subject to Academic Review

A student whose academic progress will be subject to review by his/her Program Student 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 reporting 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 Program Student 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 a written form (i.e., express mail, e-mail, certified US mail, hand delivery).

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, withdrawal passing (WP), 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 GPA.

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>
<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 director. By assigning an “I” grade, it is implied that a course director agrees that the student has a valid reason and should be given additional time to complete required coursework. To resolve an incomplete grade, a course director must fill out and submit a Change of Grade form to the Registrar. 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 CHS Dean to extend the deadline. If an incomplete grade remains beyond the 10 days, it will automatically be converted to a grade of “F,” which signifies failure of the course.</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>W</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal during the first three weeks of the quarter. There is no penalty and no credit.</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/P</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal/Passing is given between the start of the fourth 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 fourth week and the end of the eight 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 Program 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.</td>
</tr>
<tr>
<td>AU</td>
<td>—</td>
<td>0.000</td>
<td>This designation indicates an audited course, that is, a student is registered for a course 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 the 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>
<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>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>
<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 director. By assigning an “I” grade, it is implied that a course director agrees that the student has a valid reason and should be given additional time to complete required coursework. To resolve an incomplete grade, a course director must fill out and submit a Change of Grade form to the Registrar. 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 CHS Dean to extend the deadline. If an incomplete grade remains beyond the 10 days, it will automatically be converted to a grade of “F,&quot; which signifies failure of the course.</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>W</td>
<td>—</td>
<td>0.000</td>
<td>Withdrawal during the first three weeks of the quarter. There is no penalty and no credit.</td>
</tr>
</tbody>
</table>
Grade | Percent (%) | Quality Points (per credit) | Comments
--- | --- | --- | ---
W/P | 0.000 | Withdrawal/Passing is given between the start of the fourth 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.
W/F | 0.000 | Withdrawal/Failing is given between the start of the fourth 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 Program 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.
AU | 0.000 | This designation indicates an audited course, that is, a student is registered for a course with the understanding that neither academic credit nor a grade is earned. The status of the course cannot be changed from audit to full credit after the start of the quarter. The designation AU is not counted in the GPA calculation.
AP | 0.000 | This designation indicates the decision of the College to award academic credit that precludes a student from taking required course work. The designation of Advanced Placement (AP) is applied toward credit hour accruals, but is not counted in the GPA calculation.

Graduation
The degrees of Master of Medical Science in Physician Assistant Studies, Doctor of Physical Therapy, Master of Arts in Clinical Psychology, Doctor of Psychology in Clinical Psychology, Master of Occupational Therapy, Master of Science in Biomedical Sciences, Bachelor of Biomedical Science, Master of Biomedical Science, Master of Arts in Biomedical Science, Master of Arts in Bioethics, Master of Health Professions Education, Master of Science in Cardiovascular Science, Master of Science in Nurse Anesthesia, and 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 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 one quarter immediately following the officially 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 then forwards the letter to the Program Student Academic Review/Student Promotion and Graduation Committee for consideration.

The Program Student Academic Review/Student Promotion and Graduation 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 CHS Dean.

The CHS 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.

Students in CHS programs on the Glendale campus that officially complete their degree programs in August may participate in the graduation ceremony scheduled for May-June prior to the end of their academic program. The CHS
Dean will forward a 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.

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 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 titters. Part-time and at-large students enrolled in a program without a clinical component are not required to have immunizations or titters.

National Boards for Doctor of Podiatric Medicine
Each student in AZPod must pass Part I and take Part II of the examination given by the National Board of Podiatric Medical Examiners (NBPME) as partial fulfillment of the requirements for graduation. Part I includes general anatomy, lower extremity anatomy, biochemistry, physiology, medical microbiology/immunology, pathology and pharmacology. Part II includes medicine, radiology, orthopedics/biomechanics/sports medicine, community health/jurisprudence, surgery/anesthesia and hospital protocol.

Part I is taken following the completion of the second academic year and Part II is taken during the fourth year. To be excused from taking this examination at the prescribed time, the student must have prior approval of the Director of the Podiatric Medicine Program.

Registration, test center regulations, preparation for the examinations and many more details are available at the following URL: http://www.nbpme.info/Exams.htm

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. The re-examination(s) must be completed within 10 working days beginning from the first Monday following 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". If the Registrar does not receive a change of grade form within 10 working days, the 'I' will automatically be changed 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 Promotion and Graduation/Academic Review Committee of each College/program to recommend 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.

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. 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 course in which they have received a grade of "C." The program director and CHS Dean must approve this retake option.
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.

**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; further, 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 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.

**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 program director and the CHS Dean. If the approval is granted, the student receives one of the following grades: W (withdrew), W/P (withdrew passing), or W/F (withdrew failing).

Withdrawal (W) can be given only during the first three weeks of the course. There is no penalty and no credit. 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/Passing (W/P) grade. This grade is not counted.
in any GPA calculation and is not counted in credit hour accruals for graduation. 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 below a “C” level (“D” for Bachelor of Biomedical Science students), the student will receive a Withdrawal/Failing (W/F) grade. 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 Program Student Academic Review Committee when reviewing the academic status of a student. Multiple F’s and W/F’s can be grounds for dismissal.

Unless there are exceptional circumstances, students will not be allowed to withdraw from a course after the end of the eighth week of the quarter. In the event of exceptional circumstances, the student who withdraws from a course will get a W/P or W/F based on performance.

**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 re-enter the program, he/she must reapply for admission and, if accepted, assume the status of a new student.

Students contemplating withdrawal must inform the CHS 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 to 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.
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 professional program offers students the opportunity to earn a graduate degree and satisfy the eligibility requirements for the PA national certifying examination. The roles and specific clinical duties and responsibilities that graduates can expect to experience will vary depending on their chosen career path. MWU 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 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. track, 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. The Bioethics Track will also help the student to practice medicine in a more humanistic way. 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 to reduce the amount of 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.

ADMISSIONS
The MWU PA Program considers applicants who possess the academic and professional promise necessary to become competent, caring members of the health care community. The admissions environment is highly selective; greater than 700 applications are received each year. The application deadline is October 1st; however, applicants are encouraged to apply early.

Completed applications received on or before the application deadline are reviewed to determine the applicant’s eligibility for an interview. Interviews are typically held between September and February. The PA Program conducts rolling admissions and admissions decisions are generally made within two weeks following the interview. Candidates are notified of their status shortly thereafter. Cumulative and science grade point averages, GRE general test scores, letters of recommendation, health care experience, knowledge of the profession, and motivation for wanting to become a PA will all be considered when reviewing an applicant’s file.

Requirements
1. Possess a minimum overall grade point average (GPA) of 2.75 on a 4.00 scale.
2. Submit scores from the Graduate Record Examination (GRE) general test to the Office of Admissions by the October 1st deadline. The test must have been taken no earlier than January 1, 2004. The Midwestern University institution code for the GRE is 4160. Applicants are expected to achieve a score at or above the 50th percentile in each section. For additional information about the GRE, call 866-473-4373, or visit www.gre.org.
3. Complete 35 semester hours of prerequisite courses as listed below from a regionally accredited college or university. All prerequisite courses must be completed with a grade of a C, C+, or higher (a C- will NOT be accepted for any prerequisite course) before matriculation.
4. All applicants should complete all aspects of their application and satisfactorily complete all prerequisite course work by December 31 of the year before they plan to begin class.
5. Possess a bachelor’s degree from a regionally accredited college or university before matriculation.
6. Reflect proper motivation for and commitment to health care as demonstrated by previous work, volunteer, or other life experiences.
7. Reflect a people/service orientation through community service or extracurricular activities.
8. Possess the oral and written communication skills necessary to interact with patients and colleagues.
10. Abide by the MWU Drug-Free Workplace and Substance Abuse Policy.

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 count to fulfill science prerequisites.

INTERNATIONAL STUDENTS: Must complete a minimum of 30 semester hours of coursework in the United States. Of the 30 semester hours, 6 hours must be completed in non-remedial English composition.
Application Process

1. **CASPA Application**
   Applicants are required to submit an application with all required materials to CASPA at www.caspaonline.org by **October 1, 2008**. 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 the applicant plans to matriculate. Due to the large number of applications and the limited number of seats available, applicants are strongly encouraged to complete their CASPA application 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 from a science professor who has actually taught the student or a pre-health advisory committee. The second letter can be from any one of the following: pre-health advisory committee, pre-health advisor, college professor, or healthcare 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.

3. **GRE Scores**
   Applicants are required to submit official GRE general test scores to Midwestern University. The MWU institutional code for submitting your scores is 4160. Only test scores earned during the previous five years (no earlier than January 2004) and sent directly from the Educational Testing Service (ETS) will be accepted.

4. **Completed Applications**
   Upon receipt of your CASPA application with all required materials, the Office of Admissions will send all applicants who meet the minimum overall GPA requirement of 2.75 a letter verifying receipt of the CASPA application. The letter will also include instructions on checking your application status online using your Interact Now account. Applicants must also submit official GRE general test scores to Midwestern University. It is the applicant’s responsibility to track the receipt of their application materials and 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.

**Please Note:** Applicants are responsible for notifying the Office of Admissions of any changes in their mailing address or email address. All requests for withdrawing an application must be done in writing via email, fax, or letter. Contact information for the Office of Admissions is listed below.

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

**Interview/Selection Process**

After the Office of Admissions receives a CASPA application report, the applicant’s file is reviewed to determine if the applicant merits 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 wanting to become a PA. 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. The applicant’s file 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. A letter of confirmation will be sent to the applicant that includes 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, a chance to meet with current Midwestern University students, a campus tour, and an opportunity to meet with an admissions counselor and the financial aid office. During each interview session, the prospective student may be asked about his/her academic, personal, and professional aspirations and preparedness for admission to the program. The prospective student will be rated on a standardized evaluation form. These evaluations are then made a part of the applicant’s file and forwarded to the PA Admissions Committee.

The PA Admissions Committee meets approximately one to two weeks after interviews have concluded. The Committee reviews the full application file for each applicant who was interviewed and then formulates and submits its recommendation to the Program Director for action. The CHS Dean—via the Office of Admissions—then notifies each applicant in writing of the admissions action/decision. All applicants will 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 for Admission
The technical standards for admission set forth by the PA 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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the PA Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

- Submit deposit monies by the date designated in his/her matriculation agreement—the entire deposit is applied toward the student’s first-quarter tuition.
- 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.
- Successfully complete all outstanding prerequisites with the grade of a “C,” “C+,” or higher. A “C-” will NOT be accepted for any prerequisite course.
- Complete a medical file as requested by the Department of Student Services.
- Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.
- PERMANENT RESIDENTS: Submit a copy of permanent resident alien card.
- INTERNATIONAL STUDENTS: 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).
- Provide documentation that any additional coursework or service requirements stipulated by the PA Admissions Committee has/have been completed.
- Submit additional documents as required by the Office of Admissions.
- Sign authorization allowing a criminal background check.
- Sign the MWU Drug-Free Workplace and Substance Abuse Policy.
- Complete a physical exam and submit form.
- Sign Credit Policy Statement.
- Provide proof of completed required immunizations.
- Satisfy Technical Standards for the Program.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program. Any individual accepted for admission to the PA Program who does not comply with
stated timelines for submission of all required materials receives no further notification from the College relative to forfeiture of his/her seat.

**Reapplication Process**

After receiving either a denial or an end-of-cycle letter, a prospective student 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, the prospective student must complete and submit a new application and proceed through each step of the entire application process.

**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:

- Follow an approved course of study leading to the completion of all master’s requirements;
- Satisfactorily complete all professional courses with a minimum cumulative grade point average of 2.75; and no course or rotation grade below a C;
- Satisfactorily complete the Senior Summative examinations;
- Satisfactorily complete the required credit hours in the overall course of study;
- Receive a favorable recommendation for master’s degree conferral from the PA Program Student Academic Review Committee and the CHS Student Promotion and Graduation Committee;
- Be recommended for conferral of the master’s degree 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.

**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

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**Curriculum**

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

**First Professional Year**

**Total Quarter Credit Hours Required: 83**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td><strong>Summer Quarter</strong></td>
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</tr>
<tr>
<td>ANAT 451</td>
<td>Human Anatomy/Embryology</td>
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<td>Human Biochemistry</td>
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<tr>
<td>PASS 450</td>
<td>Health Professionalism</td>
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<td>PASS 451</td>
<td>Behavioral Medicine</td>
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</tr>
<tr>
<td>PASS 456</td>
<td>Medical Interviewing and Documentation</td>
<td>2.0</td>
</tr>
<tr>
<td>PASS 476</td>
<td>Clinical Nutrition</td>
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<td>PASS 561</td>
<td>Master’s Skills &amp; Topics</td>
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<td>CORE 460</td>
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<tr>
<td>MICR 465</td>
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<tr>
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<td>Clinical Medicine I</td>
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<tr>
<td>PASS 469</td>
<td>Physical Diagnosis</td>
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<tr>
<td>PASS 475</td>
<td>Women’s Health</td>
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<tr>
<td>PHYS 471</td>
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<tr>
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<tr>
<td>MICR 470</td>
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<td>PASS 470</td>
<td>Clinical Medicine II</td>
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<tr>
<td>PASS 471</td>
<td>Therapeutic and Diagnostic Skills</td>
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<tr>
<td>PASS 473</td>
<td>Electrocardiography</td>
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<td>PASS 474</td>
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<td>PHAR 461</td>
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<td><strong>Spring Quarter</strong></td>
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<td>CORE 480</td>
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<tr>
<td>PASS 461</td>
<td>Emergency Medicine &amp; Surgical Principles</td>
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<tr>
<td>PASS 480</td>
<td>Clinical Medicine III</td>
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<td>PASS 481</td>
<td>ACLS</td>
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<tr>
<td>PASS 483</td>
<td>Psychiatric Principles</td>
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<td>PASS 485</td>
<td>Clinical Laboratory Medicine II</td>
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<tr>
<td>PASS 486</td>
<td>Pediatrics</td>
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<td>PHAR 472</td>
<td>Pharmacology II</td>
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<tr>
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*Details of Master’s curricula and tracks may be subject to change*

**Electives**

<p>| | |</p>
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<tr>
<td>BBSC 409</td>
<td>Drugs of Abuse</td>
</tr>
<tr>
<td>ELEC 400</td>
<td>Medical Spanish</td>
</tr>
</tbody>
</table>
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 158.5.

### Summer Quarter Hrs
- **PASS 490 Preparation for Clinical Phase**: 1.5
- Required Clinical Rotations: 12.0
- 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 491 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 492 End of the Year Exam**: 1.0

## Third Professional Year

### Total Quarter Credit Hours Required: 12

#### Summer Quarter Hrs.
- **Required Master’s Coursework**: 6.0
- **Total**: 6.0

#### Required Clinical Rotations
- CLRO 498 Selective Rotation (6 weeks): 6.0
- EMED 491 Emergency Medicine (6 weeks): 6.0
- FMED 492 Family Medicine/Primary Care (6 weeks): 6.0
- IMED 493 Internal Medicine (6 weeks): 6.0
- OBGY 497 Women’s Health (6 weeks): 6.0
- PASS 666 Clinical Practicum (6 weeks)*: 6.0
- PASS 667 Clinical Practicum (6 weeks)*: 6.0
- PEDI 494 Pediatrics (6 weeks): 6.0
- PSYC 495 Psychiatry/Behavioral Medicine (6 weeks): 6.0
- SURG 496 General Surgery (6 weeks): 6.0

*Depending on track. For the Health Professions Education Track, CLRO 498 is composed of PASS 666 and PASS 667, taken consecutively.

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

## Master of Medical Science Specialty Tracks

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Clinical Track</th>
<th>Research Track</th>
<th>Bioethics Track</th>
<th>Health Professions Education Track</th>
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<tbody>
<tr>
<td>Summer</td>
<td>Master’s Skills and Topics, PASS 561</td>
<td>Master’s Skills and Topics, PASS 561</td>
<td>Master’s Skills and Topics, PASS 561</td>
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<td>Fall</td>
<td>Advanced Master’s Skills and Application, PASS 562</td>
<td>Advanced Master’s Skills and Application, PASS 562</td>
<td>Introduction to Bioethics, ETHC 501</td>
<td>Teaching and Learning Styles, MHPE 501</td>
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<td>Winter</td>
<td>Independent Study I: Literature Review, PASS 563</td>
<td>Independent Study I: Literature Review, PASS 563</td>
<td>Foundations of Medical Ethics, ETHC 502</td>
<td>Instructional Design and Methods, MHPE 503</td>
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<tr>
<td>Spring</td>
<td>Independent Study II: Learning Plan, PASS 564</td>
<td>Independent Study II: Research Proposal, PASS 564</td>
<td>Philosophy of Medicine, ETHC 503</td>
<td>Curriculum Construction, MHPE 504</td>
</tr>
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</table>

100
Year 2 | Non-Practice and Practice Objectives, Master’s Portfolio, PASS 665A-D (12 credits) | Master’s Thesis as Original Research Project, PASS 665A-D (12 credits) | Ethics of Research and Experimentation, ETHC 505 (3 credits) | Education Technology, MHPE 502 (3 credits) |
| Year 3 | Clinical Master’s Specialty Rotations, PASS 666 and PASS 667 (12 credits) | Bioethics Practicum and Portfolio, PASS 666 and PASS 667 (12 credits) | Education Practicum and Educational Portfolio, PASS 666 and PASS 667 (12 credits) |

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

**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 451 Human Anatomy and Embryology (with Gross Anatomy Lab)**
This course presents lectures and laboratory (human cadaver dissection, prosection, and 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 (including laboratory sessions)

**ANAT 463 Human Neurosciences**
This course is multidisciplinary and is presented in lecture format by various faculty members of Midwestern University. 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. 3 credits

Prerequisite: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab)

**BIOC 451 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, nutrition, complete blood count, anemias, diabetes, and hemostasis tests. 4 credits

**BMED 429 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. 3 credits

**CORE 460, 470, 480 Interdisciplinary Health Care**
Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students cardiovascular sciences, nurse anesthesia, occupational therapy, osteopathic medicine, pharmacy, physician assistant and podiatry students 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. 0.5 credit per quarter

**MICR 465 Epidemiology and Evidence-Based Medicine**
This course provides a study of basic principles of epidemiology and descriptive biostatistics. Topics include disease occurrence, recurrence, and patterns and trends in a population. Emphasis is given to understanding how to interpret such concepts as relative risk, risk cofactors, attributable risk, and assessing public health significance in relation to health promotion and disease prevention. The health risks for targeted populations and potential areas for preventive intervention are also discussed. 1 credit
MICR 470 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
Prerequisite: BIOC 451 Human Biochemistry

PASS 450 Health Professionalism
The purpose of this course is to provide the student with a holistic understanding and perspective of the PA profession. We will discuss various topics that illustrate the challenges faced by PAs in clinical practice and the challenges you may encounter as you make the transition from a student to a professional. 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 451 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 credits

PASS 456 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 460, 470, 480 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 Clinical Medicine I:
ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; and PASS 476 Clinical Nutrition
Prerequisites for Clinical Medicine II: ANAT 463 Human Neurosciences; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; and PASS 475 Women's Health
Prerequisites for Clinical Medicine III: PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 461 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: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 469 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 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; and PASS 476 Clinical Nutrition

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PASS 471 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: ANAT 463 Human Neurosciences; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; and PASS 475 Women’s Health

PASS 473 Electrocardiography
The purpose of this course is to introduce students to reading and interpreting the findings on rhythm strips and twelve-lead electrocardiograms. Students will learn how to determine heart rate, intervals, axis, chamber enlargement or hypertrophy, signs of ischemia and infarcts, and the effects electrolyte abnormalities and medications can have on the myocardium. Additionally, students will learn to recognize various arrhythmias, including atrial dysrhythmias, junctional dysrhythmias, ventricular dysrhythmias, ectopy, and heart block.
1.5 credits
Prerequisites: ANAT 463 Human Neurosciences; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; and PASS 475 Women’s Health

PASS 474 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 463 Human Neurosciences; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; and PASS 475 Women’s Health

PASS 475 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 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; and PASS 476 Clinical Nutrition

PASS 476 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 481 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: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 483 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: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 485 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: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 486 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 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 490 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
Prerequisites: ANAT 451 Human Anatomy and Embryology (with Gross Anatomy Lab); BIOC 451 Human Biochemistry; PASS 451 Behavioral Medicine; PASS 456 Medical Interviewing & Documentation; PASS 460 Clinical Medicine I; PASS 469 Physical Diagnosis; PASS 475 Women’s Health; PASS 470 Clinical Medicine II; PASS 471 Therapeutic and Diagnostic Skills; PASS 473 Electrocardiography; and PASS 474 Clinical Laboratory Medicine I

PASS 491 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, Auth/Kerstein review questions, 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 492 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

PHAR 461, 472 Pharmacology I and II
The overall instructional goal of pharmacology is to provide the student with a firm understanding of the effects of therapeutically important drugs in man, from a molecular to a behavioral level of organization. Why should a person study pharmacology? Why is it important to understand the science behind how drugs work? Why is it important to learn about how drugs were developed and to understand some basic drugs that are not commonly used today? New therapeutic strategies, and new types of drugs, are being developed at an extraordinary pace. How is someone to evaluate the claims regarding hundreds of new drugs and therapeutic approaches that will be developed during the course of their practice? It is our opinion that a sound understanding of the science of pharmacology will allow you to make rational decisions regarding the use of new drugs, and to provide a basis for continuous learning. A health care provider who has an adequate knowledge of the principles of basic and clinical pharmacology should be able to formulate and monitor a rational course of drug therapy for any disease he or she is required to treat.

3 credits per quarter
In this two-quarter series, students are introduced through didactic instruction 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
Prerequisite for Human Physiology II: PHYS 471 Human Physiology I

Required Masters Courses

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
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 504 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
Prerequisite: ETHC 503 Philosophy of Medicine

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 504 Curriculum Instruction
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

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.
2 credits
Prerequisite: Acceptance into Master’s Degree Program
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 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
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.
Variable credits
Prerequisite: Completion of all first-year master’s courses specific to the student’s track

PASS 666-667
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 498 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 491 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 492 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 493 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

106
OBGY 497 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 494 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 495 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 496 General Surgery
The General 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
BBSC 409 Drugs of Abuse
This elective course is designed to provide the student with an understanding of the psychological, as well as the pharmacological, effects of the common drugs of abuse. The following drugs and drug classes will be reviewed: alcohol, stimulants, nicotine, hallucinogens, sedatives and opioids. Topics covered within lectures will include routes of administration, mechanisms of action, tolerance, dependence, addiction and withdrawal. Particular emphasis will be placed on abuse potential, addictive behaviors and societal impact associated with each substance.
1 credit

ELEC 400 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

ELEC 480 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
Bettie Coplan, M.P.A.S., PA-C
University of Nebraska
College of Medicine
Instructor

Alison Essary, M.H.P.E., PA-C
Midwestern University-Glendale
College of Health Sciences
Academic Coordinator and Assistant Professor

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

James Meyer, M.D., F.A.C.P.
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Medical School
Medical Director and Associate Professor
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University of Nebraska  
College of Medicine  
Assistant Professor

Jacqueline Spiegel, M.S., PA-C  
Rosalind Franklin University of Medicine and Science  
College of Health Professions  
Clinical Coordinator and Assistant Professor

Michel Statler, M.L.A., PA-C  
University of Texas-Southwestern  
Dedman College  
Associate Program Director and Associate Professor

James Stoehr, Ph.D.  
Dartmouth College  
Dartmouth Medical School  
Associate Director of Master’s Education and Professor
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-AOTA. 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. 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. Our critical analysis and seminar 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, our fieldwork program is extensive and rich in the types of experiences offered to our 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 our 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 to become competent, caring members of the health care community. To select these candidates, a rolling 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 file as early as possible to ensure timely consideration.

Applications received are reviewed by the Director of Admissions in conjunction with the OT Program Admissions Committee to determine the applicant’s eligibility for an interview. Admission 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 satisfy the following minimum requirements before the academic year commences for the incoming class:

1. Possess a baccalaureate degree from a regionally accredited college or university;

2. Achieve a cumulative undergraduate grade point average (GPA) of 2.75 on a 4.00 scale (only grades of C or higher will be considered to fulfill prerequisite requirements);

3. Complete the minimum number of prerequisite courses in the prescribed subject areas at a regionally accredited college or university before the program begins;

4. Take and submit the Graduate Record Examination (GRE) general test scores (optional for those with GPAs above 3.0). Scores will be accepted from tests taken no earlier than January 1, 2004. The Midwestern University institutional code for the GRE is 4160. For more information about the GRE, contact Educational
Testing Services (ETS) at 1-866-473-4373, or visit www.gre.org;
5. Satisfy the standards set forth by the Admissions Committee (including documentation of academic and professional promise in the prospective student);
6. Complete the OT Program’s interview process. On-campus interviews are by invitation only;
7. Complete a first aid course within three years prior to enrollment;
8. Present evidence of 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. It is the student’s responsibility to maintain CPR certification at this level while enrolled in the program;
9. Reflect a people/service orientation through community service or extracurricular activities;
10. Reflect proper motivation for and commitment to health care as demonstrated by previous work, volunteer work, or other life experiences;
11. Possess the oral and written communication skills necessary to interact with clients and colleagues;
12. Abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy;
13. Pass a criminal background check.

**Prerequisite Courses**
Students must complete these courses with a grade of C or higher

<table>
<thead>
<tr>
<th>Subject</th>
<th>Required Courses</th>
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<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.

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

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

INTERNATIONAL STUDENTS: Must complete a minimum of 30 semester hours of coursework in the United States. Of the 30 semester hours, 6 hours must be in nonremedial English composition, and 3 hours in speech/communication. Students must complete these courses with a grade of C or higher.

**Application Process**
To be considered for admission to the Occupational Therapy Program, applicants must submit the following items to the Office of Admissions:
1. A properly completed application. The application, forms, and instructions must be downloaded at www.midwestern.edu; click on the AZ Occupational Therapy Program section. For questions about the application or admissions process, you may contact the Office of Admissions at 888/247-9277 or e-mail at admisz@midwestern.edu.
2. A nonrefundable, nonwaivable application fee of $50. Make checks payable to Midwestern University: OT.
3. Two properly signed and sealed letters of recommendation from professionals who know the applicant well. The Office of Admissions will accept letters from prehealth advisors or committees, science professors, and health professionals.
4. Official transcripts from every undergraduate, graduate, or professional school attended. Each transcript MUST be signed and sealed by the registrar of each institution.
5. Standardized test scores (GRE general test scores are required of students with a GPA less than 3.0).

Send all application materials to:
Office of Admissions
Midwestern University
19555 N. 59th Ave.
Glendale, AZ 85308

Note: Please notify us of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.

**GPA Verification**
The Office of Admissions considers grades from all nonremedial, college-level courses completed after high school. All attempts of repeated courses must be used in the calculation of the GPA. No grades of C– or below are accepted for any pre-professional course considered a prerequisite for admission; however, the grades must be used in the GPA calculation. Courses in which “credit” or a grade of “pass” is earned will be counted as fulfilling the prerequisite requirement if the applicant can provide verification that the grade earned was equivalent to a C or higher. Such courses are not included in the cumulative GPA calculation.

**Interview/Selection Process**
Students selected for an interview will be notified by letter or telephone of available interview dates and invited to schedule an on-campus interview. The applicant must contact the Office of Admissions to schedule an interview date.

During each interview session, the interviewer(s) questions the applicant about his/her academic, personal, and professional aspirations and preparedness for admission to the program, rating the prospective student on a standard
evaluates these evaluations are then made a part of the applicant’s file, which is then made available 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 each applicant who was interviewed and then formulates and submits its recommendation for action. Each applicant will be notified in writing of the admissions 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.

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.

**Matriculation Process**

The matriculation process begins after an applicant receives notification of his/her acceptance into the Occupational Therapy Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the dates designated in his/her matriculation agreement; the entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.

3. Complete a medical file as requested by the Office of Student Services.

4. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s 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 has been completed.

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

8. Sign authorization form allowing a criminal background check.

9. Sign the Midwestern University Drug-Free Workplace and Substance Abuse Policy.

10. Complete physical exam and submit form.


12. Satisfy Technical Standards for the program.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the Program. Any individual accepted for admission to the Occupational Therapy Program who does not comply with stated timelines for submission of all required materials receives no further notification from CHS relative to forfeiture of his/her seat.
Reapplication Process
After receiving either a denial or end-of-cycle letter, a prospective student 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, the prospective student must complete and submit a new application and proceed through each step of the entire 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 skills 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 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 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 of 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; however, state licenses are usually based on the results of the NBCOT Certification Examination. A prior felony conviction may affect a graduate’s ability to sit for the NBCOT Certification Exam or attain 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 located throughout the continental United States that have a legal agreement with the University.
Curriculum Structure, Course Quarter Hour Credits, and Sequencing

First Professional Year
Total Quarter Credit Hours Required: 46.0

Fall Quarter
- CORE 460 Interdisciplinary Health Care 0.5
- OTHE 505 Human Conditions I 3.0
- OTHE 510 OT Foundations 2.0
- OTHE 520 Theoretical Constructs I 3.0
- OTHE 540 OT Analysis I 2.0
- OTHE 583 Neuroscience I 3.0
Total 13.5

Winter Quarter
- CORE 470 Interdisciplinary Health Care 0.5
- OTHE 502 Anatomy 4.0
- OTHE 525 Human Conditions II 3.0
- OTHE 541 OT Analysis II 2.0
- OTHE 550 Fieldwork Foundations I 1.0
- OTHE 660 Occupational Roles and Participation 2.0
- OTHE 679 Neuroscience II 3.0
Total 15.5

Spring Quarter
- CORE 480 Interdisciplinary Health Care 0.5
- OTHE 526 Human Conditions III 3.0
- OTHE 551 Fieldwork Foundations II 0.5
- OTHE 581 Kinesiology 3.0
- OTHE 585 Evaluation and Treatment I: Foundations 5.0
- OTHE 628 Research I 2.0
- OTHE 629 OT Group Process 2.0
Total 17.0

Second Professional Year
Total Quarter Credit Hours Required: 60.5

Summer Quarter
- OTHE 587 Evaluation and Treatment II: Children 5.0
- OTHE 626 Human Conditions IV 3.0
- OTHE 630 Research II 3.0
- OTHE 640 OT Analysis III 2.0
- OTHE 641 Orthotics I 2.0
Total 15.0

Fall Quarter
- OTHE 552 Fieldwork Foundations III 0.5
- OTHE 591 Critical Analysis of Pediatric Practice 2.0
- OTHE 635 Fieldwork I-B 1.0
- OTHE 642 Orthotics II 2.0
- OTHE 678 Administration and Leadership 3.0
- OTHE 685 Evaluation and Treatment III: Adult 5.0
- OTHE 690 Advanced Seminar: Upper Extremity 3.0
Total 16.5

Winter Quarter
- OTHE 589 Evaluation and Treatment IV: Seniors 5.0
- OTHE 631 Research III 3.0
- OTHE 632 Critical Analysis: Psychosocial Practice 2.0
- OTHE 634 Physical Agents 4.0
- OTHE 687 Advanced Seminar: Adults 3.0
Total 17.0

Spring Quarter
- OTHE 795 Fieldwork II-A 12.0

Third Professional Year
Total Quarter Credit Hours Required: 25.0

Summer Quarter
- OTHE 620 Theoretical Constructs II 3.0
- OTHE 633 Research IV 3.0
- OTHE 645 Seminar on Clinical Practice 1.0
- OTHE 689 Work Rehabilitation and Health Promotion 3.0
- OTHE 694 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.

Core 460, 470, 480 Interdisciplinary Health Care
The Interdisciplinary Health Care course involves the colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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.
0.5 credits each quarter

OTHE 502 Anatomy
This course provides fundamental knowledge of normal human structure and function. The emerging theme will be the interrelationships between structural design and functional capabilities. During this course, basic components including tissues, muscles, nerves, bones and joints will be covered. The musculoskeletal system in particular will be highlighted in both lecture and laboratory formats.
4 credits
**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 pediatric 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 526 Human Conditions III**
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 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 continue one’s focus on increasing self-awareness through self-reflective and experiential exercises to foster development of professional behaviors.
0.5 credit

**OTHE 552 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 continue one’s focus on increasing self-awareness through self-reflective and experiential exercises to foster development of professional behaviors.
0.5 credit
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

OTHE 583 Neuroscience I
This is the first of two courses designed to develop the students’ 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

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 587 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.

OTHE 589 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 disabilities. Therapeutic approaches and clinical skills for working with individuals within the home, community, and clinical settings will be emphasized. 5 credits
Prerequisite: OTHE 585 Evaluation and Treatment I

OTHE 591 Critical Analysis of 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 587 Evaluation and Treatment II

OTHE 620 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 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 628 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 the beginning of reviewing the literature will be emphasized. 2 credits

OTHE 629 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 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 628 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 632 Critical Analysis: 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.
2 credits

**OTHE 633 Research IV**
This is the fourth course of four courses in the research course series. Results from the previous research 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 634 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.
4 credits

**OTHE 635 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 640 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 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 645 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 660 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 678 Administration and 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 679 Neuroscience II
This course is designed 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: OTHE 583 Neuroscience I

OTHE 685 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 585 Evaluation and Treatment I

OTHE 687 Advanced Seminar: Adult
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 685 Evaluation and Treatment III

OTHE 689 Work Rehabilitation and 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 690 Advanced Seminar: Upper Extremity
This course will focus 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.
3 credits

OTHE 694 Program Development
Using skills from the previous administration course,
students work in small groups to develop a realistic program 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
students’ end product: the development of a program
model for occupational therapy services.
3 credits
Prerequisite: OTHE 678 Administration and Leadership

OTHE 795 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 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

FACULTY
Evelyn Andersson, PhD, OTR
Texas Women’s University
College of Health Sciences
Assistant Professor

Kimberly A. Bryze, PhD, OTR/L
University of Illinois at Chicago
College of Education
Program Director and Associate Professor

Christine Merchant, MA, OTR/L
The George Washington University
Graduate School of Education and Human Development
Associate Director and Assistant Professor

Katherine Schofield, OTR/L, CHT
University of Alberta
Faculty of Rehabilitation Medicine
Department of Occupational Therapy
Instructor
Brenda K. Taubman, MA, OTR/L
University of Phoenix
Assistant Professor

Mary Ellen Thompson, MA, OTR/L
University of Southern California
School of Dentistry
Assistant Professor
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 health care 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.

Articulation Agreements with other Midwestern University Professional Programs
The Biomedical Sciences Program has developed Articulation Agreements with other Midwestern University professional degree programs that guarantee an interview for students who:
1. Complete all prerequisite courses for the professional program of interest;
2. Obtain indicated cumulative grade point averages; and
3. Obtain indicated professional exam scores.
Other requirements for undergraduate grade point averages and number of credits taken in the Biomedical Sciences Program at Midwestern University also apply. These requirements vary depending on the professional program. Please contact the Office of Admissions or visit the Midwestern University website at: www.midwestern.edu/az-biomed/

ADMISSIONS
Admissions Requirements
To be considered for admission to the Bachelor of Biomedical Science degree program, the applicant must:
1. Complete the prerequisite requirements. Students must complete the prerequisite courses (other than general education credits) with a grade of "C" or higher (a "C-" will not be accepted).
2. Possess a minimum cumulative grade point average (GPA) of 2.50 on a scale of 4.00 in all coursework completed for their bachelor’s or higher degree program.
3. Submit two letters of recommendation (or one committee letter from the applicant’s college or university).
4. Submit official transcripts from each college or university attended.
5. Pass a criminal background check.
6. Agree to abide by 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>English (composition)</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>General biology (with laboratory)</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>General chemistry (with laboratory)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Organic chemistry (with laboratory)*</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>
Physics—algebra-based (mechanics, heat, magnetism, electricity, light, relativity, and quantum theory)  4  6
Mathematics**  3  4
General education (divided among the social and behavioral sciences, humanities, fine arts, foreign language, business, or computer sciences).  31  47

Total Credit Hours  60  90

(Speech and economics are recommended for pre-pharmacy candidates.)

* Some professional programs may require 8 semester hours of organic chemistry (with laboratory)
**Pre-pharmacy candidates require a course in calculus

Students who have completed coursework outside the United States must have completed a minimum of 30 semester hours (45 quarter hours) at a regionally accredited college or university in the United States. Of the 30 semester hours, 6 hours must be in nonremedial English composition and 3 hours must be in speech/communication.

Application Process

Individuals interested in applying for admission to the Bachelor of Biomedical Sciences Program may download an application from our Web site at www.midwestern.edu or obtain an application packet by writing or calling:

The Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308
623/572-3215
888/247-9277

To be considered for admission to the Bachelor of Biomedical Sciences degree program, the applicant must:

1. Complete the prerequisite requirements. Students must complete the prerequisite courses (other than general education credits) with a grade of "C" or higher.
2. Have obtained a minimum cumulative grade point average of 2.50 or higher on a scale of 4.00 in all coursework completed at previous colleges or universities.
3. Submit two letters of recommendation.
4. Submit official transcripts from each college or university attended.
5. Pass a criminal background check.
6. Agree to abide by the Midwestern University Drug Free Workplace and Substance Abuse Policy.

A limited number of transfer credits from other institutions are allowed: 18 semester (27 quarter) hours for the Bachelor of Biomedical Science degree program.

Application Deadline

The Biomedical Sciences Program uses a rolling admission process in which completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. Bachelor-level students may enter the program during any academic quarter. Admission to the Biomedical Sciences 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. The Biomedical Sciences Admissions Committee carefully considers the applicant’s interests, aptitude, record of community service, extracurricular activities, oral and written communication skills, interpersonal skills, honors, and awards. Selection decisions for the program are made by the Biomedical Sciences Program Admissions Committee with the approval of the Program Director and the Dean of the College of Health Sciences until the class is filled. To maximize their competitiveness within our rolling admission process, candidates are advised to submit a completed application early in the admission cycle.

Technical Standards for the Bachelor of Biomedical Science Program

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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Biomedical Sciences Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must:
1. Submit deposit monies by the date designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.
3. Successfully complete all outstanding prerequisites with the grade of a "C," "C+" or higher. A "C-" will not be accepted for any prerequisite course.
4. Submit proof of completed required immunizations.
5. Submit proof of medical insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.
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 has been completed.
9. Submit additional documents as required by the Office of Admissions.
10. Sign authorization allowing a criminal background check.
11. Sign the MWU Drug Free Workplace and Substance Abuse policy.
12. Complete a physical exam and submit this form and a completed medical file as requested by the Office of Student Services.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program. Any student accepted for admission who doesn’t comply with stated timelines for submission of all required materials receives no further notification from the College relative to forfeiture of his/her seat.

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 in 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 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 LISTING
Sample Curriculum, Course Credits, and Sequencing. Not all electives are offered every year.

Fall Quarter, First Year (12 credits)
Core Requirements
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<tr>
<th>Course</th>
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<th>Credits</th>
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<td>Medical Terminology</td>
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<td>BMED 309</td>
<td>Bioethics</td>
<td>3</td>
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<td>BMED 312</td>
<td>Histology</td>
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<td>Physiology I</td>
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<td>MHPE 505</td>
<td>Learning Styles and Assessment</td>
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Electives
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<td>BMED 321</td>
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<tr>
<td>BMED 428</td>
<td>Public Health</td>
<td>3</td>
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<tr>
<td>BMED 429</td>
<td>Epidemiology</td>
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</tr>
<tr>
<td>BMED 455</td>
<td>Biotechnology</td>
<td>3</td>
</tr>
</tbody>
</table>
### Winter Quarter, First Year (12 credits)

**Core Requirements**
- BMED 316 Human Anatomy w/ Lab: 4 credits
- BMED 331 Physiology II: 4 credits
- BMED 351 Molecular Cell Biology: 4 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, First Year (12 credits with electives)

**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

**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, First Year

**Electives**
- BMED 514 Advanced Research Design and Statistics: 3 credits
- BMED 520 Good Laboratory Practice: 3 credits

### Fall Quarter, Second Year (12 credits with electives)

**Core Requirements**
- BMED 320 Microbiology I: 4 credits
- BMED 360 Biophysics: 4 credits
- BMED 474 Pharmacology I: 3 credits

**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, Second Year (12 credits with electives)

**Core Requirements**
- BMED 325 Microbiology II: 4 credits
- BMED 341 Genetics I: 3 credits
- BMED 475 Pharmacology II: 3 credits

**Electives**
- BMED 401 Biology of Human Aging: 1 credit
- BMED 402 Medical Spanish: 1.5 credits
- BMED 405 Pre-Professional Exam Preparation 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, Second Year (12 credits with electives)

**Core Requirements**
- BMED 408 Research Seminar: 1 credit
- BMED 435 Pathophysiology: 4 credits
- BMED 442 Genetics II: 3 credits

**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.

### 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 be highly competitive candidates for admission into 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 health care 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 health care 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 Microbiology II: BMED 320 Microbiology I

BMED 330, 331 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 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, immunoprophylaxis, 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**
This course is an overview of the biological aspects of bioterrorism and biological weapons of mass destruction based on reviews of scientific literature and current events. Topics include discussion of biological agents considered most likely to be used in a bioterrorist attack including anthrax, smallpox, plague, botulism, tularemia, and ebola.
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 pharmacobiotechnology 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 health care 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 lecture 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.
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 each; 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 BIOMEDICAL SCIENCE

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 health care (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, histology, human anatomy (with lab), human physiology I & II, immunology, microbiology, pharmacology I & II, introduction to ethics and a capstone course. The capstone course includes an introduction to preparation of a scholarly, literature-based thesis on a topic of the student’s choice (usually a disease condition) and a presentation of their topic in a seminar format. In addition, the students are required to take elective credits each quarter to bring the total quarter credits to 15 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, Learning Styles and Assessment, etc.). These electives improve critical thinking skills, study skills and enhance the student’s preparation for professional school application.

Articulation Agreements with other Midwestern University Professional Programs
The Biomedical Sciences Program has developed Articulation Agreements with other Midwestern University professional degree programs that guarantee an interview for students who:

1. Complete all prerequisite courses for the professional program of interest;
2. Obtain indicated cumulative grade point averages; and
3. Obtain indicated professional exam scores.
Other requirements for undergraduate grade point averages and number of credits taken in the Biomedical Sciences Program at Midwestern University also apply. These requirements vary depending on the professional program. Please contact the Office of Admissions or visit the Midwestern University website at: www.midwestern.edu/az-biomed/

**ADMISSIONS**

**Admission Requirements**
To be considered for admission to the Master of Arts in Biomedical Science degree program, the applicant must:

1. Possess 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. Possess 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. Submit two letters of recommendation (or one committee letter from the applicant’s college or university).
4. Submit official transcripts from each college or university attended.
5. Submit scores from one of the following: Graduate Record Examination (GRE), Medical College Admissions Tests (MCAT), Pharmacy College Admissions Test (PCAT), Dental Admissions Test (DAT), or other professional program admissions exam.
6. Complete the typical prerequisite coursework for admission into medical, dental or pharmacy school, including biology, general chemistry, organic chemistry, physics, mathematics, and English. It is the responsibility of incoming students to determine the prerequisites for the health professional program and institution of their choice.
7. Students must complete the prerequisite courses with a grade of “C” or higher (a “C-” will not be accepted).
8. Pass a criminal background check.
9. Agree to abide by Midwestern University Drug Free Workplace and Substance Abuse Policy.

**Prerequisite Courses**

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<thead>
<tr>
<th>Course</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
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<tbody>
<tr>
<td>English (composition)</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>General Biology (with laboratory)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>General Chemistry (with laboratory)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Organic Chemistry (with laboratory)</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Physics</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>

A limited number of transfer credits from other institutions are allowed-6 semester (9 quarter) hours for the Master of Arts in Biomedical Science.

Students who have completed coursework outside the United States must have completed a minimum of 30 semester hours (45 quarter hours) at a regionally accredited college or university in the United States. Of the 30 semester hours, 6 hours must be in non-remedial English composition and 3 hours must be in speech/communication.

**Application Process**
Individuals interested in applying for admission to the Master of Arts in Biomedical Sciences Program may download an application from our Web site at www.midwestern.edu or obtain an application packet by writing or calling:

The Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308
623/572-3215
888/247-9277

To be considered for admission, the applicant must submit an application packet that includes the following:

1. A properly completed Application for Admission to the Master of Arts in Biomedical Science Program.
2. A nonrefundable, non-waivable application fee ($50 for the Master’s degree program).
3. Two letters of recommendation (or one committee letter).
   The Office of Admissions will accept properly signed and sealed letters from pre-health advisors/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. If the applicant has completed coursework at an institution in a foreign country, he/she must also submit an official, detailed course-by-course evaluation of this coursework. The applicant must obtain this evaluation from one of the following services:
   - Education Credential Evaluators (ECE): 414/289-3400
   - World Education Service (WES): 212/966-6311
5. Scores from the Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), or other professional program admissions test.
Application Deadline
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 (late August). 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 a completed application early in the admission cycle.

Interview Process
After receiving the completed application packet, an admission staff member verifies the information provided to determine whether all prerequisite coursework has been completed satisfactorily or will be completed prior to potential matriculation and to verify the applicant’s cumulative GPA for all completed courses. The application materials are reviewed to determine eligibility for an interview (invitation only). A phone interview is possible for those applicants who are unable to be interviewed in person. Completed applications and interview summaries are forwarded to the Biomedical Sciences Program Admissions Committee. Each applicant will be notified in writing of the admissions action/decision.

Please Note: An applicant can track the receipt of their application materials and the status of the file on our University website using instructions for accessing your account information that will be sent by the Office of Admissions after receipt of your application. Please notify us of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing. Contact information for the Office of Admissions is listed below:

Midwestern University
Office of Admissions
19555 N. 59th Avenue
Glendale, AZ 85308
Phone: 888/247-9277 or 623/572-3215
Email: admisaz@midwestern.edu

Technical Standards for Admission to the Master of Arts in Biomedical Science Degree Program
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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Biomedical Sciences Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must:

1. Submit deposit monies by the date designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.

3. Successfully complete all outstanding prerequisites with the grade of a "C," "C+" or higher. A "C-" will not be accepted for any prerequisite course.

4. Submit proof of completed required immunizations.

5. Submit proof of medical insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.


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 has been completed.

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

10. Sign authorization allowing a criminal background check.

11. Sign the MWU Drug Free Workplace and Substance Abuse policy.

12. Complete physical exam and submit this form and a completed medical file as requested by the Office of Student Services.


If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program. Any student accepted for admission who doesn’t comply with stated timelines for submission of all required materials receives no further notification from the College relative to forfeiture to his/her seat.

**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 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 LISTING**

Sample Curriculum, Course Credits, and Sequencing

Not all electives are offered every year.

**Fall Quarter, (15 credits minimum)**

**Required Courses:**

- BMED 312 Histology 2 credits
- BMED 500 Introduction to Capstone Course 1 credit
- BMED 550 Biochemistry 5 credits
- PHYS 471 Human Physiology I 4 credits

Total 12 credits

**Elective Course Options:** 3 Elective Credits Required

- BMED 307 Medical Terminology 2 credits
- BMED 360 Biophysics 4 credits
- BMED 360L Biophysics Lab 2 credits
- BMED 404 Pre-professional Exam Preparation I 2 credits
- BMED 440 Oncology 3 credits
- BMED 571 Medicinal Chemistry I 1.5 credits
- MHPE 505 Learning Styles and Assessment 1 credit

**Winter Quarter, (15 credits minimum)**

**Required Courses:**

- BMED 316 Human Anatomy with Laboratory 4 credits
- BMED 522 Microbiology, Immunology and Virology I 3 credits
- BMED 574 Pharmacology I 3 credits
- PHYS 482 Human Physiology II 4 credits

Total 14 credits

**Elective Course Options:** 1 Elective Credit Required

- BMED 323 Medical Virology 4 credits
- BMED 341 Genetics I 3 credits
- BMED 375 Pharmacognosy 2 credits
- BMED 405 Pre-professional Exam Preparation II 2 credits
- BMED 450 Nutritional Biochemistry with Laboratory 4 credits
- BMED 570 Drug Literature Evaluation 1.5 credits
- BMED 572 Medicinal Chemistry II 1.5 credits
Spring Quarter, (15 credits minimum)

**Required Courses:**
- **BMED 523** Microbiology, Immunology and Virology 3 credits
- **BMED 575** Pharmacology II 3 credits
- **BMED 590** Capstone Course 3 credits
- **ETHC 501** Introduction to Medical Ethics 3 credits

Total 12 credits

**Elective Course Options: 3 Elective Credits Required**
- **BMED 306** Health Career Planning 2 credits
- **BMED 409** Drugs of Addiction 2 credits
- **BMED 419** Neuroanatomy 2 credits
- **BMED 435** Pathophysiology 4 credits
- **BMED 442** Genetics II 3 credits
- **BMED 477** Dangerous Plants and Animals 2 credits
- **BMED 511** Research Design and Statistics 3 credits
- **BMED 573** Medicinal Chemistry III 1.5 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.

**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 health care 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 health care professional’s career.

2 credits

**BMED 316 Human Anatomy with Laboratory**
The aim of this course 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 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 522, 523 Microbiology, Immunology and Virology I, II**
This course sequence covers basic clinical microbiology, immunology and virology in an integrated curriculum. Topics include structure, classification and evolution of microbes and viruses; pathogenic mechanisms of infectious organisms; and the responses of the human immune system. The rational management and control of infectious agents will be discussed. Laboratory sessions provide hands-on experience in microbiological laboratory procedures. Students receive instruction on staining techniques, growth requirements, identification criteria, and antibiotic therapy for commonly occurring infectious agents.

3 credits each course
Prerequisite for Microbiology, Immunology and Virology II: BMED 522 Microbiology, Immunology and Virology I

**BMED 550 Biochemistry**
This course combines lectures, small group discussions (i.e. workshops) and group presentations. Lectures address structure/function relationships in major biomolecules, enzymes in biochemistry, human energy metabolism, and major pathways for human protein, carbohydrate, and lipid metabolism. They also address the regulation of metabolism, chemical signaling, and cell-cycle regulation, principles of gene expression, and basic genetics. Workshops feature clinical cases and/or problems related to buffers, enzyme function and hemostasis.

5 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 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 thesis on a topic of the student’s choice (usually a disease condition) and presentation of the topic in a seminar format. Throughout the course, the student is required to show progress on their topic through submission of outlines and drafts of their thesis and presentation.

3 credits
Prerequisite: Successful completion of the first two quarters of the MA curriculum
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

PHYS 471, 482 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.

BMED 306 Health Career Planning
The purpose of this course is to prepare students to be highly competitive candidates for admission into 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 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 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 Genetics II: BMED 341 Genetics I

BMED 360 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 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 pharmacobiotechnology will be introduced.
2 credits

BMED 404, 405 Pre-Professional Exam Preparation I, II
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.
2 credits each course
Prerequisite for 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, hallucinogens, 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 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 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
Prerequisites: BMED 312 Histology; PHYS 471 Physiology I

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
Prerequisites: BMED 312 Histology; PHYS 471 Physiology I

BMED 444 Oncology
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 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 poisoning situations and recommend management scenarios. Lectures and workshops involving case studies and field trips will be utilized.
2 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, lays the groundwork for each student’s master’s project, and aids in the interpretation of research presented in the literature.
3 credits

BMED 570 Drug Literature Evaluation
This course introduces, discusses and applies primary, secondary and tertiary references commonly encountered in medical/pharmaceutical education.
1.5 credits

BMED 571, 572, 573 Medicinal Chemistry I, II, III
This series of courses discusses the chemistry of therapeutic agents – drugs. BMED 571 focuses on functional chemical groups and drug metabolism. BMED 572 and BMED 573 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
Prerequisite for Medicinal Chemistry II: BMED 571 Medicinal Chemistry I;
Prerequisite for Medicinal Chemistry III: BMED 572 Medicinal Chemistry II

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

MASTER OF BIOMEDICAL SCIENCES 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 have the requisite knowledge and skills to be 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
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 anatomy, biochemistry, histology, immunology, microbiology, pharmacology, physiology, and neuroanatomy. 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, 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 to complete the 72-quarter-hour requirement. The electives allow the student to further specify an area of interest to better prepare them for a career in their chosen field.

Articulation Agreements with other Midwestern University Professional Programs

The Biomedical Sciences Program has developed Articulation Agreements with other Midwestern University Professional Programs that guarantee an interview for students who:

1. Complete all prerequisite courses for the professional program of interest;
2. Obtain indicated cumulative grade point averages; and
3. Obtain indicated professional exam scores.

Other requirements for undergraduate grade point averages and number of credits taken in the Biomedical Sciences Program at Midwestern University also apply. These requirements vary depending on the professional program. Please contact the Office of Admissions or visit the Midwestern University website at: www.midwestern.edu/az-biomed/

ADMISSIONS

Admissions Requirements

To be considered for admission to the Master of Biomedical Science degree program, the applicant must:

1. Possess 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. Possess 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. Submit two letters of recommendation (or one committee letter from the applicant’s college or university).
4. Submit official transcripts from each college or university attended.
5. Submit scores from one of the following: Graduate Record Examination (GRE), Medical College Admissions Tests (MCAT), Pharmacy College Admissions Test (PCAT), Dental Admissions Test (DAT), or other professional program admissions exam.
6. Complete the typical prerequisite coursework for admission into medical, dental or pharmacy school, including biology, general chemistry, organic chemistry, physics, mathematics, and English. It is the responsibility of incoming students to determine the prerequisites for the health professional program and institution of their choice.
7. Students must complete the prerequisite courses with a grade of "C" or higher (a "C-" will not be accepted).
8. Pass a criminal background check.
9. Agree to abide by Midwestern University Drug Free Workplace and Substance Abuse Policy.

A limited number of transfer credits from other institutions are allowed-6 semester (9 quarter) hours for the Master in Biomedical Science.

Students who have completed coursework outside the United States must have completed a minimum of 30 semester hours (45 quarter hours) at a regionally accredited college or university in the United States. Of the 30 semester hours, 6 hours must be in non-remedial English composition and 3 hours must be in speech/communication.

Application Process

Individuals interested in applying for admission to the Master of Biomedical Sciences Program may download an application from our Web site at www.midwestern.edu or obtain an application packet by writing or calling:

The Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308
623/572-3215
888/247-9277

To be considered for admission, the applicant must submit an application packet that includes the following:

1. A properly completed Application for Admission to the Master of Biomedical Science Program.
2. A nonrefundable, non-waivable application fee ($50 for the Master’s degree program).
3. Two letters of recommendation (or one committee letter). The Office of Admissions will accept properly signed and sealed letters from pre-health advisors/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. If the applicant has completed coursework at an institution in a foreign country, he/she must also submit an official, detailed course-by-course evaluation of this coursework. The applicant must obtain this evaluation from one of the following services:
   - Education Credential Evaluators (ECE): 414/289-3400
   - World Education Service (WES): 212/966-6311

5. Scores from the Medical College Admissions Test (MCAT), Pharmacy College Admissions Test (PCAT), Graduate Record Examination (GRE), Dental Admissions Test (DAT), or other professional program admissions test.

Application Deadline
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 (late August). 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 a completed application early in the admission cycle.

Interview Process
After receiving the completed application packet, an admission staff member verifies the information provided to determine whether all prerequisite coursework has been completed satisfactorily or will be completed prior to potential matriculation and to verify the applicant’s cumulative GPA for all completed courses. The application materials are reviewed to determine eligibility for an interview (invitation only). A phone interview is possible for those applicants who are unable to be interviewed in person. Completed applications and interview summaries are forwarded to the Biomedical Sciences Program Admissions Committee. Each applicant will be notified in writing of the admissions action/decision.

Please Note: An applicant can track the receipt of their application materials and the status of the file on our University website using instructions for accessing your account information that will be sent by the Office of Admissions after receipt of your application. Please notify us of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing. Contact information for the Office of Admissions is listed below:

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

Technical Standards for Admission to the Master of Biomedical Science Program
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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Biomedical Sciences Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must:

1. Submit deposit monies by the date designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.

3. Successfully complete all outstanding prerequisites with the grade of a "C," "C+" or higher. A "C-" will not be accepted for any prerequisite course.

4. Submit proof of completed required immunizations.

5. Submit proof of medical insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.


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 has been completed.

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

10. Sign authorization allowing a criminal background check.

11. Sign the MWU Drug Free Workplace and Substance Abuse policy.

12. Complete physical exam and submit this form and a completed medical file as requested by the Office of Student Services.


If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program. Any student accepted for admission who doesn’t comply with stated timelines for submission of all required materials receives no further notification from the College relative to forfeiture to his/her seat.

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 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 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 LISTING
Sample Curriculum, Course Credits, and Sequencing. Not all electives are offered every year.

Fall Quarter, First Year (17-23 credits)

Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 312</td>
<td>Histology</td>
<td>2 credits</td>
</tr>
<tr>
<td>BMED 510</td>
<td>Research Topics and Methods</td>
<td>3 credits</td>
</tr>
<tr>
<td>BMED 550</td>
<td>Biochemistry</td>
<td>5 credits</td>
</tr>
<tr>
<td>ETHC 505</td>
<td>Ethics of Research and Experimentation</td>
<td>3 credits</td>
</tr>
<tr>
<td>PHYS 471</td>
<td>Human Physiology I</td>
<td>4 credits</td>
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</table>

Elective Course Options

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 307</td>
<td>Medical Terminology</td>
<td>2 credits</td>
</tr>
<tr>
<td>BMED 360</td>
<td>Biophysics</td>
<td>4 credits</td>
</tr>
<tr>
<td>BMED 360L</td>
<td>Biophysics Lab</td>
<td>2 credits</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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</tr>
<tr>
<td>BMED 404</td>
<td>Pre-professional Exam Preparation I</td>
<td>2</td>
</tr>
<tr>
<td>BMED 421</td>
<td>Prion Diseases</td>
<td>1</td>
</tr>
<tr>
<td>BMED 428</td>
<td>Public Health</td>
<td>3</td>
</tr>
<tr>
<td>BMED 429</td>
<td>Epidemiology</td>
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<tr>
<td>BMED 440</td>
<td>Oncology</td>
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<tr>
<td>BMED 455</td>
<td>Biotechnology</td>
<td>3</td>
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<tr>
<td>BMED 571</td>
<td>Medicinal Chemistry I</td>
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<tr>
<td>MHPE 505</td>
<td>Learning Styles and Assessment</td>
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<tr>
<td>BMED 440</td>
<td>Oncology</td>
<td>3</td>
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<tr>
<td>BMED 571</td>
<td>Medicinal Chemistry I</td>
<td>1.5</td>
</tr>
<tr>
<td>MHPE 505</td>
<td>Learning Styles and Assessment</td>
<td>1</td>
</tr>
</tbody>
</table>

**Winter Quarter, First Year (17-23 credits)**

### Core Requirements

- BMED 316 Human Anatomy w/Lab 4 credits
- BMED 522 Microbiology, Immunology and Virology I 3 credits
- BMED 551 Research Literature Review 2 credits
- BMED 574 Pharmacology I 3 credits
- BMED 605 Journal Club 1 credit
- PHYS 482 Human Physiology II 4 credits

### Elective Course Options

- BMED 341 Genetics I 3 credits
- BMED 375 Pharmacognosy 2 credits
- BMED 401 Biology of Human Aging 1 credit
- BMED 405 Pre-professional Exam Preparation II 2 credits
- BMED 450 Nutritional Biochemistry with Laboratory 4 credits
- BMED 512 Information Systems for Research and Education 2 credits
- BMED 572 Medicinal Chemistry II 1.5 credits

**Spring Quarter, First Year (15-23 credits)**

### Core Requirements

- BMED 419 Neuroanatomy 2 credits
- BMED 511 Research Design and Statistics 3 credits
- BMED 523 Microbiology, Immunology and Virology II 3 credits
- BMED 552 Research Protocol 2 credits
- BMED 575 Pharmacology II 3 credits
- BMED 580 Laboratory Research 1-10 credits
- BMED 606 Journal Club 1 credit

### Elective Course Options

- BMED 324 Parasitology 4 credits
- BMED 409 Drugs of Addiction 2 credits
- BMED 414 Embryology 2 credits
- BMED 424 Applied Microbiology 3 credits
- BMED 435 Pathophysiology 4 credits
- BMED 442 Genetics II 3 credits
- BMED 448 Genomics and Proteomics 4 credits
- BMED 477 Dangerous Plants and Animals 2 credits
- BMED 573 Medicinal Chemistry III 1.5 credits

**Summer Quarter, Second Year (12-17 credits)**

### Core Requirements

- BMED 514 Advanced Research Design and Statistics 3 credits
- BMED 520 Good Laboratory Practice 3 credits

### Electives Available Each Quarter in Year 2

- BMED 535, 536 Advances Topics I, II 3 credits each
- BMED 540, 541 Special Topics (Independent Studies) 1-3 credits each
With approval of the Program Coordinator, a limited number of electives may also be taken from the Master of Arts in Bioethics and Master of Health Professions Education curriculum.

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.

**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 health care 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 health care professional’s career.
2 credits

**BMED 316 Human Anatomy with Laboratory**
The aim of this course 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 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

**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.
3 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 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 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 522, 523 Microbiology, Immunology and Virology I, II**
These courses cover clinical microbiology, immunology and virology in an integrated curriculum. Topics include structure, classification and evolution of microbes and viruses; pathogenic mechanisms of infectious organisms; and the human immune system responses. Rational management and control of infectious agents is discussed. Laboratory sessions provide hands-on experience in microbiological procedures. Students learn staining techniques, growth requirements, identification criteria, and antibiotic therapy for commonly occurring infectious agents.
3 credits each course
Prerequisite for Microbiology, Immunology and Virology II: BMED 522 Microbiology, Immunology and Virology I
**BMED 550 Biochemistry**
This course combines lectures, small group discussions (i.e. workshops) and group presentations. Lectures address structure/function relationships in major biomolecules, enzymes in biochemistry, human energy metabolism, and major pathways for human protein, carbohydrate, and lipid metabolism. They also address the regulation of metabolism, chemical signaling, and cell-cycle regulation, principles of gene expression, and basic genetics. Workshops feature clinical cases and/or problems related to buffers, enzyme function and hemostasis.
5 credits

**BMED 551 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 552 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 551 Research Literature Review

**BMED 553 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 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 Pharmacology II: BMED 574 Pharmacology I

**BMED 580-589 Laboratory Research**
The program culminates in a research project involving laboratory or clinical research. 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 the summer of the second year. The number of credits taken each quarter will depend on the research project, elective course load and the number of 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.
1-10 credits per quarter
Prerequisites: BMED 510 Research Topics and Methods; BMED 511 Research Design and Statistics, BMED 551 Research Literature Review; BMED 552 Research Protocol

**BMED 595-602 Research Thesis**
This research project thesis is the culmination of the program. The thesis describes the objective of the project, the research question, 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. The number of credits taken each quarter will depend on the research project, laboratory research and elective course load and number of 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 research thesis credits that can be taken.
1-4 credits per course
Prerequisites: BMED 510 Research Topics and Methods; BMED 511 Research Design and Statistics, BMED 551 Research Literature Review; BMED 552 Research Protocol; BMED 553 Research Seminar

**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

**ETHC 505 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
PHYS 471, 482 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.

BMED 307 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 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 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 Genetics II: BMED 341 Genetics I

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 360L Biophysics Laboratory
Laboratory associated with BMED 360
2 credits

BMED 375 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 401 Biology of Human Aging
This course emphasizes in depth discussion of information from current research. It 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 404, 405 Pre-Professional Exam Preparation I, II
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.
2 credits per quarter

BMED 409 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 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 421 Prion Diseases
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 424 Applied Microbiology
This lecture 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 435 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 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: 1) the methods used to generate and interpret genome sequence in the Human Genome Project, and 2) the applications of this new genomic data to the diagnosis and treatment of disease.
4 credits

BMED 450 Nutritional Biochemistry and 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 455 Biotechnology
This course covers recent biotechnical techniques and their application in the biotech industry. Recombinant DNA, monoclonal antibodies, PCR, and other techniques are discussed as well as background related 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 512 Information Systems for Education and Research
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
BMED 535, 536 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. 3 credits per quarter

BMED 540 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

BMED 571, 572, 573 Medicinal Chemistry I, II, III
This series of courses discusses the chemistry of therapeutic agents – drugs. BMED 571 focuses on functional chemical groups and drug metabolism. BMED 572 and BMED 573 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
Prerequisite for Medicinal Chemistry II: BMED 571 Medicinal Chemistry I;
Prerequisite for Medicinal Chemistry III: BMED 572 Medicinal Chemistry II

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

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

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 health care 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 health care. Rather, this program is designed to enhance the ongoing 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 health care 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 opt for 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. Master of Arts in Bioethics students 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 health care 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 Bioethics degree program uses a rolling admissions process. Completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. Bioethics students may enter their programs during any academic quarter. Admission to the Bioethics program is considered on a competitive basis for prospective students who hold a bachelor’s level or higher degree from a regionally accredited undergraduate college or university (not required for the Certificate in Bioethics). Requests to this requirement may be made by the Bioethics Program Admissions Committee for an applicant who:

1. Hold a bachelor’s level (or its equivalent, i.e., 120 undergraduate hours including the professional program) or higher degree from a regionally accredited college or university (not required for the Certificate in Bioethics). Exceptions to this requirement may be made by the Bioethics Program Admissions Committee for an applicant who:
   a. Has successfully completed an accredited professional program such as physician assistant, nursing, dental hygienist, etc.;
   b. Has 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. Has five or more years of experience in a health care-related profession;
   d. Has a record of continuous professional development, and
   e. Submits one additional letter of reference (i.e., three total) attesting to their ability to perform at a graduate level.
2. Achieved a minimum cumulative grade point average of 2.75 on a scale of 4.00 for their bachelor’s or higher degree program;
3. Submits official transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university;
4. Submits two letters of recommendation;
5. Passes a criminal background check;
6. Agrees to abide by the Midwestern University Drug Free Workplace and Substance Abuse Policy.

**Application Process**

Individuals interested in applying for admissions to the Master of Arts in Bioethics degree program may download an application from our web site at www.midwestern.edu or obtain an application packet by writing or calling:

The Office of Admissions
Midwestern University
19555 N. 59th Avenue
Glendale, AZ 85308
623/572-3215
888/247-9277
To be considered for admission, the applicant must:

1. Submit a properly completed Bioethics Program Application for Admission form;
2. Submit a nonrefundable, non-waivable application fee of $50 (the application fee is waived for dual-degree students);
3. Complete the Bioethics Program’s interview process (invitation only)
4. Submit two letters of recommendation properly signed and sealed.
5. Submit official transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university. If the applicant has completed coursework at an institution in a foreign country, he/she must also submit an official, detailed course-by-course evaluation of this coursework. The applicant must obtain this evaluation from one of the following services:

   Education Credential Evaluators (ECE): 414/289-3400
   World Education Service (WES): 212/966-6311

An admission staff member will verify the information provided to determine whether all prerequisite coursework has been completed satisfactorily or will be completed prior to potential matriculation. Applications meeting all established standards for admission are forwarded to the Bioethics Program Admissions Committee. Each applicant will be notified in writing of the admissions committee’s action/decision.

Please Note: The receipt of your application materials and the status of your file can be tracked on the Midwestern University Web site. When we receive your application the Office of Admissions will send instructions for accessing your account information. Please notify Midwestern University of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.

Application Deadline
The Bioethics Program uses a rolling admissions process. Completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. Bioethics students may enter their programs during any academic quarter.

Technical Standards for Admission to the Master of Arts in Bioethics Program
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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Bioethics Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the date designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter tuition.
2. Submit official final transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university by the deadline of two weeks (14 calendar days) prior to the first day of classes. For students who are accepted to MWU less than
If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program.

3. Submit proof of immunization against measles, mumps, rubella, oral polio (opv), and diphtheria.

4. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.

5. Satisfy Technical Standards for the Program.

6. 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.

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

8. Sign authorization form allowing a criminal background check

9. Sign the Midwestern University Drug Free Workplace and Substance Abuse Policy.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program.

Dual Admission Program
The Bioethics Program offers an educational opportunity to current and incoming physician assistant (PA), occupational therapy (OT), cardiovascular science (M.C.S.), nurse anesthetist (CRNA), biomedical science, podiatric medicine (D.P.M.) and osteopathic medical (D.O.) students. Students accepted into these programs may apply to the Bioethics Program. The following policies apply:

1. The applicant must apply and be accepted into the clinical program and Bioethics Program separately. Only applicants meeting minimum entrance requirements for both degree programs will be given an option for the dual-degree program.

2. The clinical degree program will be considered the primary degree program and the Bioethics Program the secondary degree program. Continuity of the primary degree program must be maintained.

3. The length of the secondary program will be extended for a duration of time sufficient to complete the secondary degree program. This is usually three to six months (for OT, CRNA and M.C.S. students) and may be individualized to accommodate availability of desired courses, academic proficiency, type of tract desired in the Bioethics Program (i.e., research or didactic tract), and student preferences. The Bioethics Program degree must be completed within a total of 60 months from initial matriculation.

4. The student must maintain the minimum cumulative GPA requirements of each program. Failure to maintain the minimum cumulative GPA in either program will result in the student being given an academic warning or placed on academic probation. This may result in deceleration or temporary suspension from the secondary degree program.

5. The number of credits required for completion of the Bioethics Program is degree-specific (see degree descriptions). Some courses from the student’s clinical degree program may be deemed suitable for credit in the Bioethics Program degree program. If approved, these courses may be substituted for elective credit in the Bioethics Program up to a maximum of six (6) credits. No Bioethics Program tuition will be charged for these credits.

6. In addition to the established quarterly tuition for the clinical degree program, students enrolled in a dual degree shall pay tuition to the Bioethics Program on a per credit basis. Dual-degree students accepted into the Bioethics Program at any time before graduation shall receive a 30% discount on the normal Bioethics Program per credit hour charge during their matriculation in the primary degree program and for up to 12 months following completion of their primary degree program. Quarterly Bioethics Program tuition is determined by the number of credits for which the student is registered.

Graduation Requirements
University graduation and degree conferral ceremonies are held once a year. Currently, these ceremonies are held in June for all colleges and educational programs of the University. To qualify for graduation from the 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 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 LISTING

Required Courses
ETHC 501 Introduction to Medical Ethics 3 credits
ETHC 502 Foundations of Medical Ethics 3 credits
ETHC 503 Philosophy of Medicine 3 credits
ETHC 505 Ethics of Research and Experimentation 3 credits

Elective Courses
BMED 510 Research Topics and Methods 3 credits
BMED 511 Research Design and Statistics 3 credits
BMED 512 Information Systems for Research and Education 2 credits
BMED 513 Writing for Publication 3 credits
ETHC 504 Medical Ethics and the Law 3 credits
ETHC 516 Communication Skills for Health Care Professionals 3 credits
ETHC 517 Foundations of Managed Care Systems 3 credits
ETHC 520 Ethics of Death and Dying 3 credits
ETHC 521 Health Care Allocation and Justice 3 credits
ETHC 522 Ethical Issues of Human Reproduction 3 credits
ETHC 523 Bioethics, Culture and Identity 3 credits
ETHC 524 Religion and Bioethics 3 credits
ETHC 525 Ethical Relationships and the Health Care Team 3 credits
ETHC 526 Bioethics Committees and Consulting 3 credits
ETHC 527 Ethical Issues in Genetics 3 credits
ETHC 528 Sexuality and Health Care 3 credits
ETHC 529 Ethics and Pediatric Medicine 3 credits
ETHC 530 Teaching Medical Ethics 2 credits
ETHC 531 Clinical Ethics Rotations 3 credits
ETHC 533 Christianity and Bioethics 3 credits
ETHC 534 Judaism and Bioethics 3 credits
ETHC 535 Eastern Religions and Bioethics 3 credits
ETHC 536 Literature and Medicine 3 credits
ETHC 537 Ethical Challenges in Medicine: A Case Study Approach 3 credits
ETHC 540 Special Topics 1–3 credits
ETHC 542 Contemporary Readings in Bioethics 3 credits
ETHC 550 Independent Study 1–3 credits
ETHC 551 Research Literature Review: Independent Study 1 credit
ETHC 552 Research Project Proposal: Independent Study 1 credit
ETHC 595-599 Research Thesis 12 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.

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

SELECTIVES
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. 3 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 Health Care 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 health care. 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 Health Care Allocation and Justice
This course focuses on the idea of a “right” to health care and on various ways of understanding the demands of justice on an institutional system such as health care. It also provides students with an understanding of the various models of paying for health care 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 Health Care Team
This course examines the role of and relationships between different members of the health care 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 Health Care**
This course presents a broad examination of the many ways in which sexuality impacts health care 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 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

**ETHC 540, 541 Special Topics**
These additional courses are taught at the discretion of the Bioethics Program faculty.

1-3 credits

**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 health care provision. The objective of the project is to develop and disseminate new information for the purpose of improving the delivery of health care. The student’s Research Committee approves the proposal, oversees the research project, and approves the final research thesis.
12 credits
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 health care 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 career 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 health care providers with the skills necessary to become effective educators in their chosen professional field. Applicants typically possess health care training and include physicians, nurses, dentists, occupational and physical therapists, pharmacists, physician assistants, allied health personnel, health professions students, and other health care 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 health care 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

Admissions Requirements
To be considered for admission to the Master of Health Professions Education degree programs, the applicant must:

1. Hold 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 (not required for the Certificate in Bioethics). Exceptions to this requirement may be made by the Health Professions Education Program Admissions Committee for an applicant who:

a. Has successfully completed an accredited professional program such as physician assistant, nursing, dental hygienist, etc.;
b. Has 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. Has five or more years of experience in a health care-related profession;

d. Has a record of continuous professional development, and

e. Submits one additional letter of reference (i.e., three total) attesting to their ability to perform at a graduate level.

2. Achieved a minimum cumulative grade point average of 2.75 on a scale of 4.00 for their bachelor’s or higher degree program;

3. Submits official transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university;

4. Submits two letters of recommendation;

5. Passes a criminal background check;

6. Agrees to abide by the Midwestern University Drug Free Workplace and Substance Abuse Policy.

Application Process

Individuals interested in applying for admissions to the Master of Health Professions Education degree program may download an application from our web site at www.midwestern.edu or obtain an application packet by writing or calling:

The Office of Admissions
Midwestern University
19555 N. 59th Avenue
Glendale, AZ 85308
623/572-3215
888/247-9277

To be considered for admission, the applicant must:

1. Submit a properly completed Health Professions Education Program Application for Admission form;

2. Submit a nonrefundable, non-waivable application fee of $50 (the application fee is waived for dual-degree students);

3. Complete the Health Professions Education Program’s interview process (invitation only)

4. Submit two letters of recommendation properly signed and sealed.

5. Submit official transcripts verifying completion of a bachelor’s degree or higher level degree program from a regionally accredited college or university. If the applicant has completed coursework at an institution in a foreign country, he/she must also submit an official, detailed course-by-course evaluation of this coursework. The applicant must obtain this evaluation from one of the following services:

   - Education Credential Evaluators (ECE): 414/289-3400
   - World Education Service (WES): 212/966-6311

An admission staff member will verify the information provided to determine whether all prerequisite coursework has been completed satisfactorily or will be completed prior to potential matriculation. Applications meeting all established standards for admission are forwarded to the Health Professions Education Program Admissions Committee. Each applicant will be notified in writing of the admissions committee’s action/decision.

Please Note: The receipt of your application materials and the status of your file can be tracked on the Midwestern University Web site. When we receive your application the Office of Admissions will send instructions for accessing your account information. Please notify Midwestern University of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.

Application Deadline

The Health Professions Education Program uses a rolling admissions process. Completed applications are reviewed and decisions are made at regular intervals during the admissions cycle. Health Professions Education students may enter their programs during any academic quarter.

Technical Standards for Admission to the Master of Health Professions Education Program

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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Health Professions Education Program. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the date designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter tuition.

2. Submit official final transcripts verifying completion of a bachelor’s degree or higher degree program from a regionally accredited college or university by the deadline of two weeks (14 calendar days) prior to the first day of classes. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.

3. Submit proof of immunization against measles, mumps, rubella, oral polio (opv), and diphtheria.

4. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.

5. Satisfy Technical Standards for the Program.

6. 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.

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

8. Sign authorization form allowing a criminal background check.

9. Sign the Midwestern University Drug Free Workplace and Substance Abuse Policy.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program.

Dual Admission Program
The Health Professions Education Program offers an educational opportunity to current and incoming physician assistant (PA), occupational therapy (OT), cardiovascular science (M.C.S.), nurse anesthetist (CRNA), biomedical science, podiatric medicine (D.P.M.) and osteopathic medical (D.O.) students. Students accepted into these programs may apply to the Health Professions Education Program as dual-degree candidates. The following policies apply:

1. The applicant must apply and be accepted into the clinical program and Health Professions Education Program separately. Only applicants meeting minimum entrance requirements for both degree programs will be given an option for the dual-degree program.

2. The clinical degree program will be considered the primary degree program and the Health Professions Education Program the secondary degree program. Continuity of the primary degree program must be maintained.

3. The length of the secondary program will be extended for a duration of time sufficient to complete the secondary degree program. This is usually three to six months (for OT, CRNA and M.C.S. students) and may be individualized to accommodate availability of desired courses, academic proficiency, type of tract desired in the Health Professions Education Program (i.e., research or practicum tract), and student preferences. The Health Professions Education Program degree must be completed within a total of 60 months from initial matriculation.

4. The student must maintain the minimum cumulative GPA requirements of each program. Failure to maintain the minimum cumulative GPA in either program will result in the student being given an academic warning or placed on academic probation. This may result in deceleration or temporary suspension from the secondary degree program.

5. The number of credits required for completion of the Health Professions Education Program is degree-specific (see degree descriptions). Some courses from the
student’s clinical degree program may be deemed suitable for credit in the Health Professions Education Program degree program. If approved, these courses may be substituted for elective credit in the Health Professions Education Program up to a maximum of six (6) credits. No Health Professions Education Program tuition will be charged for these credits.

6. In addition to the established quarterly tuition for the clinical degree program, students enrolled in a dual degree shall pay tuition to the Health Professions Education Program on a per credit basis. Dual-degree students accepted into the Health Professions Education Program at any time before graduation shall receive a 30% discount on the normal Health Professions Education Program per credit hour charge during their matriculation in the primary degree program and for up to 12 months following completion of their primary degree program. Quarterly Health Professions Education Program tuition is determined by the number of credits for which the student is registered.

GRADUATION REQUIREMENTS

University graduation and degree conferral ceremonies are held once a year. Currently, these ceremonies are held in June for all colleges and educational programs of the University.

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 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 LISTING

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHPE 501</td>
<td>Teaching and Learning Styles</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 502</td>
<td>Educational Technology</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 503</td>
<td>Instructional Design and Methods</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 504</td>
<td>Curriculum Construction</td>
<td>3 credits</td>
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</tbody>
</table>

Elective Courses. Not all electives are available every year.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 510</td>
<td>Research Topics and Methods</td>
<td>3 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 Publications</td>
<td>3 credits</td>
</tr>
<tr>
<td>BMED 518</td>
<td>Grant Writing in the Health Sciences</td>
<td>3 credits</td>
</tr>
<tr>
<td>ETHC 516</td>
<td>Communication Skills for Health Care Professionals</td>
<td>3 credits</td>
</tr>
<tr>
<td>ETHC 517</td>
<td>Foundations of Managed Care Systems</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 515</td>
<td>Leadership and Management</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 521</td>
<td>Instructional Supervision</td>
<td>2 credits</td>
</tr>
<tr>
<td>MHPE 522</td>
<td>Advanced Topics in PT Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 523</td>
<td>Advanced Topics in OT Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 524</td>
<td>Advanced Topics in PA Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 525</td>
<td>Advanced Topics in Medical Education</td>
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<tr>
<td>MHPE 526</td>
<td>Advanced Topics in Pharmacy Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 527</td>
<td>Advanced Topics in Nursing Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 528</td>
<td>Organization and Management of Health Professions Programs</td>
<td>2 credits</td>
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<tr>
<td>MHPE 529</td>
<td>Distance Learning Technology</td>
<td>3 credits</td>
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<tr>
<td>MHPE 530</td>
<td>Teaching Medical Ethics</td>
<td>2 credits</td>
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<tr>
<td>MHPE 531</td>
<td>Cultural Diversity in Education</td>
<td>2 credits</td>
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<tr>
<td>MHPE 532</td>
<td>Evaluation and Assessment</td>
<td>2 credits</td>
</tr>
<tr>
<td>MHPE 534</td>
<td>Patient Education: Improving Health Outcomes</td>
<td>3 credits</td>
</tr>
<tr>
<td>MHPE 540</td>
<td>Special Topics</td>
<td>1–3 credits</td>
</tr>
<tr>
<td>MHPE 550</td>
<td>Independent Study</td>
<td>1–3 credits</td>
</tr>
<tr>
<td>MHPE 551</td>
<td>Practicum Project Proposal</td>
<td>1 credit</td>
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<tr>
<td>MHPE 552</td>
<td>Research Project Proposal</td>
<td>1 credit</td>
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<tr>
<td>MHPE 590-594</td>
<td>Education Practicum</td>
<td>11 credits</td>
</tr>
<tr>
<td>MHPE 595-599</td>
<td>Research Thesis</td>
<td>11 credits</td>
</tr>
</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.

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.
3 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 Health Care 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 health care. 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 as well as their impact on productivity and employee satisfaction. Critical analysis of the different types of management systems is given and the need for developing a leadership plan is explored. Each student is expected to gain knowledge of the various types of leaders and systems, and is required to research and present 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 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 Education
The course explores issues relevant to occupational therapy education and some of the challenges facing clinicians who transition to educators. The format includes both lecture and small group discussion. 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 Education
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 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 format includes both lecture and small group discussion. 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 format includes both lecture and small group discussion. 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. The format includes lecture sessions, small group work, and student presentations.
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

**MPHE 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

**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
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
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
Biomedical Sciences Program Director and 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
COLLEGE OF HEALTH SCIENCES

CARDIOVASCULAR SCIENCE PROGRAM

MISSION
The Cardiovascular Science Program at Midwestern University (MWU) will provide academic and clinical excellence in educating cardiovascular perfusionists for their professional careers.

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.

Commission on Accreditation of Allied Health Education Programs
1361 Park Street
Clearwater, FL 33756
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 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 a regionally accredited professional program. Applications received are reviewed by the Office of Admissions for completeness and referred to the Director of Cardiovascular Science and/or the Director of Admissions to determine eligibility for an interview. 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.

Requirements
To be considered for admission to the Cardiovascular Science Program an applicant must:
1. Hold a bachelor’s level or higher degree from a regionally accredited college or university;
2. Achieve a minimum cumulative grade point average of 2.75 on a scale of 4.00;
3. Complete an application for admission and meet the technical standards;
4. Complete the Program’s interview process (by invitation only);
5. Pass a criminal background check; and
6. Abide by the Midwestern University Drug-Free Workplace and Substance Abuse Policy.
Prerequisite Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem. Hr.</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and behavioral sciences</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>(e.g., sociology, psychology, anthropology)</td>
<td></td>
<td></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 &amp; Physiology</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</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>(recommended courses include fine arts, humanities, human services, ethics, philosophy, foreign language, business principles, computer information systems, and economics; cultural anthropology is highly recommended.)</td>
<td></td>
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</tr>
</tbody>
</table>

Courses in medical terminology and organic chemistry are recommended for all students.

Total Credit Hours | 55       | 82

**NOTE:** If the student completed coursework at or graduated from a foreign college or university, he/she must submit acceptable evidence of U.S. degree/course equivalency. The student must also complete at least 30 semester hours of coursework at a U.S. college or university prior to matriculation. This coursework must include six semester hours of nonremedial coursework in English.

**Application Instructions**

To be considered for admission into the Cardiovascular Science Program, the applicant must submit to the Office of Admissions an application packet including the following:

1. A properly completed Application for Admission form;
2. A nonrefundable, nonwaivable application fee of $50;
3. Two completed letters of recommendation; and
4. Official transcripts from each college or university attended.

Mail the completed application packet to:

Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308

To obtain an application packet or for further information, call the Office of Admissions at 623/572-3215 or 888/247-9277. You may also download an application from the Web site at <www.midwestern.edu>.

**Please Note:** The receipt of application materials and the status of your file can be tracked on the University web site.

When your application is received, the Office of Admissions will send instructions for accessing your account information. Please notify Midwestern University of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.

**Technical Standards for Admission**

A candidate must have abilities and skills in five areas: 1) observation; 2) communication; 3) motor; 4) intellectual, conceptual, integrative, and quantitative; and 5) behavioral and social. Technological compensation can be made for some limitation in certain of these areas, but a candidate should be able to perform in a reasonably independent manner.

1. **Observation:** The candidate must be able to accurately make observations at a distance and close at hand. Observation necessitates the functional use of the sense of vision and somatic sensation, and is enhanced by the functional use of all of the other senses.
2. **Communication:** The candidate must be able to communicate effectively, efficiently and sensitively in both oral and written form and be able to perceive nonverbal communication.
3. **Motor:** Candidates must be able to coordinate both gross and fine muscular movements, maintain equilibrium and have functional use of the senses of touch and vision. The candidate must possess sufficient postural control, neuromuscular control and eye-to-hand coordination to perform profession-specific skills and tasks.
4. **Intellectual, Conceptual, Integrative and Quantitative Abilities:** The candidate must be able to problem solve, measure, calculate, reason, analyze, record and synthesize large amounts of information in a timely manner. The candidate must be able to comprehend three-dimensional relationships and understand spatial relationships.
5. **Behavioral and Social Attributes:** The candidate must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment and the consistent, prompt completion of all responsibilities and the development of mature, sensitive and effective relationships. Candidates must be able to tolerate physically, mentally and emotionally taxing workloads and to function effectively under stress. The candidate must be able to adapt to changing environments, to display flexibility, and to learn to function in the face of uncertainties. Compassion, integrity, concern for others, effective interpersonal skills, willingness and ability to function as an effective team player, interest and motivation to learn are all personal qualities required during the educational process.
Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Cardiovascular Science Program of the College of Health Sciences. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the dates designated in his/her matriculation agreement; the entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.
3. Complete a medical file as requested by the Office of Student Services.
4. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.
5. 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).
6. Provide documentation that any additional coursework or service requirements stipulated by the Admissions Committee has been completed.
7. Submit additional documents as required by the Office of Admissions.
8. Sign authorization form allowing a criminal background check.
9. Sign Midwestern University Drug-Free Workplace and Substance Abuse Policy.
10. Complete physical exam and submit form.
12. Satisfy the Technical Standards for the Program.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the Program. Any individual accepted for admission to the Cardiovascular Science Program who does not comply with stated timelines for submission of all required materials receives no further notification from CHS relative to forfeiture of his/her seat.

GRADUATION REQUIREMENTS
Students usually complete the Master of Science in Cardiovascular Science degree in seven consecutive quarters. To qualify for graduation with the master’s degree, students must:

- Follow an approved course of study leading to the completion of a master’s project acceptable to the Program Student Academic Review Committee;
- Satisfactorily complete the required 103.0 quarter-credit hours in the overall course of study with a minimum cumulative grade point average of 2.750, 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;
- 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;
- Be recommended for conferral of the master’s degree 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.

LICENSE 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 Year, Fall Quarter

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 360</td>
<td>4.0</td>
</tr>
<tr>
<td>CORE 460</td>
<td>0.5</td>
</tr>
<tr>
<td>CVSP 531</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 532</td>
<td>3.0</td>
</tr>
<tr>
<td>CVSP 541</td>
<td>2.0</td>
</tr>
<tr>
<td>CVSP 561</td>
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</table>

BMED 360 Biophysics
CORE 460 Interdisciplinary Health Care
CVSP 531 CV Sciences Journal Review I
CVSP 532 Research Methodology for CV Sciences
CVSP 541 Introduction to the Perfusion Environment
CVSP 561 CV Perfusion Technology & Lab I
PHYS 471 Human Physiology I  4.0  
Total Credit Hours  16.5  

**First Year, Winter Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 574 Pharmacology I</td>
<td>3.0</td>
</tr>
<tr>
<td>CORE 470 Interdisciplinary Health Care</td>
<td>0.5</td>
</tr>
<tr>
<td>CVSP 533 CV Sciences Journal Review II</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 534 Research Laboratory for CV Sciences</td>
<td>2.0</td>
</tr>
<tr>
<td>CVSP 551 Applied CV Anatomy &amp; Embryology</td>
<td>2.0</td>
</tr>
<tr>
<td>CVSP 554 Renal, Fluid &amp; Acid-Base Physiology for CV Sciences (online)</td>
<td>1.5</td>
</tr>
<tr>
<td>CVSP 562 CV Perfusion Technology &amp; Lab II</td>
<td>5.0</td>
</tr>
<tr>
<td>CVSP 571 CV Observations I</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  16.0  

**First Year, Spring Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMED 575 Pharmacology II</td>
<td>3.0</td>
</tr>
<tr>
<td>CORE 480 Interdisciplinary Health Care</td>
<td>0.5</td>
</tr>
<tr>
<td>CVSP 535 CV Sciences Project Development</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 544 Quality &amp; Risk Management for CV Sciences</td>
<td>3.0</td>
</tr>
<tr>
<td>CVSP 552 CV Pathology (online)</td>
<td>3.0</td>
</tr>
<tr>
<td>CVSP 553 Monitoring of the CV Patient</td>
<td>2.0</td>
</tr>
<tr>
<td>CVSP 563 CV Perfusion Technology &amp; Lab III</td>
<td>5.0</td>
</tr>
<tr>
<td>CVSP 564 CV Devices Laboratory</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 565 CV Sciences High Fidelity Simulation</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 572 CV Observations II</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  20.5  

**Second Year, Summer Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CVSP 581 Clinical Practicum I (6 weeks)</td>
<td>6.0</td>
</tr>
<tr>
<td>CVSP 582 Clinical Practicum II (6 weeks)</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  12.0  

Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.  

**Second Year, Fall Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVSP 566 Special Techniques in Cardiopulmonary Bypass (online course)</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 583 Clinical Practicum III (6 weeks)</td>
<td>6.0</td>
</tr>
<tr>
<td>CVSP 584 Clinical Practicum IV (6 weeks)</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  13.0  

Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.  

**Second Year, Winter Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CVSP 585 Clinical Practicum V (6 weeks)</td>
<td>6.0</td>
</tr>
<tr>
<td>CVSP 586 Clinical Practicum VI (6 weeks)</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  12.0  

Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.  

**Second Year, Spring Quarter**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVSP 567 Current Trends in Perfusion (online course)</td>
<td>1.0</td>
</tr>
<tr>
<td>CVSP 587 Clinical Practicum VII (6 weeks)</td>
<td>6.0</td>
</tr>
<tr>
<td>CVSP 588 Clinical Practicum VIII (6 weeks)</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Total Credit Hours  13.0  

Note: Text reading assignments, journal review, and other online activities are required for each clinical rotation.  

**Program Completion**  

103.0  

**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 360 Biophysics**  

The purpose of this course is to show how the various branches of physics can be used to understand important aspects of physiology, pharmacology, and pathology. In addition to physics and chemistry, the theory of control systems has important applications to human function. Control theory is used throughout the course to help quantify the mechanisms of homeostasis.  

4 credits  

**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 460, 470, 480 Interdisciplinary Health Care**  

The Interdisciplinary Health Care course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry and Pharmacy in order to teach all clinically-based students 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.
0.5 credit per quarter

CVSP 531 Cardiovascular Sciences Journal Review I
This course covers topics related to cardiovascular perfusion.
Students will evaluate journal review articles, present, and
moderate discussions 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.
1 credit

CVSP 532 Research Methodology for Cardiovascular Sciences
This course introduces the student to a variety of research
and professional issues pertinent to the basic science and
clinical researcher. Current policy, bioethical and funding
issues will be discussed. 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.
1 credit
Prerequisite: CVSP 531 Cardiovascular Sciences Journal
Review I

CVSP 534 Research Laboratory for Cardiovascular Science
This course takes the theory and principles presented in
CVSP 532 (Research Methodology for Cardiovascular
Science) and apply 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.
2 credits
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. This independent study course is designed for
the student to select a topic, find major references, produce a
text outline, and write an abstract for their manuscript. It is
anticipated that they may present their research information
during a regional or national perfusion meeting.
1 credit

CVSP 541 Introduction to the Perfusion Environment
This course incorporates the basic knowledge and principles
of the operating room and its environment and the basic
components of the hardware and disposables employed in the
conduct of cardiopulmonary bypass. The Practical
Laboratory provides hands-on experience with the heart-lung
machine and the extracorporeal circuit. Other hands-on
experiences during the quarter include roller pump
calibration, setup and priming of a simple pump circuit, and
initiation and termination of bypass.
2 credits

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.
Additionally, there will be a segment on the concept and
function of teams and team dynamics relating to the cardiac
surgery suite.

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. The student will have the opportunity to
research, present, lead discussions, and write papers relating
to the nature, prevalence, and ability to minimize the
occurrence of safety issues associated with cardiopulmonary
bypass and the cardiac surgery suite.
3.0 credits

CVSP 551 Applied Cardiovascular Anatomy & Embryology
This course examines cardiac, vascular, renal, and respiratory
anatomy as they are applied to the cardiovascular sciences
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. In
addition, the course will also look at the normal embryonic
development of the heart and the vascular system.
2 credits

CVSP 552 Cardiovascular Pathology
This course provides an overview of cardiovascular pathology.
Professionals who participate in the care of cardiac patients
need to have an understanding of a broad range of
cardiovascular disease states, both congenital and acquired. The pathophysiology and therapeutic strategies of the important cardiovascular diseases will be reviewed. Where applicable, developmental, genetic, and environmental factors that impact the disorders will be discussed. The presenting signs and symptoms of the most important entities, as well as therapeutic and interventional strategies will be reviewed. 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. 2 credits

CVSP 554 Renal, Fluid & Acid-Base Physiology for Cardiovascular Sciences
Professionals who participate in the care of cardiac patients need to have an understanding of fluid and electrolyte balance. This course will present topics of management and understanding of renal physiology and acid-base balance. Fluid and electrolyte replacement therapy for the cardiac patient will be presented. Online courses require that the students be self-motivated and independent learners. 1.5 credits

CVSP 561 Cardiovascular Perfusion Technology & Lab I
This course examines the technology that is the cornerstone of open-heart surgery, the heart-lung machine. It provides the student with an overview of the history and evolution of the technology that is the basis of open-heart surgery. A goal of this course is to provide a place for the student to start their study. Technologies that are related to open-heart surgery will also be examined. The World Wide Web will be utilized to provide the student with links to the most modern technologies, and tutorials applicable to open-heart surgery. A laboratory portion of this class is included in the course. 2 credits

CVSP 562 Cardiovascular Perfusion Technology & Lab II
This course is the second class in the series that deals with the technology issues related to open-heart surgery. This course covers topics related to cardiopulmonary bypass, the components of the heart-lung machine, techniques, physiology, and pathophysiology related to cardiopulmonary bypass and extracorporeal support. The associated practical laboratory provides hands-on experience with the extracorporeal circuit and an introduction to the conduct of cardiopulmonary bypass via simulation. 5 credits
Prerequisite: CVSP 561 Cardiovascular Perfusion Technology & Lab I

CVSP 563 Cardiovascular Perfusion Technology & Lab III
This course is a continuation of the coursework that deals with the technology and technique issues related to the extracorporeal circuit. The course continues to look at the physiology and pathophysiology of cardiopulmonary bypass. In addition, the course will look at specific techniques and applications of extracorporeal circulation, various adjunct procedures and pediatric perfusion. The associated practical laboratory continues to build on the hands-on experience of the previous quarters. 5 credits
Prerequisite: CVSP 562 Cardiovascular Perfusion Technology & Lab II

CVSP 564 Cardiovascular Devices Laboratory
This course exposes the student to devices used in the treatment and diagnosis of cardiovascular disease with emphasis on their principles of operation, underlying pathophysiology, set-up, and use. Emphasis is on the practical application of devices in cardiovascular medicine and especially in cardiac surgery. 1 credit

CVSP 565 Cardiovascular Sciences High Fidelity Simulation
This course employs high fidelity simulation exercises to augment academic and laboratory training to consolidate particular skills, increasing situation awareness, and preparing the student for practice within the team environment of an operating room. In addition to developing procedural skills, emphasis in simulator training exercises will be placed on developing skills in patient/system monitoring, communication with other surgical team members, and situation awareness. Clinical perfusionists from the perfusion community participate as mentors. 1 credit
Prerequisites: CVSP 561 Cardiovascular Perfusion Technology & Lab I; CVSP 562 Cardiovascular Perfusion Technology & Lab II

CVSP 566 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, On-line instruction
CVSP 567 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, On-line instruction

CVSP 571, 572 Cardiovascular Observations I, II
This course involves clinical observations at affiliate hospitals or by independent study. Hospital conferences and Grand Rounds may also be included as a clinical activity. The course exposes the student to procedures and topics in cardiovascular medicine. It exposes the student to clinical issues either by direct observation or by independent study. Clinical exposure may correspond with didactic topics taught during the same quarter of study. 1 credit

CVSP 581, 582, 583, 584, 585, 586, 587, 588 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. 6 credits per each 6 week rotation
Prerequisite: Completion of all first year courses and successful completion of the Orientation to the Clinical Rotations program.

PHYS 471 Human Physiology I
Students are introduced through didactic instruction and clinical case discussions to the basic physiologic principles that underlie the normal function of the various organs and organ systems. These core principles provide the foundation through which the student develops an understanding of the physiologic adaptations and transitions that occur in commonly occurring disease states. Topics presented include a general study of cell function, properties of excitable cells, and the function of the neuromuscular, cardiovascular, renal and respiratory systems. 4 credits

FACULTY
Jon W. Austin, M.A. Ed, CP
Ottawa University
College of Education
Program Director and Assistant Professor

Edward L. Evans, B.B.A., M.A., CP
University of Phoenix
College of Business
Assistant Professor

Harry R. Hoerr, Jr., M.S., CCT
National University
College of Education
Associate Professor
MISSION
As a leader in podiatric medical education, our mission is to ensure excellence in an environment that nurtures diversity, professionalism, dedication and creativity.

Vision
Our vision 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 STATUS
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, schools and programs 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 Podiatric Medicine Program 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. A five-year extended program is available to selected students during which basic science instruction is spread over three years. Dual degree programs are available in Medical Ethics and Medical Education. Participation in a dual degree program requires the permission of the Program Director and acceptance by the Department of Biomedical Sciences. The overall goal of the Program is to prepare the finest possible podiatric physicians for entry into residency training.

ADMISSIONS
The Arizona Podiatric Medicine (AZPod) Program considers for admission those students who possess the academic, professional, and personal qualities necessary to become exemplary podiatric physicians. In the selection process, the program uses a competitive rolling admissions process. The program uses multiple criteria to select the most qualified candidates including cumulative grade point average (GPA), science GPA, comparative test scores (e.g., MCAT), personal experiences and character, ability to communicate, familiarity with the profession, volunteer/community involvement, research experience, and other considerations. MCAT scores are preferred, but in selected cases other suitable comparative test scores such as the DAT or the GRE may be accepted.

Requirements
To be considered for admission to AZPod, the successful candidate must:

1. Possess minimum cumulative GPA and science GPA’s of 2.75 on a 4.00 scale.
2. Have the ability to successfully complete a rigorous curriculum which requires one to think critically, speak and write effectively, read voluminously, and be responsibly self-directed in the learning process.
3. Possess competitive scores on a comparative admission test.
4. Have completed the necessary course prerequisites. The candidate must complete a minimum of 90 semester hours at a regionally accredited college or university. A bachelor’s degree is preferred.
5. Submit two letters of recommendation.
6. Possess 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. Demonstrate extracurricular and/or community activities that indicate a well-rounded background and demonstrate a service orientation.
8. Have had medically-related experiences that indicate sufficient exposure to allow an informed decision about a medical career.
9. Possess personal integrity and sound moral character.
10. Possess the interpersonal and communication skills necessary to relate effectively with others.
11. Pass a criminal background check.
12. Abide by the MWU Drug-Free Workplace and Substance Abuse Policy.

Course prerequisites include:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Biology with lab</td>
<td>8 Sem/12 Qtr</td>
</tr>
<tr>
<td>General/inorganic chemistry with lab</td>
<td>8 Sem/12 Qtr</td>
</tr>
<tr>
<td>Organic chemistry with lab</td>
<td>8 Sem/12 Qtr</td>
</tr>
<tr>
<td>Physics</td>
<td>8 Sem/12 Qtr</td>
</tr>
<tr>
<td>English</td>
<td>6 Sem/9 Qtr</td>
</tr>
</tbody>
</table>

No grade less than a C will be accepted for any prerequisite course.

INTERNATIONAL STUDENTS: must complete a minimum of 30 semester hours of coursework in the United States. Of the 30 semester hours, 6 hours must be completed in non-remedial English composition.

If the applicant has completed coursework at an institution in a foreign country, he/she must also submit an official, detailed course-by-course evaluation of this coursework. The applicant must obtain this evaluation from one of the following services:
- Education Credential Evaluators (ECE): 414/289-3400
- World Education Service (WES): 212/966-6311

Application Process
Individuals interested in applying for admission to AZPOD may download an application at the American Association of Colleges of Podiatric Medicine (AACPM) Web site, <www.aacpm.org> or obtain an application packet by writing or calling:

The American Association of Colleges of Podiatric Medicine (AACPM)
15850 Crabbs Branchway
Suite 320
Rockville, MD 20855-2622
1-800-922-9266

To initiate the competitive selection process, applicants must complete an application packet. This packet must include the following:

1. A properly completed application (a non-refundable application fee will be due to the AACPM Application Service [AACPMAS]).
2. Two letters of recommendation. Applicants must submit two properly signed and sealed letters of recommendations from professionals who know the applicant well. One letter must be from a medical practitioner. (Letters from podiatric physicians are strongly encouraged) and the other letter must be from a pre-health professions advisor or a science professor. Additional letters from individuals who can attest to the applicant’s character are welcome.
3. Official transcripts from each college or university attended. Applicants must submit 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.
4. Official MCAT or other comparative test scores.

Application Deadline
The application deadline for admission to AZPOD is June 30 of the year of matriculation.

Interview/Selection Process
To be considered for an interview, applicants must meet the admissions requirements listed previously. They must also submit all of the materials necessary to complete their file, e.g., an application, transcripts, and two letters of recommendation.

After the Office of Admissions receives these materials, the applicant’s file is reviewed to determine if the applicant merits an interview, based on established criteria of the Admissions Committee. The Admissions Director, with the approval of the Program 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.

If an applicant accepts an interview, he/she joins several other interviewees in a meeting with members of a three-person interview panel—a panel selected from a volunteer group of basic scientists, administrators, and clinicians. Team members question each student about his/her academic, personal, and health care preparedness for podiatric medical school, rating the students on a standardized evaluation form relative to each of these variables. At the conclusion of the interviews, the team members forward their evaluation for each student to the Admissions Committee. The committee may recommend to accept, deny, or place the student on either the hold or alternate list. This recommendation is then forwarded to the Dean of the College of Health Sciences for final approval. The Dean, via the Office of Admissions, typically notifies the student of his/her status within one or two weeks of the interview.
Technical Standards for Admission

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.

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 do the following:

1. Submit deposit monies by the dates designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.
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. The student may select either a plan offered by Midwestern University or a comparable plan offered by an outside carrier approved by the University.
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 Midwestern University.
6. Submit additional documents as required by the Office of Admissions.
7. Sign the authorization form allowing a criminal background check.
8. Sign the MWU Drug-Free Workplace and Substance Abuse Policy.
9. Complete the physical exam and submit the form.
10. Sign the Credit Policy Statement.
11. Satisfy the Technical Standards for the Program.

If a student fails to satisfy these matriculation requirements and/or omits or falsifies information required on official admissions documents, the student automatically forfeits his/her seat at the College. The student receives no further notification relative to this forfeiture.

Reapplication Process

After receiving either a denial or end-of-cycle letter, a prospective student may reapply for the next enrollment cycle. Before reapplying, however, the student should seek the advice of an admissions counselor.
Transfer Admission Policy
AZPod may elect to accept transfer students from other U.S. podiatric medical schools as long as these students are in "good academic standing" and have an acceptable reason(s) for seeking a transfer. Typically, transfers are only granted to students desiring to transfer in as a third- or fourth-year student; however, transfers to the second year may be granted.

To be considered for transfer, a student must meet the Program's general requirements for admission. He/she must also submit the following:
1. A letter to the Director of Admissions indicating why he/she wishes to transfer and explaining any difficulties encountered at his/her previous institution(s);
2. The AZPod Transfer Application (available through the Office of Admissions);
3. Scores from the Medical College Admissions Test (MCAT) or other appropriate testing agencies;
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. The letter(s) must indicate the student’s current academic status and/or terms of withdrawal/dismissal; and
6. Additional documents or letters of evaluation as determined necessary by the Director of Admissions.

Following receipt of these materials, a decision by the Admissions Committee 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 of the College of Health Sciences who approves both the student’s admissions status and class standing.

The transfer application must be received three months prior to the desired matriculation date. This allows time for processing of the application, interview, and moving of the student 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 meet the following requirements:
• Follow an approved course of study leading to the completion of all academic requirements;
• Satisfactorily complete all academic requirements with a cumulative GPA of at least 2.00;
• Repeat and pass any course for which an F grade has been issued;
• Pass Part I of the National Boards and take Part II of the National Boards administered by the National Board of Podiatric Medical Examiners;
• Be of good moral character;
• Receive a favorable recommendation from the Program Student Academic Review Committee, and the College of Health Sciences Student Promotion and Graduation Committee;
• Be recommended for conferral of the Doctor of Podiatric Medicine degree 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
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 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).
APMA
9312 Old Georgetown Road
Bethesda, Maryland
800/275-2762

FPMB
6551 Malta Drive
Boynton Beach, FL 33437
561/752-3735

Curriculum
Learning experiences with an asterisk (*) represent clinical exposure.
First Year

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAT 1511</td>
<td>Gross Anatomy I</td>
</tr>
<tr>
<td>BIOC 1511</td>
<td>Biochemistry I</td>
</tr>
<tr>
<td>CORE 1460</td>
<td>Interdisciplinary Health Care</td>
</tr>
<tr>
<td>HIST 1511</td>
<td>Histology/Embryology I</td>
</tr>
<tr>
<td>PMED 1512</td>
<td>Podiatric Medicine I</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>18.4</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Winter Quarter</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANAT 1522</td>
<td>Gross Anatomy II</td>
</tr>
<tr>
<td>BIOC 1522</td>
<td>Biochemistry II</td>
</tr>
<tr>
<td>CORE 1470</td>
<td>Interdisciplinary Health Care</td>
</tr>
</tbody>
</table>
HIST 1522  Histology/Embryology II    1.5
PHYS 1521  Physiology I             5.5
PMED 1521  Podiatric Biomechanics I  3.0
PMED 1522  Community Podiatric Medicine I * 0.5

Total: 20.0

Spring Quarter
CORE 1480  Interdisciplinary Health Care 0.5
FMED 1531  EBM/Epidemiology 1.5
MICR 1531  Immunology 3.0
NEUR 1531  Neuroscience 6.5
PHYS 1532  Physiology II 5.5
PMED 1531  Podiatric Surgery 3.0
PMED 1532  Community Podiatric Medicine II * 0.5

Total: 20.5

Total First Year: 58.9

Second Year

Summer Quarter
PMED 1631  Ethics 1.0
PMED 1643  Lower Extremity Anatomy 6.5
PMED 1644  Medical Imaging 2.0
PMED 1651  Podiatric Biomechanics II 3.5

Total: 13.0

Fall Quarter
MICR 1611  Microbiology I 5.0
PASS 469  Physical Diagnosis 4.0
PATH 1611  Pathology I 6.0
PHAR 1611  Pharmacology I 4.0

Total: 19.0

Winter Quarter
MICR 1622  Microbiology II 5.0
PATH 1622  Pathology II 6.0
PHAR 1622  Pharmacology II 4.0
PMED 1660  Community Podiatric Medicine III * 0.5
PMED 1662  General Medicine I 3.0

Total: 18.5

Spring Quarter
PATH 1633  Pathology III 5.0
PHAR 1633  Pharmacology III 3.0
PMED 1641  Podiatric Medicine II 3.5
PMED 1663  Podiatric Pathomechanics 3.5
PMED 1672  General Medicine II 3.0
PMED 1677  Community Podiatric Medicine IV * 0.5
PMED 1678  Behavioral Medicine 1.5

Total: 20.0

Total Second Year: 70.5

Third Year Didactic Instruction
Summer quarter courses are scheduled lighter during the early part of the quarter to allow students time to study for

the National Boards. Practice management presentations are given in the evenings. Basic Life Support (BLS) is a mandatory, non-credit, half-day session taught during the summer. ACLS is a mandatory, non-credit, 2-day session taught during the summer.

Summer Quarter
PMED 1675  Pediatric Orthopedics 3.0
PMED 1722  Advanced Podiatric Surgery and Trauma 4.0
PMED 1724  Orientation to Operating Room and Anesthesia 1.0
PMED 1732  General Medicine III 3.0
PMED 1753  Jurisprudence 1.5
PMED 1773  Sports Medicine and Rehabilitation 2.5
PMED 1774  General Orthopedics/Disorders of Bone 2.5

Total: 17.5

Fall Quarter
PMED 1723  Emergency Medicine 1.0
PMED 1734  Practice Management 2.0
PMED 1741  Podiatric Dermatology and Infectious Diseases 3.0
PMED 1742  Evidence Based Medicine 1.0
PMED 1751  Advanced Biomechanics 3.0

Total: 10.0

Rotations
(Integrated October through May)
PMED 1701  Core Podiatric Medicine (3 rotations, 4 weeks each) * 12.0
PMED 1701A Core Rotation
PMED 1701B Core Rotation
PMED 1701C Core Rotation
PMED 1702  Radiology (2 weeks) * 2.0
PMED 1706  Ambulatory Medicine (4 weeks) * 4.0
PMED 1710  Dermatology (2 weeks) * 2.0
PMED 1711  Rheumatology (2 weeks) * 2.0
PMED 1713  Wound Care (2 weeks) * 2.0
PMED 1714  Endocrinology (2 weeks) * 2.0
PMED 1715  Neurology (2 weeks) * 2.0

Required Elective - May choose either one 4-week or two 2-week rotations from the list below 4.0
PMED 1705  Podiatry Office (4 weeks) *
PMED 1707  Vascular Medicine (2 weeks) *
PMED 1708  Orthotics/Prosthetics (2 weeks) *
PMED 1712  Physical Medicine/Rehabilitation (2 weeks) *

PMED 1733  Clerkship (4 weeks) *
PMED 1735  Research (4 weeks) *
PMED 1740  International (2 weeks) *

Total: 32.0
Total Third Year: 59.5

Fourth Year Didactic Instruction
The Clinical Correlates courses are all taught on-line. Each student is allowed one month of vacation in the fourth year.

Summer/Fall/Winter
PMED 1821 Clinical Correlates in Podiatric Medicine 1.0
PMED 1831 Clinical Correlates in Podiatric Biomechanics 1.0
PMED 1841 Clinical Correlates in Podiatric Surgery 1.0
Total: 3.0

Rotations
(Integrated June through May)
PMED 1801 Core Podiatric Medicine (3 rotations, 4 weeks each) * 12.0
PMED 1801A Core Rotation
PMED 1801B Core Rotation
PMED 1801C Core Rotation

PMED 1802 Emergency Medicine (4 weeks) * 4.0
PMED 1803 Surgery (4 weeks) * 4.0
PMED 1804 Inpatient Medicine (4 weeks) * 4.0

PMED 1805 Clinical Clerkship (4 rotations, 4 weeks each) * 16.0
PMED 1805A Clinical Clerkship
PMED 1805B Clinical Clerkship
PMED 1805C Clinical Clerkship
PMED 1805D Clinical Clerkship

PMED 1807 Elective Medicine or Surgery (non-podiatric) (4 weeks) * 4.0
PMED 1808 Optional Rotation/Potential Remediation (4 weeks) * (4.0)
Total: 44.0 (48.0)

Total Fourth Year: 47.0 (51.0)

Elective Non-Podiatric Medicine or Surgery Rotations
Research, Dermatology, Rheumatology, Physical Medicine and Rehabilitation, General Surgery, Orthopedic Surgery, Hand Surgery

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 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
This course features modules on 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 the storage and expression of genetic information; and intermediary metabolism emphasizing the degradation and synthesis of carbohydrates, lipids, and amino acids. Clinical aspects as well as the regulation and coordination of biologic processes during the fed and fasted states are emphasized.
The workshops introduce the biochemical basis of common clinical laboratory tests and/or they 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 1460, 1470, 1480 Interdisciplinary Health Care
The Interdisciplinary Healthcare course involves the Colleges of Health Sciences, Osteopathic Medicine, Dentistry, and Pharmacy, in order to teach all clinically based students 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.

0.5 credit per quarter

**FMED 1531 EBM/Epidemiology I**
This course covers evidence-based medicine and biostatistics in detail, to include P-values, numbers needed to treat, evaluation of prognosis, diagnosis, treatment and harm articles. Current and clinically relevant articles will be used for problem-based analysis.

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, muscular tissue, and nervous tissue. After acquiring this basic knowledge, 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 gastro-intestinal systems, providing a framework for understanding the pathologic changes in diseases of these systems. In the Embryology component of this course, students will learn the general pattern and principles of normal development and the basic aspects of development of the musculoskeletal, circulatory, and gastrointestinal systems. Coordination of this course with the concurrent Gross Anatomy course provides the student with a comprehensive anatomic view of each region studied. This course uses a lecture and laboratory format and is tested through written and practical examinations.

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 ear. The development of the urogenital system, 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. The lecture and laboratory components of this course are tested through written and practical examinations.

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, roles in health, in infectious processes, and in immunologic disorders and deficiencies.

3 credits

Prerequisites: BIOC 1511 & BIOC 1522 Biochemistry I & II

**MICR 1611 Microbiology I**
The didactic component of the 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; and the methods of laboratory diagnosis, treatment, and control for each infectious agent. Laboratory exercises and demonstrations help students develop the microbiologic skills applicable for clinical practice, acquaint students with available diagnostic laboratory tests and their interpretation, and augment selected lecture presentations.

5 credits

Prerequisite: MICR 1531 Immunology

**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

Prerequisite: MICR 1611 Microbiology I

**NEUR 1531 Neuroscience**
This course utilizes a multidisciplinary approach to provide insight into the fundamental concepts of anatomy and physiology as they relate to the nervous system. The course is divided into three components. In the first unit, a regional approach is used to study the surface landmarks, internal anatomy, and blood supply of the spinal cord, brainstem, and forebrain. This provides the framework and terminology to be used in the second and third units of the course, which adopt a systems approach to the study of the central nervous system. The second unit focuses on the sensory systems, whereas the third unit concentrates on the motor system, limbic system, and higher cortical function. Throughout the second and third units, basic anatomy and physiology are consistently presented in the context of neurologic disorders that involve the particular system being studied. Case studies and lectures by clinicians are utilized to emphasize the correlation of basic and clinical material. Both written and practical examinations are used to assess student progress in the course.

6.5 credits

Prerequisites: ANAT 1511 & ANAT 1522 Gross Anatomy I & II

**PASS 469 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 & ANAT 1522 Gross Anatomy I & II; PATH 1611 & PATH 1622 Pathology I & II

**PATH 1611 Pathology I**

Designed to introduce the medical students to the basic concepts of pathology, this course stresses altered cellular, genetic, and molecular mechanisms and attempts to convey to the medical students 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 the medical students with a complete, medical overview of the disease process in relation to its histological, functional, and structural changes. The medical students also 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, 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.

PATH 1622: 6 credits; PATH 1633: 5 credits

Prerequisites for Pathology II: PATH 1611 Pathology I
Prerequisites for 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, cardiovascular, and central nervous system drugs.

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, 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.

PHAR 1622: 4 credits; PHAR 1633: 3 credits

Prerequisites for Pharmacology II: PHAR 1611 Pharmacology I
Prerequisites 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 will be included in the cardiovascular section of the course. Small group case discussions and workshops facilitate the development of critical thinking and problem solving skills as the 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 that builds on the physiologic foundations developed during the preceding semester. The initial section of the course presents 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. Small group discussions continue to refine critical thinking and problem solving skills as the students identify the 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 scope of podiatric practice, podiatric terminology, medical charting and
conservative management techniques for common foot disorders. Students will also learn the basic lower extremity examination and handling of instrumentation in practical lab sessions.
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.
3.0 credits

PMED 1522, 1532, 1660, 1677 Community Podiatric Medicine I-IV
This course is designed to foster professionalism in the podiatric student. Throughout the first and second years, podiatric students will spend a total of 30 hours per year within a community setting. The student will observe how the podiatrist interacts with patients, as well as learn about how the business of the office is managed. The importance of patient-centered care and patient’s rights will be stressed, as well as practice management, and the role of the doctor as a professional member of the community.
0.5 credit each quarter

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, regional injections for arthrocentesis, intralesional injections, local and regional anesthesia, biopsy, suturing, and nail procedures (utilizing cadaveric limbs).
3.0 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 ulcers are discussed including the use of advanced technologies. Complications of diabetes including neuropathy and Charcot disease are covered in detail.
3.5 credits
Prerequisite: PMED 1512 Podiatric Medicine I; ANAT 1511 & ANAT 1522 Gross Anatomy I & II; BIOC 1511 & BIOC 1522 Biochemistry I & II; PHYS 1521 & PHYS 1532 Physiology I & II

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.
2.0 credits
Prerequisites: ANAT 1511 & ANAT 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 hematology 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.
3.0 credits
Prerequisites: PHYS 1521 & PHYS 1532 Physiology I & II; PASS 469 Physical Diagnosis

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 1643 Lower Extremity Anatomy; PMED 1531 Podiatric Surgery; PMED 1521 & PMED 1651 Podiatric Biomechanics I & II; PMED 1512 Podiatric Medicine I; PMED 1644 Medical Imaging

PMED 1672 General Medicine II
Students study diseases of the renal and gastrointestinal systems and disorders of nutrition through the integration of the basic and clinical sciences. Case-based approaches are used in addition to didactic instruction.
3.0 credits
Prerequisites: PHYS 1521 & PHYS 1532 Physiology I & II; PASS 469 Physical Diagnosis; 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 arthropathies, congenital abnormalities, pediatric radiographs, and common pediatric gait problems.
3.0 credits
Prerequisites: ANAT 1511 & ANAT 1522 Gross Anatomy I & II; PMED 1643 Lower Extremity Anatomy; PMED 1521 & PMED 1651 Podiatric Biomechanics I & II

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 1701 Podiatric 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 rotation is a two week training experience with a radiologist at an outpatient imaging facility. The overall goal of the experience is for the student to develop fundamental skills in evaluating patients with common imaging findings. In addition, students will develop an understanding of various imaging modalities including plain radiograph, MRI, CT scans, bone scans, ultrasound, and bone densitometry. The students will also develop the skills necessary to read the various imaging studies.
2 credits

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 1706 Ambulatory Medicine
The Ambulatory 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 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 Orthotics & Prosthetics
The Orthotics 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 1710 Dermatology
The Dermatology rotation is a two 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.
2 credits

PMED 1711 Rheumatology
The Rheumatology rotation is a two 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.
2 credits

PMED 1712 Physical Medicine and Rehabilitation
The Physical Medicine and Rehabilitation rotation is a two week training experience in an outpatient PM & R clinic. The overall goal of the experience is to familiarize students with the philosophy, modalities, and the techniques employed by therapists in the treatment of patients with past injuries, surgeries, and neurological disorders.
2 credits

PMED 1713 Wound Care
The Wound Care rotation is a two week training experience in an outpatient wound care center. The overall goal of the experience 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.
2 credits

PMED 1714 Endocrinology
The Endocrinology rotation is a two 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.
2 credits

PMED 1715 Neurology
The Neurology rotation is a two 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.
2 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.
4.0 credits
Prerequisites: PMED 1643 Lower Extremity Anatomy; PMED 1531 Podiatric Surgery; PMED 1512 & PMED 1641 Podiatric Medicine I & II; PMED 1521 & PMED 1651 Podiatric Biomechanics I & II; 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.
1.0 credit
Prerequisites: PMED 1662, PMED 1672 & PMED 1732 General Medicine I, II & III; PMED 1512 Podiatric Medicine I; PMED 1531 Podiatric Surgery; PMED 1722 Advanced Podiatric Surgery & 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 a general anesthesia.
1.0 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.
3.0 credits
Prerequisites: PHYS 1521 & PHYS 1532 Physiology I & II; PASS 469 Physical Diagnosis; PMED 1662 & PMED 1672 General Medicine I & II

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 1734 Practice Management
Students will now have the opportunity to build upon their experiences and mentorship by learning the “how and why” of podiatric practice management and the interrelationship with patient quality care and obtaining a gratifying professional and personal life. The course will follow the development of an overall business plan and will be largely driven by the preparation of products that the student can use later when building a practice.
2.0 credits
Prerequisites: PMED 1522, PMED 1532, PMED 1660 & PMED 1677 Community Podiatric Medicine I, II, III & IV

PMED 1735 Research
This rotation is a four week experience designed to foster the student’s ability in developing research ideas, comprehensive literature review, methodology design, and statistical analysis. 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. At some rotation sites, students will be actively engaged in ongoing podiatric or non-podiatric research under the tutelage of an experienced clinician.
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.
4 credits

PMED 1741 Podiatric Dermatology and Infectious Disease
In this course, students learn to recognize, diagnose, and manage cutaneous disorders that commonly manifest in the lower extremities. The section on infectious diseases focuses on common lower extremity infections including those caused by viruses, fungi, and bacteria. In addition, the course explores infection including infections in the diabetic foot, bone infections, and infections caused by puncture wounds. Case-based instruction is employed and students give presentations on assigned topics.
3.0 credits
Prerequisites: PMED 1512 & PMED 1641 Podiatric Medicine I & II; MICR 1611 & MICR 1622 Microbiology I & II
PMED 1742 Evidence Based Medicine
This course is designed to provide the student with realistic experience in the use of the principles of evidence based medicine. The course will develop advanced literature techniques and critical analysis of scientific literature. Diabetes and its complications will be the primary topic of discussion.
1.0 credit
Prerequisites: FMED 1531 EBM/Epidemiology; PMED 1631 Ethics

PMED 1751 Advanced Biomechanics
This course will serve as a final step toward clinical practice and will nurture an appreciation for comprehensive understanding of lower extremity biomechanics. The course will cover currently accepted concepts as well as introduce new theories under investigation in the field of podiatric biomechanics. This course will illustrate the power and dynamic nature of biomechanics within clinical podiatric practice.
3.0 credits
Prerequisites: PMED 1521 & PMED 1651 Podiatric Biomechanics I & II; PMED 1643 Lower Extremity Anatomy; PMED 1663 Podiatric Pathomechanics

PMED 1753 Jurisprudence
In this course students will be given an overview of civil, criminal, and regulatory laws and their relationship to both medicine and ethics. Doctor-patient relationships, informed consent, and mandatory reporting will be discussed. Students will examine governmental regulations including licensing, scope of practice, drug dispensing and advertising. The course will conclude with a review of contract law (e.g. partnerships, leases).
1.5 credits

PMED 1773 Sports Medicine and Rehabilitation
This course introduces the student to the evaluation, diagnosis and management of athletic injuries. This course will also present various physical therapy evaluative techniques and modalities used in the rehabilitation of athletic injuries. The clinical skills component will include exam techniques for specific athletic injuries, application and use of immobilizing devices, physical therapy modalities, and assessment of running shoes and proper bike fit.
2.5 credits
Prerequisites: PMED 1643 Lower Extremity Anatomy; PMED 1521 & PMED 1651 Podiatric Biomechanics I & II; PMED 1512 & PMED 1641 Podiatric Medicine I & II; 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 1643 Lower Extremity Anatomy; PMED 1512 & PMED 1641 Podiatric Medicine I & II; PMED 1531 Podiatric Surgery; PMED 1644 Medical Imaging

PMED 1801 Podiatric 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 Clinical Clerkships**
The rotation consists of four 4-week training experiences training programs involving both an ambulatory and a hospital based component. The overall goal of the experience is for the student to improve the skills of evaluation and management of patients with podiatric medical, biomechanical, and surgical disorders. In addition, students will enhance skills in documentation, history taking, interpretation of diagnostic tests and physical examination techniques.

**4 credits each rotation (16 credits total)**

**PMED 1807 Elective Medicine/Surgery (non-podiatric)**
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**

**PMED 1808 Optional Rotation/Potential Remediation**
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**

**PMED 1821, 1831, 1841 Clinical Correlates**
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.

**1.0 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 Program Director. Students may also take elective courses during the extended course of study with the permission of the Program Director.

**Post Graduate Education**
The Program co-sponsors residency programs in podiatric medicine and surgery in affiliation with teaching hospitals in the United States. Information about affiliated residencies is available through the Graduate Placement Director.

**Academic Policies**
The Academic Review Committee is responsible for monitoring the academic progress of each podiatric medical student. Students are required to maintain a minimum cumulative GPA of 2.0 to remain in good academic standing. 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 promotion at the end of each academic year. These recommendations are forwarded to the College of Health Sciences Student Promotions and Graduation Committee for review. To qualify for graduation, students are required to take and pass the Part I examination and take the Part II examination of the National Board of Podiatric Medical Examiners. Students who have qualified for membership in the Pi Delta Honor Society will be honored at graduation.

**Scholarships and Awards**

**Scholarships**

- American Association of Women Podiatrists Founders Scholarship
- APMA Educational Foundation
- George E. Clark Scholarship
- Greater Texas Educational Foundation
- Hispanic Scholarship Foundation
- Indian Health Service Health Professions Scholarship
- Johnson & Johnson Wound Management Scholarship
- Medicis-Omnicef/Loprox Scholarship
- Meyer Friedlander and Milton Klasky Tikkun Olam Scholarship
- MWU Institutional Scholarships
- Orthofix Podiatry Student Scholarship
- Podiatry Insurance Company of America

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Stephen L. Barrett, DPM Scholarship

Western Interstate Commission for Higher Education (WICHE)

Awards

Michael L. Stone, DPM, 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, DPM, MSE
Pennsylvania College of Podiatric Medicine
Associate Program Director and Professor

Gary Friedlander, DPM
Ohio College of Podiatric Medicine
Associate Professor

David W. Jenkins, DPM
California College of Podiatric Medicine
Professor

Paul J. Kim, DPM
Ohio College of Podiatric Medicine
Assistant Professor

Kent Myers, M.D.
University of Utah
College of Medicine
Associate Professor

Beth Noe, DPM
William M. Scholl College of Podiatric Medicine
Assistant Professor

Jeffrey C. Page, DPM
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Program Director and Professor

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Assistant Professor

Tanya L. Thoms, DPM
California College of Podiatric Medicine
Assistant Professor

Bruce Werber, DPM
California College of Podiatric Medicine
Associate Professor

Lance Wissman, DPM
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 60068-4010, (847) 692-7050. Accreditation was granted for the period of October 13, 2007 through October 31, 2011.

Degree Description
The Nurse Anesthesia Program is a two-phase program 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, California, Colorado, New Mexico, and Utah. 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 Program is adding new clinical sites on an ongoing basis. For an updated list of clinical sites please contact the Program at (623) 572-3760. It will be necessary for students to make arrangements for transportation to and lodging at these clinical sites. The University does not provide for the cost of transportation or lodging. 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. This phase of the program also requires that students develop a research-based project relevant to nurse anesthesia.

The length of the program is 27 months. Upon program completion, a Master of Science degree with a concentration in nurse anesthesia is earned.

Admissions
Admission to the Nurse Anesthesia Program is considered on a competitive basis for prospective students who are registered nurses and hold a baccalaureate degree or its equivalent in nursing or a related field (e.g., physiology, chemistry, anatomy) or higher degree from a regionally accredited professional program. Applications received are reviewed by the Office of Admissions for completeness and referred to the Director of the Nurse Anesthesia Program and/or the Director of Admissions to determine eligibility for an interview. Final acceptance into the Nurse Anesthesia Program is determined by the Admissions Committee with the approval of both the Director of the Nurse Anesthesia Program and 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; acceptance letters are mailed in early-September.

Requirements
To be considered for admission to the Nurse Anesthesia Program at Midwestern University, a student must:

1. Possess a minimum cumulative grade point average (GPA) of 2.75 on a 4.00 scale. To be competitive, a cumulative GPA of 3.00 on a 4.00 scale is recommended. The cumulative GPA is calculated from the applicant’s last 150 credits completed;

2. Possess a minimum science GPA of 2.75 on a 4.00 scale. To be competitive, a science GPA of 3.00 on a 4.00 scale
is recommended. The courses included in the calculation of the science GPA include anatomy, physiology, pathophysiology, pharmacology, chemistry, and physics;

3. Possess a baccalaureate degree in nursing, or other appropriate degree, granted by a regionally accredited U.S. college or university prior to the application deadline, June 1st;

4. An applicant must satisfactorily complete all prerequisite coursework prior to the application deadline, June 1st;

5. Be licensed to practice as a registered nurse in at least one legal jurisdiction in the United States or its territories. You must have an Arizona or Compact State RN license to complete your clinical coursework;

6. Possess a minimum of one year of critical care registered nursing experience prior to the application deadline, June 1st;

7. Demonstrate a sincere understanding of and interest in nurse anesthesia;

8. Possess the oral and written communication skills necessary to interact with faculty, patients, and colleagues;

9. Pass a criminal background check;

10. Abide by Midwestern University’s Drug-Free Workplace and Substance Abuse Policy.

### Prerequisite Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Sem. Hrs.</th>
<th>Qtr. Hrs.</th>
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</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>
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<tr>
<td>Chemistry (may include general chemistry, organic chemistry, or biochemistry)</td>
<td>6</td>
<td>9</td>
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<tr>
<td>Basic Research</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Statistics (must complete with a grade of B or better)</td>
<td>3</td>
<td>4</td>
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### International Students

If the student has completed coursework at or has graduated from a foreign college or university, he or she must submit acceptable evidence of U.S. degree/course equivalency. The student must also complete at least 30 semester hours of coursework at a U.S. college or university prior to matriculation. Of the 30 semester hours, six hours must be in non-remedial English composition and three hours must be in speech/communications.

### 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.

### Application Instructions

To be considered for admission into the Nurse Anesthesia Program, the applicant must submit to the Office of Admissions an application packet including the following:

1. A properly completed Application for Admission form;
2. A nonrefundable, non-waivable application fee of $50;
3. Official transcripts verifying completion of a baccalaureate degree or higher level degree from a regionally accredited program and completion of all prerequisite coursework. Please submit final, official transcripts from all colleges attended post-high school;
4. Three completed letters of recommendation
   - One letter from the applicant’s current nursing supervisor
   - Two letters from peers, academic instructors, or a physician;
5. The deadline for application into the program is June 1st of the preceding year;
6. The planned date for enrollment is the beginning of the summer quarter (June).

Mail completed application packet to:
Office of Admissions
Midwestern University
19555 North 59th Avenue
Glendale, AZ 85308

Please Note: You can track the receipt of your application materials and the status of your file on our University website. When we receive your application the Office of Admissions will send instructions for accessing your account information. Please notify us of any changes to your mailing address and e-mail address.

All requests for withdrawing an application must be done in writing.

For further information, call the Office of Admissions at: 623/572-3215 or 888/247-9277.

### Technical Standards for Admission

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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Nurse Anesthesia Program of the College of Health Sciences. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the dates designated in his/her matriculation agreement; the entire deposit is applied toward the student’s first quarter tuition.
2. Complete a medical file as requested by the Office of Student Services.
3. Submit proof of medical and disability insurance coverage. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.
4. 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.
5. Submit additional documents as required by the Office of Admissions.
6. Sign authorization form allowing a criminal background check.
7. Sign Midwestern University’s Drug-Free Workplace and Substance Abuse Policy.
8. Complete physical exam and submit form.

10. Provide proof of completed required immunizations.

If the student either fails to satisfy these matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the Program.

GRADUATION REQUIREMENTS
To qualify for graduation with a master’s degree 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 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 nursing license as well.

CURRICULUM
First Year

Summer Quarter 14 quarter credits
ANAT 451 Human Anatomy and Embryology 7
NAAP 411 Biophysics 4
NAAP 450 Biochemistry for Nurse Anesthetists 3

Fall Quarter 15.5 quarter credits
CORE 460 Interdisciplinary Health Care 0.5
NAAP 432 Principles of Anesthesia I 6
NAAP 434 Anesthesia Pharmacology 5
PHYS 471 Human Physiology I 4

Winter Quarter 16.5 quarter credits
CORE 470 Interdisciplinary Health Care 0.5
NAAP 433 Principles of Anesthesia II 6
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<td>PHAR 461</td>
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<tr>
<td>NAAP 422</td>
<td>Professional Aspects of Nurse Anesthesia</td>
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<td>NAAP 444</td>
<td>Principles of Anesthesia III</td>
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<td>PHAR 472</td>
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<td>NAAP 524</td>
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**TOTAL FOR PROGRAM COMPLETION:** 120

**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 451 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 (including laboratory sessions)

**CORE 460, 470, 480 Interdisciplinary Health Care**
The Interdisciplinary Health Care course involves the Colleges of health sciences, osteopathic medicine, dentistry, and pharmacy in order to teach all clinically based students about the importance of an interdisciplinary approach to patient care. Topic pertinent to all providers, such as cultural and ethical issues and the roles of the profession will be presented. 0.5 credits each (1.5 credits total)

**NAAP 411 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 422 Professional Aspects of Nurse Anesthesia**
This course will present material concerning issues surrounding the discipline of Nurse Anesthesia as a profession. Topics include the qualifications and capabilities of the Nurse Anesthetist, professional roles and responsibilities, committing to professional involvement, the American Association of Nurse Anesthetists as a professional organization, the governmental and non-governmental regulation of Nurse Anesthesia practice, Standards of Care, professional reimbursement, health care marketplace trends, influencing health care policy, assessing and selecting CRNA practice settings, the American legal system and its impact on CRNA practice, the anatomy of malpractice litigation, clinical competency, continuous quality improvement, cultural competency, and ethical issues and decision making. 4.5 credits

**NAAP 432, 433, 444 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, principles of infection control and safety, and airway management. The second course introduces regional anesthesia, methods for pain management, 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 (18 credits total)

Prerequisite for Principles of Anesthesia II: NAAP 432 Principles of Anesthesia I
Prerequisite for Principles of Anesthesia III: NAAP 433 Principles of Anesthesia II
NAAP 434 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. In order for anesthetists to truly understand the pharmacokinetics and dynamics of medicines, it is essential that they grasp the chemical and physical essence of those substances and compounds that perform the actions of alleviating pain and inducing anesthesia. Therefore, medicinal organic chemistry will also be covered in this course.
5 credits

NAAP 443 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 450 Biochemistry for Nurse Anesthetists
Biochemistry is the science 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, nutrition, serum chemistry profile, complete blood count, anemias, liver function tests, diabetes, lipid disorders, and hemostasis tests.
3 credits

NAAP 515, 516, 517, 518, 519 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, New Mexico, California, Colorado, and Utah. These rotations will include specialty rotations in cardiac surgery, neurosurgery, pediatrics, and obstetrics. At the end of each quarter, students will meet with program faculty for summative quarterly evaluations.
9 credits each (45 credits total), Nurse Anesthesia Faculty Prerequisite: Completion of all didactic course work; successful completion of previous Clinical Rotation.

Current Clinical Sites Include:
1. Arizona Heart Hospital, Phoenix, AZ
   Distance from campus: local
2. Canyon Surgery Center, Phoenix, AZ
   Distance from campus: local
3. CIGNA Healthcare of Arizona, Phoenix, AZ
   Distance from campus: local

4. Cobre Valley Community Hospital, Globe, AZ
   Distance from campus: 2 hours
5. Del E Webb Memorial Hospital, Sun City West, AZ
   Distance from campus: local
6. Flagstaff Medical Center, Flagstaff, AZ
   Distance from campus: 2 hours
7. Fort Defiance Indian Medical Center, Fort Defiance, AZ
   Distance from campus: 6 hours
8. La Paz Regional Hospital, Parker, AZ
   Distance from campus: 3 hours
9. Lovelace Health System, Albuquerque, NM
   Distance from campus: 10 hours
10. Mesa General Hospital, Mesa, AZ
    Distance from campus: local
11. Mountain Vista Medical Center, Mesa, AZ
    Distance from campus: 45 min.
12. Northern Navajo Medical Center, Shiprock, NM
    Distance from campus: 8 hours
13. Rehoboth McKinley Christian Health Services, Gallup, NM
    Distance from campus: 8 hours
14. Saint Luke’s Medical Center, Phoenix, AZ
    Distance from campus: local
15. Saint Mary Corwin Medical Center, Pueblo, CO
    Distance from campus: 10 hours
16. San Juan Regional Medical Center, Farmington, NM
    Distance from campus: 8 hours
17. Southern Arizona Veterans Affairs Healthcare, Tucson, AZ
    Distance from campus: 2 hours
18. Tempe St Luke’s Hospital, Tempe, AZ
    Distance from campus: local
19. Tuba City Indian Medical Center, Tuba City, AZ
    Distance from campus: 6 hours
20. University Medical Center, Fresno, CA
    Distance from campus: 9 hours
21. Verde Valley Medical Center, Cottonwood, AZ
    Distance from campus: 1.5 hours

NAAP 520, 521, 522, 523, 524 Clinical Rotation Didactic Component I, II, III, IV, V
This course comprises the didactic component of NAAP 515 through NAAP 519 Clinical Rotation I through Clinical Rotation V. The student’s retention of didactic information from the first year of the program will be evaluated. In addition, a professional case report will be presented by the student to their peers and the faculty.
3 credits each (15 credits total)
Prerequisite: Completion of all didactic course work; concurrently registered for corresponding Clinical Rotation.

Current Clinical Sites Include:
1. Arizona Heart Hospital, Phoenix, AZ
   Distance from campus: local
2. Canyon Surgery Center, Phoenix, AZ
   Distance from campus: local
3. CIGNA Healthcare of Arizona, Phoenix, AZ
   Distance from campus: local

PHAR 461, 472 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,
namely the autonomic nervous system, central nervous system, cardiovascular and renal systems, and gastrointestinal and genitourinary systems. In addition, in–depth discussions on chemotherapy of microbial and parasitic organisms, chemotherapy of neoplastic diseases, drugs acting on blood-forming organs, and hormones and vitamins are presented.

3 credits each (6 credits total)
Prerequisites: ANAT 451 Human Anatomy and Human Physiology

PHY 471, 482 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. 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.

The course utilizes small group clinical case sessions to promote critical thinking, development of problem solving skills and appropriate clinical application of physiologic concepts and principles. As an active participant in these discussion sessions, the students identify, present and discuss deviations from the norm as the patient’s history, symptoms, signs, and relevant laboratory findings are reviewed. Medical literature interpretation and case write-ups are included. This component of the course assists in providing a foundation for clinical decision making and diagnosis.

4 credits each (8 credits total)

FACULTY
Shari M. Burns, CRNA, MSN
US Air Force Nurse Anesthetist Program
Associate Program Director and Assistant Professor

Kathleen A. Piotrowski, CRNA, MSN
Case Western Reserve University
Frances Payne Bolton School of Nursing
Assistant Professor

Mary M. Wojnakowski, CRNA, Ph.D.
University of Pittsburgh
School of Nursing
Program Director and Assistant Professor
MISSION
The Midwestern University Doctor of Psychology (Psy.D.)/Master of Arts (M.A.) 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
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/Master of Arts in Clinical 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 program of study follows the objectives of the training models endorsed by the American Psychological Association and the National Council of Schools and Programs of Professional Psychology. Students are educated and trained in the core competency areas related to the current body of knowledge on the biological aspects of behavior, cognitive and affective aspects of behavior, social aspects of behavior, history and systems of psychology, psychological measurement, research methodology, techniques of data analysis, individual differences, human development, dysfunctional behavior and psychopathology, professional standards and ethics, theories and methods of assessment and diagnosis, effective interventions, consultation, supervision, efficacy of interventions, and issues of cultural and individual diversity. The curriculum also has an emphasis on provision of psychological services in primary health care.

Practicum training is completed at numerous hospitals, agencies, and organizations throughout the Phoenix metropolitan area. Midwestern University has an extensive network of training sites established for a variety of health care professions.

Program Philosophy
The Doctor of Psychology/Master of Arts 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. 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 clinical dissertation. Some evening courses may be scheduled.

Master of Arts in Clinical Psychology Degree
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 500 and 600 level nonclinical core and clinical core courses, clerkship, and practicum experiences for a total of 116 credit hours. In addition, these students must complete and successfully defend a clinical master’s thesis. Students must also register for PSYC 681 Master’s Thesis (3 credits).

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. This additional credential may enhance the value of the students to many employers and assist in the competitive process of securing an internship.

**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. Students are provided feedback about their progress.

**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. 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 six 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 core clinical and non-clinical course material from the first two years of study into comprehensive responses 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 after 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 internship. The internship may or may not be a paid position, depending on the placement of the student.

**Clinical Dissertation**

A clinical dissertation is required for graduation. This is intended as a scholarly work that permits the student an opportunity to enhance their knowledge about a particular clinical area. A committee of faculty members will assist with this process. The clinical dissertation typically is completed within nine to 12 months. Students are required to develop a proposal for their project that must be approved by the Clinical Dissertation 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 clinical dissertation that are suitable for binding. With the Program Director’s approval, students needing additional time to complete the clinical dissertation must register for dissertation continuation, a zero credit course.

**Admissions**

The Clinical Psychology Program considers applicants who possess the academic and professional promise necessary to become competent, caring members of the health care community. The program requires an interview with the applicant before a decision is made concerning admission into the program.

**Requirements**

To be considered for admission within our competitive selection process one must:

1. Possess a bachelor’s degree from a regionally accredited college or university.
2. Possess a minimum cumulative GPA of 3.00 on a 4.0 scale. Only for Fall-09 admission into the PsyD program, excellent candidates with a cumulative GPA between 2.75 and 3.00 will also be considered.
3. Complete 18 semester hours in psychology, including:
• Introductory/General Psychology
• Human Growth & Development or Personality Theory
• Abnormal Psychology
• Statistics or Tests and Measurements

4. Submit Graduate Records Examination (GRE) general test scores; the test must have been taken no earlier than January 1, 2004. The Midwestern University school code for the GRE is 4160, and the department code is 0699. For more information about the GRE, contact Educational Testing Services (ETS) at 1-866-473-4373 (toll-free) or visit www.gre.org. Alternatively, you may substitute MCAT, PCAT, GMAT, LSAT, or Miller’s Analogies Test.

5. Reflect a people/service orientation through community service or extracurricular activities.

6. Reflect proper motivation for and commitment to health care as demonstrated by previous work, volunteer, or other life experiences.

7. Possess the oral and written communication skills necessary to interact with patients and colleagues.

8. Abide by Midwestern University’s Drug-Free Workplace and Substance Abuse Policy.


INTERNATIONAL STUDENTS: Must complete a minimum of 30 semester hours of coursework in the United States. Of the 30 semester hours, 6 hours must be in non-remedial English composition and 3 hours in speech/communication.

Application Process
To be considered for admission to the Clinical Psychology Program, students must submit the following items to the Office of Admissions:

1. A properly completed application. Forms and instructions can be downloaded at www.midwestern.edu; click on the AZ Clinical Psychology Program section. You may also obtain an application packet by writing or calling the Office of Admissions at Midwestern University; 19555 N. 59th Avenue, Glendale, AZ 85308; 623/572-3215 or 888/247-9277; e-mail: admisaz@midwestern.edu;

2. A nonrefundable, nonwaivable application fee of $50;

3. Three properly signed and sealed letters of recommendation from professionals who know you well (teachers, advisors, professional colleagues or supervisors);

4. Personal statement reflecting your educational and career goals and a self-appraisal of qualifications for the program and profession;

5. Current resume;

6. Official transcripts from all postsecondary schools attended; and

7. Standardized test scores (GRE or substitute)

Send all application materials to:
Office of Admissions
Midwestern University
19555 N. 59th Avenue
Glendale, AZ 85308

Please Note: You can track the receipt of your application materials and the status of your file on our University Website. When we receive your application the Office of Admissions will send instructions for accessing your account information.

Please notify us of any changes to your mailing address and e-mail address.

Completed applications are reviewed to determine the applicant’s eligibility for an interview, 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 interviews, admissions decisions are made and the Dean—via the Office of Admissions—notifies each applicant of the admissions decision.

For those admitted to the Doctor of Psychology/Master of Arts Program, a nonrefundable tuition deposit to reserve a seat in the entering class will be required by a date stipulated in the acceptance letter. The tuition deposit is applied toward the tuition due for the first quarter of study as a matriculated student.

Application Deadlines
Admissions decisions will be made on a rolling basis. You are advised to complete your application file as early as possible to ensure timely consideration.

Technical Standards for Admission
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.

Matriculation Process
The matriculation process begins after an applicant receives notification of his/her acceptance into the Doctor of Psychology/Master of Arts Program of the College. The student must return both a signed matriculation agreement and an initial deposit to the Office of Admissions. The student must also complete the following:

1. Submit deposit monies by the dates designated in his/her matriculation agreement. The entire deposit is applied toward the student’s first-quarter 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. For students who are accepted to MWU less than one month prior to the first day of classes, they 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 made by the Office of the Dean of the college. If students fail to submit all official final transcripts by the stated deadline, their acceptance or continued enrollment in the college may be jeopardized.
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. The student may select either a plan offered by an MWU-approved carrier or a comparable plan offered by an outside carrier of the student’s choice.
6. Submit proof of Arizona residency (this applies only to those students claiming Arizona residency).
7. 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).
8. Provide documentation that any additional coursework or service requirements stipulated by the admissions committee of the program has been completed.
9. Satisfy the Technical Standards for the Program.
10. Submit additional documents as required by the Office of Admissions.
11. Sign authorization form allowing a criminal background check
12. Sign Midwestern University’s Drug-Free Workplace and Substance Abuse Policy.
13. Complete physical exam and submit form.

If the student either fails to satisfy the above matriculation requirements or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat in the program. Any individual accepted for admission to the Clinical Psychology Program of the College of Health Sciences, who does not comply with stated timelines for submission of all required materials, receives no further notification from CHS relative to forfeiture of his/her seat.

Reapplication Process
After receiving either a denial or end-of-cycle letter, a prospective student 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, the prospective student must complete and submit a new application and proceed through each step of the entire 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:

• A maximum of 40 quarter hours of credit for coursework completed prior to matriculation may be considered;
• Transferred course credit is limited to graduate level courses from recognized, regionally accredited degree granting institutions;
• Credit is not transferred for clinical practicum or internship;
• Credit may be awarded for required courses from other doctoral programs;
• Credit may only be awarded for courses in which a grade of B or higher was attained;
• The program may require a competency examination to determine satisfactory performance before awarding credit for a course; and
• Credit can only be awarded for courses completed within a seven-year period before matriculation

GRADUATION REQUIREMENTS

The M.A. in Clinical Psychology is awarded if the following are fulfilled:

• Petition to the program for the awarding of the M.A. degree;
• Satisfactory completion of 116 credit hours including all required 500 and 600 level courses (92.5 credits), Interdisciplinary Healthcare Core Courses (1.5 credits), clerkships (3 credits), practicum and practicum seminar (16 credits) and clinical master’s thesis (3 credits);
• Attainment of a cumulative grade point average of 2.75 or higher;
• Successful completion and defense of clinical master’s thesis;
• Full payment of all outstanding tuition and fees; and
• Faculty and committee approval for awarding of the degree

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:

• Students must show satisfactory completion of 220 quarter credit hours, including the required courses and seminars (124.5 credits), Interdisciplinary Healthcare Core Courses (1.5 credits); clerkships (3 credits), practical and practicum seminars (32 credits), internship (50 credits), and dissertation (9 credits);
• Attainment of a cumulative grade point average of 2.75 or higher;
• Satisfactory completion of the practicum experiences;
• Satisfactory completion of the written Qualifying Examination;
• Satisfactory completion of an approved one-year internship;
• Satisfactory completion of a clinical dissertation including a successful oral defense and the submission of a copy for binding;
• Full payment of all outstanding tuition and fees; and
• Complete 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:

• The successful completion with a minimum of twelve quarter hours of credit per term for three consecutive quarters, or
• 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

YEAR 1

Fall Quarter

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<tr>
<th>Course Code</th>
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<td>PSYC 501</td>
<td>Professional Issues and Ethics</td>
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<tr>
<td>PSYC 502</td>
<td>Life Span Development I</td>
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<td>Tests and Measurements I</td>
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<td>Cognitive-Affective Bases of Behavior</td>
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15.5 credits

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<td>Tests and Measurements II</td>
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<td>Psychopathology: Child and Adolescent</td>
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14.5 credits
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<td>Personality Assessment I</td>
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<td>PSYC 550</td>
<td>Biological Bases of Behavior</td>
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<td>PSYC 520</td>
<td>Clinical Appraisal and Interviewing</td>
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<td>PSYC 527</td>
<td>Personality Assessment II: Projective Techniques</td>
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<td>Introduction to Psychotherapy</td>
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<td>Psychodynamic Approaches to Psychotherapy</td>
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<td>Marriage and Family Counseling and Therapy</td>
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(With Masters Thesis): (16 credits)

Total credits Year 1 + Year 2: 113
(With credits Year 1 + Year 2 for students petitioning for awarding of Master of Arts): (116)

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<tr>
<td>PSYC 800</td>
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Total credits (With M.A. degree 223) 220

Note: The MWU/CHS Clinical Psychology 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.

CORE 460, 470, 480 Interdisciplinary Health Care
Changes in our health care system are creating a growing demand for health professionals with skills of collaboration and teamwork. The Interdisciplinary Health Care course involves the colleges of health sciences, osteopathic medicine, and pharmacy in order to teach biomedical, occupational therapy, osteopathic medicine, pharmacy, physician assistant, and nurse anesthetist students together about the importance of an interdisciplinary approach to patient care. Topics pertinent to all providers such as cultural and ethical issues and the roles of the profession are presented.
0.5 credit per quarter

PSYC 501 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 502 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 503 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 504 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 505 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 506 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 505: Tests and Measurements I

PSYC 507 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 570 Psychopathology: Child and Adolescent; PSYC 572 Psychopathology: Anxiety-Based and Personality Disorders; PSYC 573 Psychopathology: Psychotic and Mood Disorders

**PSYC 524 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 525 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. Must be taken concurrently with PSYC 524 Intelligence Testing I.

2 credits

**PSYC 526 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 527 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 530 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 540 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 550 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 554 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 560 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 570 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.

Prerequisite: PSYC 502 Lifespan Development I
3 credits

PSYC 572 Psychopathology: Anxiety-Based and Personality Disorders
This course reviews the theory and research underlying the anxiety-based and personality disorders. Topics include anxiety disorders, dissociative and somatoform disorders, personality disorders, impulse control disorders, and psychosexual disorders.
3 credits

PSYC 573 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 582 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 and advanced students in the clinical psychology program.
1 credit
Prerequisite: Approval of Program Director

PSYC 583 Clerkship II
This is a continuation of PSYC 582.
1 credit
Prerequisites: PSYC 582 Clerkship I and Approval of Program Director

PSYC 584 Clerkship III
This is a continuation of PSYC 583.
1 credit
Prerequisites: PSYC 583 Clerkship II and Approval of Program Director

PSYC 591 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.
1.5 credits
Prerequisite: PSYC 501 Professional Issues and Ethics

PSYC 610 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 620 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 520 Clinical Appraisal and Interviewing; PSYC 524 Intelligence Testing I; PSYC 525 Intelligence Testing II; PSYC 526 Personality Assessment I; PSYC 527 Personality Assessment II

PSYC 631 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 530 Introduction to Psychotherapy; PSYC 560 Cognitive-Affective Bases of Behavior
PSYC 632 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 530 Introduction to Psychotherapy

PSYC 635 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 530 Introduction to Psychotherapy

PSYC 636 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 530 Introduction to Psychotherapy; PSYC 560 Cognitive-Affective Bases of Behavior

PSYC 639 Integrated Behavioral Health Care
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 530 Introduction to Psychotherapy; Core 460 Interdisciplinary Healthcare I; Core 470 Interdisciplinary Healthcare II; Core 480 Interdisciplinary Healthcare III

PSYC 640 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 550 Biological Bases of Behavior

PSYC 649 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 530 Introduction to Psychotherapy

PSYC 650 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 550 Biological Bases of Behavior

PSYC 655 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 678 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.
1-3 credits (repeatable)
Prerequisite: Approval of Program Director

PSYC 680 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 510 Statistics; PSYC 514 Research Methods and Design

PSYC 681 Master Thesis
Students who request the awarding of a master’s degree following completion of the first two years of the curriculum must register for this course when completing the clinical thesis.
3 credits
Prerequisite: Approval of Program Director

PSYC 682 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 683 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 684 Practicum II
This is a continuation of PSYC 682.
3 credits
Prerequisites: PSYC 682 Practicum I and Approval of Program Director

PSYC 685 Practicum Seminar II
This is a continuation of PSYC 683.
1 credit
Prerequisites: PSYC 683 Practicum Seminar I and Approval of Program Director

PSYC 686 Practicum III
This is a continuation of PSYC 684.
3 credits
Prerequisites: PSYC 684 Practicum II and Approval of Program Director

PSYC 687 Practicum Seminar III
This is a continuation of PSYC 685.
1 credit
Prerequisites: PSYC 685 Practicum Seminar II and Approval of Program Director

PSYC 688 Practicum IV
This is a continuation of PSYC 686.
3 credits
Prerequisites: PSYC 686 Practicum III and Approval of Program Director

PSYC 689 Practicum Seminar IV
This is a continuation of PSYC 687.
1 credit
Prerequisites: PSYC 687 Practicum Seminar III and Approval of Program Director

PSYC 708 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 601 Advanced Professional Development and Ethics

PSYC 711 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 510 Statistics; PSYC 514 Research Methods and Design

PSYC 730 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 530 Introduction to Psychotherapy

PSYC 732 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 739 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 530 Introduction to Psychotherapy; PSYC 550 Biological Bases of Behavior

PSYC 751 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 639 Integrated Behavioral Health Care

PSYC 771 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 520 Clinical Appraisal and Interviewing; PSYC 570 Psychopathology: Child and Adolescent; PSYC 572 Psychopathology: Anxiety-Based and Personality Disorders; PSYC 573 Psychopathology: Psychotic and Mood Disorders

PSYC 775: 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 (repeatable)
Prerequisite: Approval of Program Director

PSYC 780 Clinical Dissertation Development
This course focuses on the development of a research project. It will assist the student with exploring an area of interest and developing that idea into formalized dissertation 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 781 Clinical Dissertation Seminar
This seminar-based course focuses on the implementation of the dissertation proposal. Other aspects of the dissertation (Review of the Literature, etc.) are reviewed. Practical considerations, such as a timeline for completion of the dissertation are developed.
1 credit
Prerequisite: PSYC 780 Clinical Dissertation Development

PSYC 782 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 688 Practicum Seminar IV and Approval of Program Director

PSYC 783 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 689 Practicum Seminar IV and Approval of Program Director

PSYC 784 Advanced Practicum II
This is a continuation of PSYC 782.
3 credits
Prerequisites: PSYC 782 Advanced Practicum I and Approval of Program Director

PSYC 785 Advanced Practicum Seminar II
This is a continuation of PSYC 783.
1 credit
Prerequisites: PSYC 783 Advanced Practicum Seminar I and Approval of Program Director

PSYC 786 Advanced Practicum III
This is a continuation of PSYC 784.
3 credits
Prerequisites: PSYC 784 Advanced Practicum II and Approval of Program Director

PSYC 787 Advanced Practicum Seminar III
This is a continuation of PSYC 785.
1 credit
Prerequisites: PSYC 785 Advanced Practicum Seminar II and Approval of Program Director

PSYC 788 Advanced Practicum IV
This is a continuation of PSYC 786.
3 credits
Prerequisites: PSYC 786 Advanced Practicum III and Approval of Program Director
**PSYC 789 Advanced Practicum Seminar IV**
This is a continuation of PSYC 787.
1 credit
Prerequisites: PSYC 787 Advanced Practicum Seminar III and Approval of Program Director

**PSYC 800 Internship**
The internship is a 12-24 month commitment (2,000 hours) that is designed to provide an intensive clinical experience expanding upon the required didactic and the practicum experiences.
12.5 credits (repeatable)
Prerequisite: Approval of Program Director

**PSYC 810 Clinical Dissertation**
Completion of the Clinical Dissertation is required for the doctoral degree.
8 credits in summer quarter of year 3 and 1 credit in summer quarter of year 4
Prerequisites: PSYC 781 Clinical Dissertation Seminar and Approval of Program Director

**PSYC 820 Clinical Dissertation Continuation**
This course is reserved for students needing additional quarters beyond the fourth year in the program for completion of the required clinical dissertation. A fee is assessed with enrollment in this course. The university fee increases in the third quarter and beyond for enrollment in the course.
Prerequisites: PSYC 800 and Approval of Program Director

**PSYC 821 Internships Continuation**
This course is reserved for students requiring additional time for completing internship requirements beyond the fourth year in the program. A continuation fee is assessed for enrollment in this course. The fee increases in the third continuation quarter.
Prerequisites: PSYC 800 and Approval from Program Director

**FACULTY**

**Ruchi Bhargava, Ph.D.**
Gallaudet University
College of Liberal Arts, Sciences, and Technologies
Assistant Professor

**Philinda Smith Hutchings, Ph.D., ABPP**
University of Kansas
College of Liberal Arts and Sciences
Program Director and Professor

**Mahsaw "Elicia" Nademin, Ph.D.**
Catholic University of America
The School of Arts and Sciences
Assistant Professor
MISSION
The mission of the Midwestern University College of Dental Medicine 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 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’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 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.

ADMISSIONS
The Midwestern University College of Dental Medicine considers for admission those students who possess the academic, professional, and personal qualities necessary to become 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) essay, letters of evaluation, and interviews. Demonstrated community service through volunteerism or service-oriented employment is preferred.

Rolling Admissions
Midwestern University College of Dental Medicine 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 US and Canadian dental schools have agreed to extend offers for a position in the class.

Admission Requirements
To be competitive, an applicant should have earned a bachelor’s degree from an accredited college or university and must possess both a science and a total GPA over 2.50 (although 3.20 will be generally competitively necessary) on a 4.00 scale. A minimum science and overall GPA of 2.50 on a 4.00 scale is required to receive a supplemental application.

Prerequisite courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology with lab</td>
<td>8 Semester/12 quarter hours</td>
</tr>
<tr>
<td>General Chemistry with lab</td>
<td>8 Semester/12 quarter hours</td>
</tr>
<tr>
<td>Organic Chemistry with lab</td>
<td>4 Semester/6 quarter hours</td>
</tr>
<tr>
<td>Anatomy with lab</td>
<td>4 Semester/6 quarter hours</td>
</tr>
<tr>
<td>Microbiology with lab</td>
<td>4 Semester/6 quarter hours</td>
</tr>
<tr>
<td>Other Courses</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>8 Semester/12 quarter hours</td>
</tr>
<tr>
<td>Physiology</td>
<td>4 Semester/6 quarter hours</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>3 Semester/4.5 quarter hours</td>
</tr>
<tr>
<td>English Composition/Technical Writing</td>
<td>6 Semester/9 quarter hours</td>
</tr>
</tbody>
</table>

No grade lower than C will be accepted for any prerequisite course.

1. Complete above prerequisite courses;
2. 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. The DAT test must have been taken no more than 3 years prior to application;
3. Submit three letters of recommendation. One must be from either a pre-dental advisory committee or a science professor; the others preferentially should be from either someone with a DO/MD, DDS/DMD 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;
4. Demonstrate a sincere understanding of, and interest in, the humanitarian ethos of health care and particularly dental medicine;
5. Reflect a people/service orientation through community service or extracurricular activities;
6. Reflect proper motivation for, and commitment to, health care as demonstrated by previous salaried work, volunteer work, or other life experience;
7. Possess the oral and written communication skills necessary to interact with patients and colleagues;
8. Agree to abide by Midwestern University Drug-Free Workplace and Substance Abuse Policy;
9. Applicants will be subject to a criminal background check. In most cases, a misdemeanor conviction will not affect admission; a felony conviction could affect admission, as could failure to disclose a misdemeanor or felony;
10. Applicants must sign a statement that they meet the technical standards upon their acceptance. Candidates who may not meet the technical standards are encouraged to contact the Director of Admissions to discuss and identify what accommodations, if any, the College would need to make such that the candidate might be able to meet the standards.

Technical Standards for Admission
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 for admission who are invited for an on-campus interview are required to acknowledge that they understand the technical standards. Candidates must certify that they meet the technical standards upon their acceptance. Candidates who may not meet the technical standards are encouraged to contact the Director of Admissions to discuss and identify what accommodations, if any, the College would need to make in order that the candidate might be able to meet the standards.

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 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 completion deadline (meaning all necessary parts of the application including DAT test scores and MWU CDM supplemental application form are received by the Office of Admissions prior to this date) is March 1 of the expected matriculation year.

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: http://aadsas.adea.org/aadsas2008/application.html. Students who have taken coursework and/or earned a degree from a foreign institution must also submit to AADSAS an evaluation of their transcripts from an approved service. 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’s file. Concurrently, the office sends a supplemental application to applicants meeting the minimum science and total GPA requirement of 2.50 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 withdrawing an application must be done in writing; contact the Office of Admissions via e-mail at admisaz@midwestern.edu.

Interview/Selection Process
To be considered for an interview, applicants must meet the admissions requirements listed previously. They must also submit all of the materials necessary to complete their file, e.g., an AADSAS application, a supplemental MWU application, DAT scores, and three letters of evaluation from a premedical advisory committee or a faculty member and a dentist/physician and someone who knows the applicant very well.

After the Office of Admissions receives these materials, the applicant’s file is reviewed to determine if the applicant merits an interview, based on established criteria of the admissions committee. The Chairman 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.

If an applicant accepts an interview, he/she joins several other interviewees in meeting with members of a two or three-person interview panel—a panel selected from a volunteer group of basic scientists, administrators, and dental clinicians. Team members question each applicant about his/her academic, personal, and health care preparedness for dental school, rating the applicants on a standardized evaluation form relative to each of these variables. At the conclusion of the interviews, the team members forward their evaluation for each applicant 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 the student of his/her status as soon as possible after the interview, but not before December 1 of the year preceding matriculation, which is the date that all dental schools hold to as the first notification date.

The interview process typically begins in the summer prior to matriculation and ends in April/May of the matriculation year.

Reapplication Process
After receiving either a denial or end-of-cycle letter, an applicant may reapply for the next enrollment cycle. Before reapplying, however, the applicant should seek the advice of an admissions counselor.

To initiate the reapplication process, the applicant must submit an application to AADSAS. The application is then processed in the same manner as any other.

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 do the following:

1. Submit deposit monies and administrative fees by the dates designated in his/her matriculation agreement—the entire amount is applied toward the student’s first quarter tuition;
2. Submit official transcript(s) from all colleges attended post high school by the date designated in the matriculation agreement. (Note: The information provided on the student’s AADSAS application is verified against the information provided on the student’s transcript(s). If the course and degree information on the application cannot be verified, the student’s offer 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 insurance coverage. The student may select either a plan offered by Midwestern University College of Dental Medicine or an approved outside carrier;
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;
6. Submit additional documents as required by the Office of Admissions;
7. Sign an authorization form allowing for criminal background check;
8. Sign the Drug-Free Workplace policy;
9. Complete a physical exam and submit form and,
10. Sign the Credit Policy Statement.

If a student either fails to satisfy these matriculation requirements and/or omits/falsifies information required on official admissions documents, the student automatically forfeits his/her seat at the College. The student receives no further notification relative to this forfeiture.

Deferred Admission
Deferments are only considered under extreme circumstances, generally only where a student is physically unable to begin classes. If granted, a student may defer their admission for one year only.

To initiate the deferred admission process, a student must make his/her request in writing to the Director of Admissions by the date designated in his/her matriculation agreement. If deferment is appropriate and if the result of a physical condition, the request should be accompanied by a letter from the student’s physician documenting the conditions that prevent the student from beginning his/her dental education. After consultation with the Dean, the Director of Admissions then responds to the request with a letter detailing the specific conditions associated with deferral. Typically, the conditions include the following:

1. The student must submit his/her remaining deposit monies by the times specified during the year of his/her matriculation at the time of request of deferral.
2. Before matriculation, the student must provide a letter from a physician stating that the student can begin his/her dental education.

The student is not required to interview again or submit another supplemental application or letters of evaluation.

Transfer Admission
Midwestern University College of Dental Medicine may elect to accept transfer students from other dental schools as long as these students are in “good academic standing” and have an acceptable reason(s) for seeking a 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, a student must meet the College’s general requirements for admission. He/she must also observe the following procedure:

1. All inquiries for transfer to Midwestern University College of Dental Medicine must be submitted to the Admissions Office;
2. The completed application is returned to the Admissions Office and must also include; transcripts from previous dental school, class rank (must be in top 50%), statement of reason for transfer, Dean’s letter of “Good Academic Standing,” and a letter of reference from the Dean of Student Affairs;
3. The completed application is forwarded to the Dean;
4. Application is reviewed by the Dean who conducts an interview with the applicant;
5. Applicant is notified by the Dean of the final decision;
6. Students wishing to transfer cannot have been previously rejected for application to MWU CDM through the normal admissions process.

**INSTRUCTIONAL PROGRAM**

The College of Dental Medicine’s goals are:
- to contribute to the overall growth and academic excellence of Midwestern University by supporting the mission and goals of the University
- to foster a humanistic and character-developing environment for students
- to foster a holistic (emphasizing the importance of the whole and the interdependence of its parts) and compassionate approach to patient care
- to 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
- to graduate competent dentists who possess the levels of clinical judgment, understanding, empathy, technical skills, and independence to begin professional practice
- to instill a sense of community in graduating dentists
- to instill a life-long learning philosophy of dental education in oral health care among students
- to 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
- to be a leader in development and application of new technologies for education, research, and oral health care
- to develop and maintain a high quality, innovative, evidence-based, patient-centered, faculty-led, "seamless" oral health educational and delivery system.

**CURRICULUM**

**First Year/08-09**

<table>
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<th>Quarter</th>
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<th>Course Title</th>
<th>Credit Hours</th>
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<tr>
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<td>CORE 1460</td>
<td>Interdisciplinary Health Care I</td>
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<td>DENT 1510</td>
<td>Human Health &amp; Prevention I</td>
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<td>Dental Community Services I</td>
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<td>DENT 1615</td>
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<td>DENT 1625</td>
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<td>DENT 1623</td>
<td>Dental Community Services II</td>
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**Spring Quarter**

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<td>DENT 1632</td>
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<td>Dental Community Services III</td>
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<td>DENT 1633</td>
<td>Ethics &amp; Character Dev VI</td>
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<td>DENT 1638</td>
<td>Medical Emergencies</td>
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**Third Year/10-11**

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<td>DENT 1723</td>
<td>Pediatric Dentistry</td>
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<td>DENT 1726</td>
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<td>DENT 1727</td>
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<td>DENT 2000</td>
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<tr>
<td>DENT 1732</td>
<td>Restorative Dentistry VII</td>
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<td>DENT 1731</td>
<td>Anesthesia II</td>
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<tr>
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<td>Ethics &amp; Character Dev VII</td>
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<td>DENT 1738</td>
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<tr>
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<td>DENT 1741</td>
<td>Public Health</td>
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<td>DENT 1742</td>
<td>Restorative Dentistry VIII</td>
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DENT 1743  Ethics & Character Dev VIII  1.0
DENT 1744  Perio III  2.0
DENT 1745  Practice Management II  2.0
DENT 1746  Dental Community Services V  0.5
DENT 2002  Dental Clinic II  12.0
Total  21.5

Spring Quarter
DENT 1751  Restorative Dentistry IX  3.0
DENT 1752  Hospital Dentistry I  2.0
DENT 1753  Ethics & Character Dev IX  1.0
DENT 1754  Endo II  2.0
DENT 1755  Dental Community Services VI  0.5
DENT 2003  Dental Clinic III  14.0
Total  22.5

Fourth Year/11-12
Summer Quarter
DENT 1821  Restorative Dentistry X  1.0
DENT 1822  Hospital Dentistry II  1.0
DENT 1823  Dental Community Services V  0.5
DENT 2004  Dental Clinic IV  15.0
Total  18.5

Fall Quarter
DENT 1831  Hospital Dentistry III  2.0
DENT 1832  Restorative Dentistry XI  1.0
DENT 1823  Dental Community Services VI  0.5
DENT 1824  Ethics & Character Dev X  1.0
DENT 2005  Dental Clinic V  16.0
Total  20.5

Winter Quarter
DENT 1842  Restorative Dentistry XII  1.0
DENT 1843  Dental Community Services IX  0.5
DENT 1844  Ethics & Character Dev XI  1.0
DENT 2006  Dental Clinic VI  16.0
Total  18.5

Spring Quarter
DENT 1851  Restorative Dentistry XIII  1.0
DENT 2007  Dental Clinic VII  16.0
Total  17.0

Total credits first year –  72.0
Total credits second year –  52.0
Total credits third year –  90.5
Total credits fourth year –  74.5
TOTAL FOR PROGRAM COMPLETION:  289.0

The Midwestern University College of Dental Medicine reserves the right to alter its curriculum whenever it deems appropriate.

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 1460, 1470, 1480 Interdisciplinary Health Care
The Interdisciplinary Health Care course involves the Colleges of Health Sciences, Osteopathic Medicine, Dental Medicine, and Pharmacy, to teach all clinically-based students about the healthcare 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. 0.5 credits each quarter

Clinical Education

DENT 1510, 1520 Dental Health Promotion/Disease Prevention I and II
This course is designed to provide the student with a basic understanding of theories and principles in preventive dentistry. Lectures will be supplemented with case studies to prepare the student to develop preventive strategies for both preventive and restorative treatments. 1.0 credit each quarter

DENT 1632 Oral Pathology/Oral Medicine
Designed to introduce the dental students to the basic concepts of oral pathology, this course stresses altered cellular, genetic, and molecular mechanisms. 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 the student will come to understand how the clinical appearance of disease depends on biologic and microscopic features. It is further 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. 2.5 credits

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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. 2.0 credits

DENT 1637, 1731 Anesthesia I, II  
Dental anesthesia and intravenous sedation will be covered in these courses. Didactic and clinical demonstrations and experiences will be included. 2.0 credits each quarter

DENT 1721, 1738, 1744, Periodontics I, II, III  
Periodontics is the study of the supporting structures of the teeth and these courses will cover the present-day research and clinical techniques for preventing, controlling and treating the disease. 8.0 total credits

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. 4.5 credits

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. 4.0 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. 6.0 credits

DENT 1726, 1745, 1841 Practice Management I, II, III  
The basics of setting up a private practice along with management skills in hiring and firing staff will be covered. 5.0 total credits

DENT 1727, 1754 Endodontics I, II  
The art and science of pulp therapy and root canal treatment will be covered. The initial course will cover the single-rooted teeth, with progression to multi-rooted teeth. 4.5 total credits

DENT 1741 Public Health  
Dental public health involves assessing the oral health needs of a community and developing and implementing oral health policy to provide programs and services that address oral health issues. This course will cover the origins and determinants of disease and preventive methods that can be applied to a population as well as individuals. 2.0 credits

DENT 1752, 1822, 1831 Hospital Dentistry I, II, III  
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. 5.0 total credits

Clinic policies and procedures will be discussed in addition to rotational responsibilities. 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 three quarters of clinical experience. 105 total credits

DENT 1514, 1523, 1534, 1615, 1622, 1633, 1734, 1743, 1753, 1834, 1844 Ethics and Character Development I, II, III, IV, V, VI, VII, VIII, IX, X, XI  
Health Care Ethics is the foundational, first-year course in the comprehensive, four-year Ethics & Professionalism curriculum. This is a practical, clinically-oriented series of three courses that address a wide range of ethical guidelines, values, codes and expectations of conduct, responsibilities, issues and problems that affect all healthcare professionals, health professions students and their patients. Healthcare is a moral enterprise, and this is why developing effective clinical ethics skills is as important in the delivery of excellent patient care, as mastering other clinical skills such as diagnosis and treatment methods. Professionalism and professional character are “ethics in action.” Defined as service above self, professionalism is the hallmark of an ethical healthcare practitioner and professional characteristics, guidelines and obligations will be discussed in-depth throughout the Healthcare Ethics curriculum. Dental students and dentists in practice must exhibit the highest standards of ethics, integrity and professional character, as they are entrusted by the public, and the profession, with the shared decision-making power and judgment required to provide invasive treatment that directly impacts the health, quality of life, and well-being of patients. This series of courses seeks to involve every student in a positive and collegial learning environment emphasizing critical thinking, evidence-based and case-based learning and a lively discussion of healthcare and dental
ethics issues. This course meets for one hour every other week of the Fall, Winter and Spring quarters. Attendance is mandatory, and successful completion of preceding courses in this series is required as a prerequisite for subsequent courses. 1.0 credit each quarter

DENT 1612, 1623, 1634, 1735, 1746, 1755, 1823, 1833, 1843 Dental Community Service I, II, III, IV, V, VI, VII, VIII, IX

Every student is expected to be involved regularly throughout their education with a community service activity. 0.5 credits each quarter

Integrated Basic Sciences BDENT 1515, 1516, 1517, 1518, 1519

BDENT 1515
Module #1: Cell Structure and Function. The disciplines of histology, biochemistry, physiology, pharmacology and pathology cover the fundamentals of cell structure and function. Topics include osmosis, transport, diffusion, synaptic transmission, receptor pharmacology, cellular injury and death, apoptosis, inflammation, tissue repair and wound healing. Module #2: Infectious Disease. The disciplines of microbiology, pharmacology and pathology cover the basics of infectious disease and chemotherapeutic agents. Topics include infective endocarditis, HIV and infections of the CNS. Module #3: Medical Genetics and Embryology. Disciplines of embryology, biochemistry and pathology cover the basic principles of embryology, medical genetics and genetic disorders. 9.0 credits

BDENT 1516
Module #4: Nervous Systems/Autonomic Nervous System. The disciplines of embryology, gross anatomy, histology, physiology, pharmacology and pathology cover the basic structure and function of the nervous system. Topics include the development and histology of the nervous system, ion channels, membrane potential, action potential, neurotransmission, diseases of the peripheral and central nervous systems and medications. Module #5: Musculoskeletal System. The disciplines of histology, gross anatomy, physiology, biochemistry, pharmacology and pathology cover the basic principles of musculoskeletal structure and function. Topics include histology of muscle and bone, gross anatomy of the upper extremity, neuromuscular junction, muscle metabolism and pharmacology of neuromuscular junction. In addition, non-neoplastic bone diseases and diseases of muscle and joints are presented. Module #6: Epithelium/Connective Tissue/Blood. The disciplines of histology, biochemistry, pharmacology, microbiology and pathology cover the structure, function and pathology of these tissues. Topics include bleeding disorders, relevant diseases of the skin and blood, anticoagulants and antifungal medications. 9.5 credits

BDENT 1517
Module #7: Lymphatics/Immune System. The disciplines of gross anatomy, microbiology, immunology, pharmacology and pathology cover the basic structure and function of lymphatic system and immunologic concepts. Topics include gross anatomy and histology of the lymphatic system, general immunology, hypersensitivity, disorders of immune system and immunopharmaceuticals. Module #8: Cardiovascular System. The disciplines of histology, gross anatomy, physiology, pharmacology, microbiology and pathology cover the basic structure and function of the cardiovascular system. Topics include gross anatomy and histology of the cardiovascular system, hemodynamics, disorders and diseases of cardiovascular system and cardiovascular medications. Module #9: Respiratory System. The disciplines of gross anatomy, histology, biochemistry, physiology, pharmacology, microbiology and pathology cover the basic structure and function of the respiratory system. Topics include the gross anatomy, histology and biochemistry of the respiratory system, acid-base balance, pulmonary circulation, disorders and diseases of the respiratory system and respiratory medications. 9.0 credits

BDENT 1518
Module #10: Urinary System. The disciplines of gross anatomy, histology, physiology, pharmacology, microbiology and pathology cover the basic structure and function of the urinary system. Topics include the gross anatomy and histology of urinary system, acid-base balance, renal physiology, disorders and diseases of the urinary system and treatment medications. Module #11: Reproductive/Endocrine System. The disciplines of gross anatomy, histology, physiology, microbiology, pharmacology and pathology cover the basic structure and function of reproductive and endocrine systems. Topics include gross anatomy, histology and physiology of reproductive/endocrine system, disorders and diseases of the system and medications. Module #15: Gastrointestinal System. The disciplines of histology, gross anatomy, physiology, pharmacology, microbiology and pathology cover the basic structure and function of the gastrointestinal (GI) system. Topics include the histology, gross anatomy and physiology of the GI system to include chewing, swallowing, and digestion. The disorders and diseases of the GI system and the medications use to treat these maladies are also presented. 8.0 credits

BDENT 1519
Module #12: Head and Neck Anatomy. This module covers gross anatomy and function of the head and neck. The instructional format includes both didactic lectures and in-depth dissection laboratory. Module #13: Neuroscience. The module covers gross anatomy and function of the central and peripheral nervous systems with special emphasis on cranial nerve distribution and function. Module #14: Central
Nervous System. The disciplines of pharmacology, biochemistry and pathology cover the function and disorders of CNS. Topics include CNS metabolism, disorders and diseases of the CNS, treatment medications and an introduction to oral pathology. 8.0 credits

BDENT 1550 Basic Science Board Review
This course will review the information gleaned in Integrated Basic Sciences BDENT 1515, 1516, 1517, 1518, 1519 to prepare dental students for Part I of the National Board Examination that they will be taking during the summer of their first year. 6.0 credits

STUDENT ACADEMIC POLICIES

Academic Policies
The following academic policies apply to all CDM 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 & Progression
Two faculty committees of CDM will review the academic performance of students: the Preclinical Promotions Committee for the first two years and the Clinical Promotions Committee for the third and fourth years.

Preclinical Promotions Committee
This committee 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 each academic quarter. Students who attain satisfactory academic and professional progress are promoted to the next academic year, provided all tuition and fees have been paid.

Students with one or more failures in a single academic quarter, are required to meet with the Preclinical Promotions Committee. The Chair of this Committee will be the Associate Dean of Preclinical Sciences. 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 telephone. Decisions of the committee are mailed to the student. The right of appeal exists and is described elsewhere in this handbook. Appeals must be filed with the Dean within three working days following official notification of the committee decision.

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 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 and telephone. The Chair of this Committee will be the Associate Dean of Clinical Sciences. Decisions of the committee are mailed to the student. The right of appeal exists and is described elsewhere in this 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.

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.

The course may be repeated at MWU or at an outside institution. 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 Promotion and Graduation Committee 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.

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.

Academic Warning and Probation
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).

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).

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 CDM Dean’s Office.

Appeal Process
Following notification of a decision for dismissal or academic deceleration into an Extended Study Program, a student may appeal in writing the decision within three working days to the Dean of the College of Dental Medicine. 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.

Attendance Policy
Midwestern University College of Dental Medicine encourages students to attend all lectures, laboratory activities, and clinical assignments. First- and second-year students should attend all components (lecture or lab) for each course during each quarter. Third- and fourth-year students must attend all clinical sessions and rotations. Course directors have the discretion to require attendance.

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 experiences.

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.

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 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, and extended course of study students who accumulate two or more failures
while extended during the DENT I and DENT II years, usually receive a recommendation for 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 committees)
2. failure to exhibit the personal qualifications and ethical standards necessary to the practice of dentistry (student judicial process)
3. violation of Midwestern University College of Dental Medicine rules and regulations that are grounds for dismissal (student and administrative judicial process).

Extended Study Program (ESP)
**Voluntary.** The Extended Study Program allows students additional time to address personal issues by creating a program of study that allows students to complete the first two years of the curriculum in three years. Students must petition the Dean to voluntarily become an ESP student for personal reasons 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 emergency. Proposed schedules for all students on an extended study program are sent to the Associate Dean for Academic Affairs for his/her approval prior to providing the schedule to the student.

**Academic.** A student will be placed in the Extended Study Program for academic reasons at the discretion of the appropriate Promotions Committee. A student placed in the ESP for academic reasons is automatically placed on academic probation and will not be returned to good academic standing until all failures are remediated. If a student is placed on the ESP, such action does not modify or limit the Promotion Committee’s options for recommendation for dismissal. Thus, the student may be dismissed for academic reasons while in the ESP. Proposed schedules for all students on an extended study program are sent to department chairs for their approval prior to providing the schedule to the student.

Students who accumulate three failures over more than a single academic year or two failures in a single quarter may be recommended for dismissal or placed in the Extended Study Program and on academic probation. They are required to retake failed courses during the regular academic year and are not eligible for summer remediation courses either at CDM or at any other dental school. The Preclinical Promotions Committee individually reviews ESP students who fail academic courses.

**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. 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. First-year students must successfully pass all failed courses before they can be promoted to the second year unless they are placed on an extended study program. Likewise, second-year students can only begin clinical rotations 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 release 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 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.

**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>0.00</td>
<td>—</td>
</tr>
<tr>
<td>I</td>
<td>—</td>
<td>0.00</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 “I” grade, it is implied that an instructor agrees that the student has a valid reason and should be given additional time to complete required coursework. To resolve an incomplete grade, an instructor must fill out and submit a Change of Grade form to the Registrar. 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 the 10 days, it may be converted to a grade of “F,” which signifies failure of the course.</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 first three weeks of the quarter. There is no penalty and no credit.</td>
</tr>
<tr>
<td>W/P</td>
<td>—</td>
<td>0.00</td>
<td>Withdrawal/Passing is given after 3 or more weeks from the beginning of the quarter; grade indicates that the work completed up to the time of withdrawal was satisfactory. This grade is not counted in any GPA calculations and is not counted in credit hour accruals for graduation.</td>
</tr>
<tr>
<td>W/F</td>
<td>—</td>
<td>0.00</td>
<td>Withdrawal/Failing is given after 3 or more weeks from the beginning 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>
</tbody>
</table>
Graduation Requirements

The degree Doctor of Dental Medicine (DMD) 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.

Graduation Walk-Through Policy

1. 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.

2. 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 CDM 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.

3. The Dean is responsible for verifying that all of the requisite information is in the letter, and that the information is correct. The Dean then forwards the letter to the program/college academic review/student promotion and graduation committee for consideration.

4. The academic review/student promotion and graduation 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.

5. The Senate will forward the list of approved candidates for degrees to the University President for review and approval by the Board of Trustees. Students in CDM programs on the Glendale campus that officially complete their degree program in May-June, may participate in the graduation ceremony scheduled for May-June prior to the end of their academic program. The Student Clinical Promotions Committee will forward to the Dean of CDM a list of candidates for graduation to be forwarded 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.

Immunization Policy for CDM

Full-time students are required to have all immunizations as outlined in the general policy section of this handbook.

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. 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.
Make-up Courses

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;
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 does not offer a makeup course. They are limited to the second option if the college chooses not to offer a directed readings program.

Students who have successfully passed failed courses will be recommended for promotion. Students who are unsuccessful in passing failed courses are reviewed and notified of a decision by the appropriate Promotions Committee before the start of the next academic year.

National Boards Policy

All Midwestern University College of Dental Medicine students must pass NBDE Part I in order to qualify for graduation from MWU/ Midwestern University College of Dental Medicine. 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 end 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 CDM 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 CDM, 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 Promotions Committee. The Committee may recommend a further remediation plan or recommend dismissal for failure to meet the academic requirements of MWU/ MWU CDM. 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.

Prerequisites

Prerequisites for courses may be established by the course director 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 course director/Associate Dean.

Satisfactory Academic Progress

As required by federal law, reasonable standards of satisfactory academic progress have been established by Midwestern University College of Dental Medicine 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.
Suspension

Academic suspension may occur when a student has failed one or more courses or has accumulated two or more quarters of cumulative GPA less than required by his/her program. Academic suspension may or may not be preceded by academic probation. This action entails the removal 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. Academic suspension is noted on the student’s transcript.

The Student who has been suspended does not have to reapply 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.

Travel for Clinical Education/Fieldwork

The professional programs of CDM 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 CDM Dean. If the approval is granted, the student receives one of the following grades: W (withdrew), W/P (withdrew passing), or W/F (withdrew failing).

Withdrawal (W) can be given only during the first three weeks of the course. There is no penalty and no credit. 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/Passing (W/P) 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/F’s 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.

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Dean and Professor

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Associate Dean for Academic Affairs and Professor

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Howard Polk, DDS
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Associate Professor

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

John R. Burdick, Ph.D.
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Dean of Basic Sciences and Professor

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Professor

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Assistant Professor

Lauritz Jensen, MS, DA
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Professor

Sam Katzif, Ph.D.
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Assistant Professor

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Associate Professor

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Linda M. Walters, Ph.D.
Loyola University, Stritch School of Medicine
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