



# Academic Catalog

2025-2026

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## **ABOUT MANCHESTER UNIVERSITY**

### **Message from President Young**

Welcome to the Manchester University family! This is a place where we recognize the infinite worth of every individual, nurture a passion for learning and help each other along the way.

You are exactly where you need to be in your academic journey, to gather experiences and skills to accomplish your goals in life and make your own mark on the world.

It is my honor to introduce this catalog, which serves as your guide to the opportunities and resources available to you. Within these pages, you will find detailed information about our academic programs, dedicated faculty and state-of-the-art facilities.

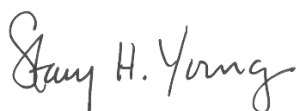
Manchester is built on a foundation of rigorous scholarship and a supportive environment that fosters personal and professional growth.

Our community wants you to succeed and we will do our best to help you do so. You will find support and encouragement in abundance. Reach out to professors, counselors, family and friends when challenges arise, because college is a place where you figure out how to use those challenges as opportunities for growth.

At Manchester, we believe in the power of education to transform lives and communities. Our Mission Statement calls upon Manchester to prepare you to improve the human condition. We support you as you grow in leadership, embrace innovation and define your role in our world. Whether you are embarking on your undergraduate journey, transferring from another institution, pursuing advanced studies or engaging in lifelong learning, you are part of a vibrant and dynamic community that values curiosity, creativity and collaboration.

I encourage you to lean into Manchester opportunities, both inside and outside the classroom. Engage with your peers, seek out new experiences, volunteer with others and immerse yourself in campus life. Your time here will be filled with moments of discovery and growth and we are committed to supporting you every step of the way.

Thank you for choosing Manchester. We are excited to be a part of your academic and personal journey. We stand ready to help you reach your potential and meet your goals.



Stacy H. Young, Ph.D.



## **Mission and Values Statements**

### **Mission Statement**

Manchester University respects the infinite worth of every individual and graduates persons of ability and conviction who draw upon their education and faith to lead principled, productive and compassionate lives that improve the human condition.

### **Values Statement**

As a primarily undergraduate, residential, liberal arts community rooted in the tradition of the Church of the Brethren, Manchester University values:

**Learning**, because high academic expectations in an environment combining liberal arts and professional preparation equip graduates to live healthy, productive and principled lives;

**Faith**, because our diverse faiths call us to make the world a kinder and better place, establish justice, build peace amid strife and model lives of agape (selfless love), tikkun olam (repairing a broken world) and salam (peace);

**Service**, because committing self in service to others connects faith with action and abilities with convictions;

**Integrity**, because honesty and trust are the foundations of teaching and learning, enriching, enduring relationships and strong communities;

**Diversity**, because understanding differences develops respect for ethnic, cultural and religious pluralism; an international consciousness; and an appreciation for the infinite worth of every person; and

**Community**, because a positive community sharpens self-identity, promotes acceptance of the demands of responsible citizenship and transforms conflict into mutual respect.

### **Nondiscrimination Statement**

Manchester University is committed to non-discrimination in campus life. The University does not discriminate on the basis of national origin, ancestry, race, color, age, sex, gender identity or expression, sexual orientation, familial status, religion, disability or veteran status in admissions or any area of campus life, including its educational programs, scholarships and loan awards, residence life programs, athletic programs, extracurricular programs, promotion and tenure policies and practice and alumni affairs.

Manchester University is committed to carry out the provisions of Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, which provide for accessibility of University programs to the physically disabled.

## **Accreditation**

Manchester University has been accredited by the Higher Learning Commission, 230 S. LaSalle, Ste. 7-500, Chicago, IL 60604; 800-621-7440; [www.hlcommission.org](http://www.hlcommission.org) since 1932.

## **State of Indiana**

Manchester University is authorized by name in [statute](#) as an approved institution of higher education in the state of Indiana. In full compliance with federal rules, please contact the [Indiana Commission for Higher Education](#) following the steps outlined [here](#) for Indiana's higher education complaint resolution process.

## **Athletic Training Accreditation**

The graduate Athletic Training program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE) 6850 Austin Center Blvd., Suite 100, Austin, TX 78731-3101.

## **Nursing Accreditation**

The baccalaureate degree in nursing has received initial accreditation from the Indiana State Board of Nursing, 402 W. Washington Street, Room W072, Indianapolis, Indiana 46204.

The baccalaureate degree program in nursing at Manchester University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791.

## **Nutrition and Nutrigenomics Accreditation**

The Master of Science in Nutrition and Nutrigenomics has been granted candidate status by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. 120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995, (312) 899-0040 ext. 5400. <http://www.eatrightpro.org/ACEND>

## **Pharmacy Program Accreditation**

Manchester University's Doctor of Pharmacy Program is accredited with the Accreditation Council for Pharmacy Education, 2135 South LaSalle Street, Suite 4100, Chicago, IL 60503; 312/644-3575; FAX 312/664-4652; [www.acpe-accredit.org/](http://www.acpe-accredit.org/)),

## **Physical Therapy Accreditation**

Manchester University has been granted Candidate for Accreditation status by the Commission on Accreditation in Physical Therapy Education, 3030 Potomac Ave., Suite 100, Alexandria, Virginia 22305-3085; phone: 703-706-3245; email: [accreditation@apta.org](mailto:accreditation@apta.org). If needing to contact the program/institution directly, please call 260-470-2700 or email [gradadmissions@manchester.edu](mailto:gradadmissions@manchester.edu).

Candidate for Accreditation is an accreditation status of affiliation with the Commission on Accreditation in Physical Therapy Education that indicates the program may matriculate students in technical/professional courses. Achievement of Candidate for Accreditation status does not assure that the program will be granted Initial Accreditation.

**Social Work Accreditation**

The baccalaureate level social work program is accredited by the Council on Social Work Education.

**Teacher Education Accreditation**

The baccalaureate level teacher education program is accredited by the Department of Education, Division of Professional Standards, the Council for the Accreditation of Educator Preparation (CAEP) and the Higher Learning Commission.

## **ACADEMIC CALENDAR**

### **2025-2026 ACADEMIC CALENDAR**

#### **Undergraduate, Graduate, Physical Therapy and Pharmacy Programs**

#### **FALL SEMESTER 2025**

Aug	13	New Faculty Orientation
	18-19	Faculty Workshop
	25	Classes Begin
	25-29	Change of Course Days (Add/Drop via Spartan Self-Service)
Sept	5	Class Roster Verification Due
	12	Week 3 Academic Progress Reporting Due
	19	Last day to convert Fall Course to Honors Last day to drop 1 <sup>st</sup> half course with a W grade or change to P/NP
Oct	10	End of first half of the semester Deadline for Spring/Summer Incomplete/Not-Recorded grades
	13-14	Fall Break
	15	Beginning of second half of the semester
	20	Online Registration for January & Spring 2026 available via Spartan Self-Service
Nov	8	Last day to drop full-term course with a W grade or change to P/NP
	14	Last day to drop 2 <sup>nd</sup> half course with a W grade or change to P/NP
	26-28	Thanksgiving Recess <i>Classes dismiss 6 p.m. Nov. 25; classes resume 8 am Dec 1</i>
Dec	5	Classes End
	8	Undergraduate Reading Day (no classes, no exams)
	9-12	Final examinations
	16	Grades Due at 5 PM
	18	Fall grades available on Spartan Self-Service

#### **JANUARY SESSION 2026**

Jan	5	January Classes Begin
	5-7	Change of Course Days (Add/Drop via Spartan Self-Service)
	7	Last day to convert January course to Honors
	8	Last day to drop a course with a W grade or change to P/NP
	19	Martin Luther King Jr. Day (no classes)
	23	January Classes End
	26	Grades Due at 5 PM
	29	January grades available on Spartan Self-Service

### **SPRING SEMESTER 2026**

Jan	28	Classes Begin
	28-31	Change of Course Days (Add/Drop via Spartan Self-Service)
Feb	1	Change of Course Days (Add/Drop via Spartan Self-Service)
	6	Class Roster Verification Due
	13	Week 3 Academic Progress Reporting Due
	20	Last day to convert Spring course to Honors
	20	Last day to drop 1 <sup>st</sup> half course with a W grade or change to P/NP
March	3-6	Online Registration for 26-27 Academic Year Opens Spartan Self-Service
	13	End of first half of the semester
		Deadline for Fall/January Incomplete/Not-Recorded grades
	16-20	Spring Break
		<i>Classes dismiss 6 p.m. March 13; classes resume 8 a.m. March 23</i>
	23	Beginning of second half of the semester
April	3	Good Friday Holiday
		<i>Classes dismiss 6 p.m. April 2; classes resume 8 a.m. April 6</i>
	10	Last day to drop full term course with a W grade or change to P/NP
	24	Last day to drop 2 <sup>nd</sup> half course with a W grade or change to P/NP
May	8	Classes End
	11	Undergraduate Reading Day (no classes, no exams)
	12-15	Final examinations
	16	Commencement ceremonies
	19	Grades Due at 5 PM
	22	Spring grades available on Spartan Self-Service

### **SUMMER SEMESTER 2026**

May	25	Memorial Day
	26	Summer Classes Begin
June	19	Juneteenth (no classes)
	19	Last day to drop 1 <sup>st</sup> half course with a W grade or change to P/NP
July	3	Independence Day (Observed)
	3	End of first half-semester classes
	6	Beginning of second half-semester classes
	24	Last day to drop full-semester course with a W grade or change to P/NP
	31	Last day to drop 2 <sup>nd</sup> half course with a W grade or change to P/NP
Aug	14	Classes End
	18	Grades due at 5 PM
	21	Summer grades available on Spartan Self-Service

## **UNDERGRADUATE ADMISSIONS**

### **First-Year Admission Requirements**

First-time college students applying for admission to a degree program are expected to present the following qualifications:

1. Graduation from an accredited high school or its equivalent or successful completion of a high school equivalency exam (GED, HiSET or TASC).
2. Submission of an official high school transcript.
3. Satisfactory class rank in the high school graduating class.
4. Satisfactory completion of a high school curriculum preparing the student for college. Although no specific distribution of high school credits is required for admission, a college preparatory curriculum is recommended, including:
  - a. four years of English (grammar, composition, literature).
  - b. two years of a foreign language.
  - c. three or four years of college preparatory mathematics (algebra, plane geometry and advanced algebra as a minimum).
  - d. two or three years of laboratory science (at least two from among biology, chemistry and physics).
  - e. two years of social science (selected from U.S., world and European history; government; sociology; psychology; geography; economics).
5. Personal reference information from the student's high school guidance counselor or principal. Appropriate references from other people may be submitted by applicants 25 years of age or older.
6. A final official transcript is to be submitted to the admissions office from the high school or learning institution validating completion of degree.

### ***Application Procedures***

1. Apply online at [www.manchester.edu](http://www.manchester.edu) or via the Common Application at [www.commonapp.org](http://www.commonapp.org).
2. Once your application is submitted, please provide an official high school transcript, including current course work and most recent grades available.
3. Students should submit their completed application as early as possible following completion of their junior year in high school, but at least 30 days prior to the beginning of the semester in which they plan to enroll.

### ***Admission and Enrollment***

1. An admission decision will be made when the application is complete. The applicant will usually be notified within two weeks.
2. A \$100 enrollment deposit is expected of all admitted students to confirm their intention to enroll. This fee is refundable through May 1 for the fall semester.
3. Course selection and registration for new fall undergraduate students will begin in the spring and is completed in coordination with the summer orientation experience (Black & Gold Day).
4. Residential life information is sent to all enrolled students. Students complete a Housing Agreement to live in University facilities or a Request to Live Off Campus form to commute from home.

5. All full-time and part-time students are required to complete a health record form that requires personal history, a complete immunization record and an emergency record card. The completed Health Record forms must be on file with the University prior to the start of classes in the student's first semester.

### ***Advanced Standing (Transfer) Admission***

In addition to the first-year admission requirements, a student transferring to Manchester must have official transcripts sent directly to the Office of Admissions at Manchester from the registrar of each post-secondary institution previously attended.

A transfer candidate must have a cumulative transfer grade point average of a 2.0 (4.0 scale) to be eligible for admission. A transfer candidate who is ineligible to re-enroll at the last attended college will normally be considered ineligible to enter Manchester University for at least one semester.

Transfer credit evaluation is completed only after all official transcripts from other institutions have been submitted to Manchester. If only partial information is available, a tentative evaluation may be requested but cannot be considered official until all documents are received.

Credits earned at regionally accredited institutions with a grade of C or higher may be transferred upon approval through the credit evaluation process. Grades, however, are not transferable. Credits accepted will be applied toward Core curriculum and major requirements as appropriate and verified by the Transfer Credit Report. Students currently enrolled at Manchester University who wish to transfer credit for courses taken at other academic institutions (for example, in summer school programs) should secure approval from the registrar's office before taking the course. Without prior approval, no assurance of transfer credit can be made.

Transfer credit through Indiana College Core will transfer as a block of 30 credit hours towards Manchester's core curriculum. Some students with Indiana College Core may require an additional course(s) to meet the core curriculum minimum requirements at Manchester University.

### ***Admission Classifications***

Each student admitted to the University is classified in one of the following categories:

- Regular Admission
  - Applicants who are admitted without reservation are granted regular admission. Students must have regular admission status to become candidates for degree.
- Provisional Admission
  - Provisional admission may be granted to an applicant whose application file is incomplete at the time an admission decision is made. The materials received must be strong enough to warrant provisional admission pending receipt of the missing materials. The missing materials must be received prior to the beginning of the semester. As soon as the student's file is complete, it will be reviewed and acted upon by the Office of Admissions.
- Conditional Admission
  - Conditional admission may be granted to an applicant whose academic record shows certain deficiencies. The student must demonstrate the ability to do

acceptable college-level work before being considered for regular admission status. After satisfying conditions specified when admitted (e.g., participation in the Student Success Program), the student will be advanced to regular admission status. A student who fails to satisfy the specified conditions will be disqualified from continued enrollment. Any student who is disqualified from continued enrollment has the right to appeal the disqualification to the Academic Standards Committee or apply for reinstatement at a later date.

### ***Special Admission***

- Manchester University Academy (high school student enrollment)
  - High school students with strong academic backgrounds may be admitted to take Manchester University courses for credit on campus or virtually through the Manchester University Academy Program. Interested students must submit the Manchester University Academy Application to the Admissions Office. The University reserves the right to limit course options for high school students.
- Non-Degree Admission
  - Non-degree status is designed for the high school graduate who desires to take college work for self-improvement, developing or maintaining skills for employment, transfer of credit toward a degree or program at another institution or teacher certification. Students may apply by completing an application for admission as a non-degree candidate, available in the Office of Admissions. Students with a prior bachelor's degree may pursue additional work as a degree-seeking student if the student is working toward a new major. The Office of the Registrar will determine which courses from the prior degree will satisfy the new major's requirements.
- Readmission
  - Students who have previously attended Manchester University but who have not been enrolled in the immediately preceding regular semester must file an application for readmission with the Office of Admissions in advance of the anticipated return.
  - A student who has been disqualified from further attendance may apply for reinstatement by submitting an application for readmission accompanied by a letter presenting evidence that the applicant is prepared to meet the minimum academic standards of the University.

### ***Program Specific Admission***

#### ***Accelerated Bachelor of Science in Nursing***

To be considered for admission to the ABSN Program, candidates must:

1. Have a minimum cumulative GPA of 3.0 is preferred on a 4.0 scale.
2. Have completed or plan to have completed at least 60 college credit hours before Manchester's ABSN courses begin.
  - a. Candidates who have not completed a bachelor's degree will need to submit TEAS test results. Manchester will consider a minimum TEAS test score of 58.7%.
  - b. Candidates who have not completed an associate's degree will need to have completed general education courses along with the listed prerequisite courses.

Applicants are welcome to send unofficial transcripts to [gradadmissions@manchester.edu](mailto:gradadmissions@manchester.edu) for a transcript review.

- c. Candidates who have completed an associate's or bachelor's degree do not need to have completed general education courses.
3. Have a preferred minimum science GPA of a 3.0 on a 4.0 scale.
4. Successfully complete all prerequisite coursework a "C" letter grade or better at an accredited institution.
5. Complete all prerequisite coursework by August 1 prior to fall admission.

\*Manchester University's Accelerated Bachelor of Science in Nursing (ABSN) Program does not have approval from Homeland Security to accept international students for the 2025-2026 academic school year. International Students are not eligible to apply to the Accelerated BSN Program currently.

Applications for admission are accepted August 10 through Jun 1 each year. Application materials are to be submitted through NursingCAS. A completed NursingCAS application is required to be considered for admission (a personal statement, resume/CV, one letter of recommendation, reporting all institution(s) attended on the NursingCAS application and requesting all transcript(s) be sent directly from the institution(s) to NursingCAS). Applicants who studied outside the U.S. will be required to order a course-by-course foreign credit evaluation report from World Education Services (WES) indicating the US degree equivalency for each international institution attended and have it sent directly to NursingCAS.

Internal transfer from traditional nursing to accelerated nursing (TBSN to ABSN): To be eligible for transfer into the ABSN program, a Manchester University student enrolled in the traditional nursing program must meet the following requirements:

1. Must be in good academic standing with the institution, free of academic probation or disciplinary sanctions.
2. Must have successfully completed a minimum of 60 credits.
3. Must have successfully completed all Core curriculum requirements required by the institution for graduation.
4. Must have successfully completed all prerequisite courses for the ABSN program and maintain a minimum GPA of 2.0.

### *Social Work*

Admission into the Social Work Program takes place in two phases:

1. Initial admission to major and
2. Admission to the senior social work practice block (SOWK 375, 384, 475, 476 and 477).

Admission to the program should be completed during the sophomore year and requires:

1. Regular admission into Manchester University;
2. Achievement of sophomore status;
3. Minimum cumulative grade point average of 2.0 on a 4.0 scale;
4. Satisfactory completion of SOWK 110 and enrollment in or completion of SOWK 228.
5. Personal integration and aptitude for generalist social work practice; and
6. Satisfactory progression toward the program's core competencies, as

7. evidenced by:
  - a. student's personal statement,
  - b. one reference from one Manchester University social work faculty,
  - c. pertinent work or volunteer experience,
  - d. unofficial transcript and
  - e. admissions interview.

Admission to the senior social work practice block should be completed during the spring semester of the junior year and requires:

1. Completion of a minimum of 76 credit hours;
2. Admission to the Social Work Program;
3. Previous participation in a Celebrating Diversity Workshop;
4. Demonstration of satisfactory progress (e.g., minimum 2.0 overall GPA, progress toward program's core competencies); and
5. Remediation of any areas of concern identified at admission to the social work program, as evidenced by:
  - a. student's personal statement and self-evaluation,
  - b. pertinent work or volunteer experience,
  - c. unofficial transcript and
  - d. admissions interview.

Applications for admission to the Social Work Program and to the senior social work practice block are available from the Social Work Program director or on the Social Work Program website.

### *Transition to Teaching*

According to the Indiana Department of Education, Secondary Education Transition to Teaching candidates must meet one of the following qualifications:

1. Baccalaureate degree from an accredited postsecondary educational institution in the subject area that the individual intends to teach with a grade point average of at least 3.0 on a 4.0 point scale; or
2. Graduate degree from an accredited postsecondary educational institution in the subject area or related field in which the person wants to teach; or
3. Both a baccalaureate degree from an accredited postsecondary educational institution in the subject area that the individual intends to teach with a grade point average of at least 2.50 on a 4.0 point scale and five (5) years of professional experience; or
4. Both a baccalaureate degree from an accredited postsecondary educational institution and proof of passing state approved content area examination(s) in the subject area.

If an applicant has lower than a 3.0 GPA, they must pass the content licensure exam in the area of their degree and desired license prior to being admitted to the T2T program.

## **GRADUATE ADMISSIONS**

### **Master of Athletic Training (MAT)**

Students applying for admission to the Master of Athletic Training program must meet the following minimum requirements:

1. Baccalaureate degree from a regionally-accredited institution
2. A 3.0 cumulative undergraduate grade point average
3. 2 letters of recommendation (through ATCAS application)
4. Completion of the published Essential Functions for the program
5. Completion of each of the following undergraduate courses with a minimum grade of C (2.00/4.00):
  - a. Human Anatomy with lab (Lecture and lab = at least 4.0 semester hours)
  - b. Human Physiology with lab (Lecture and lab = at least 4.0 semester hours)
  - c. Exercise Physiology with lab (Lecture and lab = at least 4.0 semester hours)
  - d. Chemistry (any level)
  - e. Physics (any level)
  - f. Biomechanics/Kinesiology
  - g. Nutrition
  - h. Principles of Fitness and Exercise Prescription
  - i. General Psychology
  - j. Biology (any level)
  - k. Statistics

### ***Application***

Manchester University employs a rolling application and admissions process for the MAT program. The ATCAS application opens June 30 and closes June 5 of the following year. When an application is received, the admissions committee immediately reviews the applicant's record. An in-person or video interview will be scheduled if most entrance requirements are met. The admissions committee will then convene and the admission decision will be communicated to the applicant soon after the completion of the interview. Any offer of admission is contingent upon completion of an undergraduate degree and completion of the MAT program prerequisites. (See Conditional Admission below).

### ***Admission Status***

#### **Regular Admission**

Applicants who meet all the admission requirements will be awarded regular admission status.

#### **Conditional Admission**

Conditional admission may be awarded under the following circumstances:

1. Student does not meet regular admission standards but shows evidence of capability to achieve success in the graduate program
2. Student's academic background indicates that additional undergraduate course work is warranted before or concurrent with enrollment in graduate classes

Some students may be admitted to the MAT program prior to the completion of all prerequisite courses. In the event an admitted student does not complete the prerequisite course(s) with at least a C within the first year after admittance, the student will be required to meet with the Program Director and may be required to repeat the prerequisite course(s) at their own expense.

### **Special Admission**

A student who does not intend to work toward a graduate degree at Manchester University but who wishes to take course(s) for graduate credit may apply for admission as a special student. A maximum of six semester hours may be earned as a special student. To be admitted the applicant must hold a baccalaureate degree from a regionally accredited institution by September 1 of the year of admission as a special student and have permission of the program director.

### **Transfer Admission**

A maximum of six semester hours of graduate credit taken at other regionally accredited graduate schools may be transferred and applied toward the MAT, provided that such credit is approved by the appropriate program director and the registrar. Credit cannot be earned through proficiency examinations.

### **Readmission**

Students who wish to be readmitted to a graduate program after a period of inactivity - defined as one semester or more - must meet with the program director. Readmission decisions rest with the respective program director, pending approval from Student Financial Services.

## **Timothy A. Ogden Master of Business Administration (MBA)**

### ***Application***

Manchester University employs a “rolling” application and admissions process for the MBA program. The applicant’s record will be reviewed by the admissions committee after all required documentation has been received, with the admission decision communicated to the applicant soon after the completion of the review. Sometimes the admissions committee will require additional information from the applicant and the request will be communicated via the admission representative.

To be considered for admission to the Timothy A. Ogden Master of Business Administration, candidates must meet the following minimum requirements:

1. Students must have at least junior standing
2. Students must have a minimum cumulative grade point average (GPA) of 3.00
3. Students must apply and be accepted into the accelerated program prior to enrollment in any graduate course(s)
4. All course pre-requisites must be met for intended graduate courses prior to taking those courses

### ***Eligibility for Concurrent Undergraduate/MBA Program Enrollment***

This policy outlines the academic requirements for current undergraduate students seeking admission into the concurrent bachelor's/MBA program. It is designed to ensure students can complete both degrees within four academic years while taking advantage of the concurrent enrollment/aid structure.

1. Students must apply to the concurrent MBA program by the spring semester of their sophomore year.
2. Students must meet the eligibility criteria for the MBA program to be admitted into the program beginning the fall of their junior year.

Students who are accepted into the concurrent MBA program after applying by the stated deadline will be eligible for program scheduling that supports the completion of both the undergraduate and MBA degrees in four academic years.

Students who apply after the spring of their sophomore year may still be considered for the MBA program but are not guaranteed the ability to complete both degrees within the four years and will not qualify for the concurrent enrollment benefit.

### **Master of Nutrigenomics (MSNGx)**

#### ***Application***

Application materials are to be submitted through the Dietetics Inclusive Centralized Application Service (DICAS). A completed DICAS application is required to be considered for admission (a personal statement, resume/CV, two letters of recommendation, ALL institution(s) attended on the DICAS application and ALL transcript(s) sent directly from the institution(s) to DICAS).

To be considered for admission to the MSNGx program candidates must meet the following minimum requirements:

1. Possess a minimum of a baccalaureate degree from an accredited institution with a cumulative GPA of 2.7 on a 4.0 scale.
2. Completion of the following prerequisites with a minimum grade of C (2.00/4.00):
  - a. Human Physiology
  - b. General Chemistry with lab
  - c. Microbiology with lab
  - d. Biochemistry with lab
  - e. Macronutrient metabolism
  - f. Micronutrient metabolism
  - g. Food preparation with lab
3. Completion of Manchester University Health Form and Vaccination Record
4. Completion of an interview process as needed as supplementary admission criteria
5. Abilities and skills in the following domains: physical, sensory, cognitive, communication, interpersonal and professional.

#### ***Transfer Credits***

A maximum of 13 semester hours of graduate credit taken in the last 5 years at other accredited graduate schools and/or credit for prior learning may be transferred and applied toward the

MSNGx degree requirements, provided that such credit is approved by the appropriate program director or faculty and the registrar. Credit cannot be earned through proficiency examinations. All requests for transfer credit and official transcripts should be submitted to the Registrar no later than 30 days prior to the start of the academic term. If approved, transfer credits are processed by the Registrar's Office once the semester begins.

### **Graduate Certificate in Pharmacogenomics**

To be considered for admission to the graduate certificate program, candidates must:

1. Possess a minimum of a professional degree (medicine, dentistry, pharmacy, etc.),
2. Possess a master's degree in science or science related field (genetic counseling, etc.);  
or
3. Possess a bachelor's degree in science or a science related field (chemistry, biology, etc.)
4. Have a preferred minimum cumulative GPA of 2.7 on a 4.0 scale
5. Have a preferred minimum science GPA of 2.7 on a 4.0 scale

### **Master of Science in Pharmacogenomics, on-campus and online**

To be considered for admission to the on-campus or online Master of Science in pharmacogenomics program, candidates must:

1. Possess a minimum of a bachelor's degree in science or a science related field (chemistry, biology, etc.); or a professional degree (medicine, dentistry, pharmacy, etc.); or a master's degree in science or science related field (genetic counseling, etc.)
2. Have a preferred minimum cumulative GPA of 2.7 on a 4.0 scale
3. Have a preferred minimum science GPA of 2.7 on a 4.0 scale

### ***Application***

Application materials for the graduate certificate and Master of Science in pharmacogenomics are to be submitted through the Pharmacy Graduate Application Service (PharmGRAD). A completed PharmGRAD application is required to be considered for admission (a personal statement, resume/CV, reporting all institution(s) attended on the PharmGRAD application and requesting all transcript(s) be sent directly from the institution(s) to PharmGRAD).

### ***Transfer Credits***

A maximum of 8.5 semester hours of graduate credit taken at other accredited graduate schools and/or credit for previous learning may be transferred and applied toward the MS in PGx, provided that such credit is approved by the appropriate program director/faculty and the registrar. Credit cannot be earned through proficiency examinations. All requests for transfer credit and official transcripts should be submitted to the Registrar no later than one month prior to the start of the academic semester. If approved, transfer credits are processed by the Registrar's Office once the semester begins.

## **Dual Degree Master of Science in Pharmacogenomics and Doctor of Pharmacy or Dual Certificate in Pharmacogenomics and Doctor of Pharmacy**

To be considered for admission to the Dual Degree Master of Science in Pharmacogenomics and Doctor of Pharmacy Dual Certificate in Pharmacogenomics and Doctor of Pharmacy program, candidates must be enrolled in the Manchester University Pharmacy Program.

An internal application for the dual degree Master of Science in pharmacogenomics and Doctor of Pharmacy program will open during the spring semester for current first-year Manchester University Doctor of pharmacy students.

### **Doctor of Pharmacy**

#### ***Application***

The Pharmacy Program will accept completed applications between mid-summer and late spring of each year. The complete application is housed through the Pharmacy College Application Service (PharmCAS). The PharmCAS application and Manchester University Pharmacy Program school information page may be found at the following website: [www.PharmCAS.org](http://www.PharmCAS.org).

Admission to the Manchester University Pharmacy Program is limited and competitive. Approximately 65 new students are admitted each year. For this reason, achieving the minimum prerequisite subject and grade criteria does not guarantee admission. Students should begin the application process one year before their anticipated enrollment in the Manchester University Pharmacy Program.

The Pharmacy Program annual admission cycle is as follows:

- July – PharmCAS opens and interested candidates may access the online application
- September to June – Interview days held
- May/June – Pharmacy Program application (PharmCAS) deadline
- May/June – Final Admissions decisions, waitlist established
- August – Orientation and Pharmacy Program classes begin

The Pharmacy Program uses a rolling admissions process. Application evaluations begin after the PharmCAS application is submitted. Completed admission files are forwarded to the Admissions committee and faculty for review. Qualified candidates are invited for an on-campus or virtual interview. Interview days will be held to continue the evaluation of candidates. Within two weeks of the completed interview, each candidate receives an admission status (accept, committee hold or denial).

#### ***Manchester University Students and the Doctor of Pharmacy Program Admissions Process***

Students with strong records who meet the preferred minimum cumulative and prerequisite GPA requirements of 2.5 will still be considered for admission; however, these students are not guaranteed an interview. An Early Assurance program exists for incoming first-year students at Manchester with a cumulative high school GPA of at least 3.5. Early Assurance leads to a reserved seat in the Pharmacy Program class for students who maintain at least a 3.0

cumulative GPA at Manchester and who complete the admissions process and meet other admission requirements. Students who achieve at least a 3.0 cumulative GPA after a semester at Manchester are invited into the Early Assurance program, even if their high school GPA did not allow them to qualify initially.

### ***International Students and the Doctor of Pharmacy Program Admissions Process***

The Manchester University Pharmacy Program does consider international students who have completed all prerequisite coursework at an accredited institution. These applicants must meet all other minimum admissions requirements, as well as successful passing of the TOEFL or IELTS exam for students whose primary language of instruction is not English.

Manchester University's Pharmacy Program Distance Pathway does not have approval from Homeland Security to accept international students. International Students are not eligible to apply to the Pharmacy Program Distance Pathway.

### ***Pharmacy Transfer Credit Policy***

Because of the highly specialized nature of the Doctor of Pharmacy program, credit hours for previously completed courses from other programs may not be transferred for credit in the program. Students who have completed coursework at other ACPE-accredited pharmacy programs may submit a request for transfer credit after acceptance into the program (through PharmCAS) or submit a request for transfer credit with advanced academic standing through the below procedures. Students interested in submitting transfer credit (with or without advanced academic standing) should contact the Office of Graduate Admissions to start the process.

#### **Course-by-Course Evaluation**

Evaluation of transfer credit on a course-by-course basis will be considered for students who were previously enrolled in an ACPE-accredited pharmacy program but are not in good academic standing upon leaving. Each course will be evaluated for equivalency based on course content and learning outcomes, credit and contact hours, assessment methods and educational outcomes. Students in this circumstance will likely begin in the P1 year.

All requests for transfer credit for individual courses should be submitted to the Registrar by August 1st prior to the start of the academic semester for didactic courses or May 15<sup>th</sup> for lab-based courses. All transfer credit requests must be submitted prior to matriculating into the program. Only for extenuating circumstances will transfer applications received past the stated deadlines be considered.

#### **Advanced Academic Standing**

Students who are/were enrolled in another ACPE-accredited pharmacy program who wish to transfer to Manchester's pharmacy program with advanced academic standing may submit a request through the below procedures. Advanced standing may permit entry into a subsequent year of the PharmD program (e.g. P2 or P3). Students may not be able to transfer to the same level achieved at their previous pharmacy program. Students may not transfer into the program past the P3 fall semester.

Applications for advanced academic standing must be submitted to the Registrar by March 15<sup>th</sup>.

Eligibility for advanced academic standing:

1. Enrollment in an ACPE-accredited pharmacy program beyond the P1 year.
2. Passing grades in all pharmacy professional coursework. This includes graded courses, pass/no pass courses or satisfactory/unsatisfactory courses.
3. Student has not been dismissed from a pharmacy for insufficient academic performance or unprofessional behavior.
4. Ability to successfully complete a virtual or in-person interview by April 1<sup>st</sup> prior to starting the program.

Process:

1. All students complete and submit the online form that is sent to the Office of the Registrar and Associate Dean of Pharmacy Affairs (ADPA) indicating:
  - a. Manchester course number requested for transfer
  - b. Corresponding course number from previous institution
  - c. Course syllabus from previous institution
2. Those seeking advanced standing must submit the “Advanced Standing Transfer” application and have official transcripts sent to the Office of the Registrar.
3. The ADPA will reach out to the Office of Graduate Admissions to obtain a letter of good standing from the previous institution. Official transcripts will also be obtained if the student applied through PharmCAS (course-by-course evaluation).
4. Evaluation of online form, application, course syllabi and transcripts will be reviewed by the ADPA.
  - a. Once the course has been verified and is appropriate for transfer the student must:
    - i. **For Didactic Courses:** Earn a minimum of 75% on a proficiency exam based on course content prior to the first day of the fall semester. Two attempts are allowed for each proficiency test. If 75% is not achieved after two attempts for those requesting advanced academic standing, the student will apply through PharmCAS.
    - ii. **For Experiential Courses:** Submit an affidavit of hours completed. Students requesting advanced academic standing and placed into the curriculum beyond the P2 Spring will be required to complete all APPE rotations in Indiana and/or the Detroit metro area.
    - iii. **For Laboratory-based Courses:** Demonstrate skill proficiency through an in-person skills check or an Objective Structured Clinical Examination (OSCE). Transfer credit is not accepted for PHRM 430, PHRM 434 or PHRM 535 unless advanced academic standing is granted.
5. Notification will be sent to students with eligibility for proficiency testing, including dates and times.
6. Students will take proficiency test(s) in May (advanced standing) and August (course by course evaluation); OSCE exams and other skills-based assessments will be scheduled based on faculty availability.
7. Faculty will review/grade proficiency exam; outcome is relayed to ADPA.
8. ADPA will complete accepted transfer credit form and sends to Registrar and SFS and student/mentor/success advisors.

9. Registrar will apply transfer credit to student record. Transfer credits will not contribute to the institutional pharmacy GPA.
10. Students will be provided with alternate plan of study

Upon receiving the transfer credit outcome from the ADPA, students have the right to appeal the transfer credit policy to the Pharmacy Academic Standards and Progression Committee.

No more than 18 credit hours of didactic PharmD coursework can be taken in any one semester (excluding experiential rotations).

## **Doctor of Physical Therapy**

Students with strong records who meet the preferred minimum cumulative and prerequisite GPA requirements of 3.0 will be considered for admission.

### ***Application***

The Physical Therapy Program will accept completed applications between mid-summer and late spring of each year. The complete application is housed through the Physical Therapy Centralized Applicant Service (PTCAS). The PTCAS application and Manchester University Physical Therapy Program school information page may be found at the following website: <https://ptcasdirectory.apta.org/>

Admission to the Manchester University Doctor of Physical Therapy Program is competitive and selective. Approximately 40 new students are admitted each year. For this reason, achieving the minimum prerequisite subject and grade criteria does not guarantee admission. Students should begin the application process one year before their anticipated enrollment in the Manchester University Physical Therapy Program.

The Physical Therapy Program annual admission cycle is as follows:

- June – PTCAS Opens
- June/April – Interview days held
- April – Physical Therapy Program application (PTCAS) deadline
- April/May – Final Admission decision made; waitlist established
- May – Orientation and Physical Therapy Program classes begin

The Physical Therapy Program uses a rolling admissions process. Application evaluations begin after the PTCAS application is submitted. Completed admission files are forwarded to the Admissions committee and faculty for review. Qualified candidates are invited for an on-campus or virtual, interview. Interview days will be held to continue the evaluation of candidates. Within two weeks of the completed interview, each candidate receives an admission status (accept, committee hold or denial).

### ***International Students Admissions Process***

The Manchester University Physical Therapy Program does not have approval from Homeland Security to accept international students for the cohort beginning in Summer 2023. International Students are not eligible to apply to the Doctor of Physical Therapy Program at this time.

### ***Transfer Credit***

Because of the highly specialized nature of the Doctor of Physical Therapy program, credit hours for previously completed courses from other programs typically may not be transferred for credit in the program.

### **International Degree Graduate Students**

In addition to the program specific admission requirements listed above, students who are U.S. citizens but have earned their degree(s) outside the United States must submit all relevant documentation to World Education Services, Inc. (WES) for evaluation and interpretation. Students should request that WES perform a course-by-course evaluation and they should have a report sent directly to the program application system. Information about WES can be found at [www.wes.org](http://www.wes.org). Students are responsible for payment of fees to WES (not Manchester University) for this service.

### **Admission Deferment**

A student may defer their offer of graduate enrollment one time. The maximum time for deferment is one year. If the student requires multiple deferments or a deferment longer than a year they must reapply to the program and be reassessed for admission to the program.

## **FINANCIAL INFORMATION**

### **University Expenses**

Traditionally at private colleges, tuition covers only a portion of a student's full educational costs.

This is true at Manchester University. Tuition charged at Manchester covers less than 70 percent of the total instructional cost for a student. Endowment income, gifts from friends, alumni, foundations and corporations provide the balance of funds for educational expense of the University.

Personal effort and financial investment in a college education results in dividends to the individual throughout a lifetime of service. To maximize the return on such an investment, Manchester University strives to keep the expense to the student as reasonable as rising costs or providing a high-quality educational program will allow.

### ***Tuition and Fees***

Tuition and fees for full-time students are assessed on the basis of credit load in the fall and spring semesters. Enrollment in 12 or more semester hours is considered full-time status. The normal credit load for the year is 14-16 credit hours in the fall and three semester hours in the January session. Full-time undergraduate students registering for more than 18 credit hours per semester will be charged for each additional credit according to the per credit hour tuition rate.

Additional fees for full-time students include a separate student assessed Programming Fee (residential and non-residential).

Not included in tuition and fee charges are the costs of books, supplies, class materials, travel expenses for academic field trips and off-campus experiences, applied music instruction, residence hall damages organizational dues, fines and some campus recreational and social activities.

### ***Room and Board***

Manchester University is a residential campus. All undergraduate students are required to live on campus for three years unless they qualify for an exemption by one or more of the following criteria:

1. They are married and/or have dependent children living with them;
2. They are classified as a senior with 92 credit hours completed;
3. They are living in their parents' primary place of residence within 40 driveable miles of North Manchester;
4. They are non-traditional (age 24 or older);
5. They have been officially approved to live off campus.

All students residing in University residence halls (with the exception of East Street Apartments) are required to be on a meal plan.

All first-year students residing in the University residential halls are required to be on the Haist Unlimited +25 meal plan.

All other students may choose the Haist Unlimited +25 or Flex meal plan. Please contact Manchester Dining for an explanation of each plan.

Charges for room and board do not include occupancy or service during recess periods.

### ***January Session***

Full-time students in either the fall or spring semester may enroll for January session without additional payment of basic tuition, fees, room and board costs. All other students enrolled in January session will be assessed tuition, fees, room and board. January session courses that involve travel and living off campus bear additional fees above the costs listed for basic tuition, fees and room and board charges. These are indicated on the schedule of courses for the January session.

### ***Additional Instructional Fees***

Enrollment for private instruction in voice, piano, organ, strings, wind and percussion instruments are available for both music majors and non-music majors. Additional fees are assessed for private instruction.

Additional instructional fees may be included for other programs. A full list of fees can be found on the Student Financial Services website.

### ***Program Fees***

In addition to the University's published tuition and fees, students enrolled in select programs should be aware of additional program-specific fees and expenses that are required to successfully complete the program. These costs are in addition to the general tuition and fee rates posted in the University Catalog and on the University website. These fees are published in program-specific handbooks, and students are advised to review those handbooks prior to enrolling in those programs. The fees may include lab/clinical fees, equipment fees, certification/exam fees, criminal background checks, attire/uniforms, among others. These fees and costs are subject to periodic review and may change based on vendor pricing, accreditation requirements or program needs. Any changes will be communicated in writing and posted before the start of the affected term.

### ***Personal Expenses***

Students incur additional out-of-pocket expenses during the academic year. The cost of attendance is available on the Student Financial Services webpage under Tuition and Fees - All Programs.

### ***Financial Policies***

The primary responsibility for financing a college education rests with the student. Financial aid from the University and other sources is viewed only as supplementary to the efforts of the student and the student's family. Students requesting financial aid are expected to contribute

toward their educational expenses through summer or college employment and/or loans in any reasonable combination.

Students with unpaid balances may lose current enrollment and will not be allowed to register for any subsequent terms. Diplomas are withheld from those who have not settled their financial obligations to Manchester University, which may include collection fees, attorney's fees and court costs.

Students are not fully registered, nor will they have the privilege of class attendance, participation in activities or use of University facilities until their charges are paid. A service charge of 1.5 percent or \$30, whichever is greater, may be added to any unpaid balance as of the due date. Additional service charges will be added to remaining balances as of the last working day of each month.

### ***Payment of University Charges***

All accounts are to be paid in full by August 1 for the fall semester and by January 1 for the spring semester. Accepted methods of payment include:

- **Check or Money Order** payable to Manchester University, mailed to:  
Manchester University Attention: SFS  
604 E. College Ave  
North Manchester, IN 46962
- **In Person Payment** - Check, cash or money order. Payments can be made Monday through Friday, 8 a.m. to 5 p.m. in Student Financial Services located in the Chinworth Center, Room 104.
- **Online Payment Options through the Student Account Center** - Students can access the Student Account Center through Spartan Self-Service on ChetNet. Parents and others who have been added as an Authorized User can access through the Student Financial Services website.
- **Electronic Check** - Make a payment of any amount online using an e-check. There is no fee for this service.
- **Credit or Debit Card** - Make a payment of any amount online using a Visa, MasterCard, Discover or American Express card. Please note that a convenience fee may apply; typically a small percentage of the transaction amount or a minimum flat fee will be charged by Pay Path for the processing of credit/debit card payments. Please refer to the student account center for details.
- **Monthly Payment Option** - Spartan Payment Plans: Manchester University offers interest-free, monthly payment options through the Spartan Payment Plan. Student and parents will enroll through the Student Account Center. Full details are available at [Spartan Payment Plans](#)

### ***Veterans Affairs (VA) Delayed Payment Policy***

As part of the Veterans Benefits and Transition Act of 2018, section 3679 of title 38, United States Code was amended, effective August 1, 2019, Manchester University has confirmed its compliance with the requirements as outlined.

NOTE: A Covered Individual is any individual who is entitled to educational assistance under Chapter 31, Vocational Rehabilitation and Employment or Chapter 33, Post-9/11 GI Bill benefits.

Any covered individual is permitted to attend or participate in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under Chapter 31 or 33 (a “certificate of eligibility” can also include a “Statement of Benefits” obtained from the Department of Veterans Affairs’ (VA) website e-Benefits or a VAF 28-1905 form for chapter 31 authorization purposes) and ending on the earlier of the following dates:

1. The date on which payment from VA is made to the institution.
2. 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility.

Manchester University will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries or other institutional facilities or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual’s inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from VA under Chapter 31 or 33.

In addition, statute allows Manchester University to require Chapter 31 and Chapter 33 students to take the following additional actions:

1. Submit a certificate of eligibility for entitlement to educational assistance.
2. Submit a written request to use such entitlement each semester.
3. Provide additional information necessary to the proper certification of enrollment.
4. Make payment arrangements for the amount that is the difference between the amount of the student’s financial obligation and the amount of the VA education benefit disbursement.

### ***Refund of Tuition/Fees***

In the case of official withdrawal from the University, a refund, less a withdrawal charge, is made according to the following schedules:

#### **Fall, spring and/or summer semester refund schedule:**

- Withdrawal before the official start of classes: 100 percent refund
- Withdrawal during change of course days: 100 percent refund less \$250 cancellation fee
- Withdrawal during the first and second weeks (equivalent of 6 -10 class days): 75 percent refund
- Withdrawal during the third and fourth weeks (11-20 class days): 50 percent refund
- Withdrawal during the fifth and sixth weeks (21-30 class days): 25 percent refund
- Withdrawal after the sixth week (class day 31): NO REFUND

No refunds are made for the Programming Fee (residential or non-residential) after the official start of classes.

### ***Refund of Room/Board***

Housing refunds are not available to students who accept occupancy in a room and then are released from a housing contract to live at home or to move off campus. Occupancy is understood to mean staying in an assigned residence hall room one or more nights. Students who remain enrolled at the University and choose to leave the pre-paid board (meal) plan are refunded based on the schedules above.

### ***Changes in Enrollment***

Students are allowed to make course load changes during the add/drop days and the student's financial aid and billing information will be adjusted accordingly to accommodate the change in enrollment based on the published charges.

Students who complete a partial withdrawal after the published Change of Course days will not receive a refund of tuition/fees and/or room/board charges.

Increases in enrollment will be charged at the appropriate tuition/fee charges and financial aid will be calculated accordingly.

Students must maintain enrollment in six or more semester hours to qualify for the in-school loan deferment.

January session enrollment may affect a student enrolled less than full time for spring semester. Contact Student Financial Services for details.

### ***Return of Title IV Federal Student Aid***

Students who receive Title IV funding (Federal Pell Grant, Federal Supplemental Education Opportunity Grant [FSEOG], Federal Direct Loans or PLUS.) and completely withdraw from the University are subject to the Title IV return of funds calculation, as mandated by the Department of Education. The Title IV refund calculation is different than the University's refund calculation; therefore, a student who withdraws before completing 60 percent of an enrollment period may owe the University for charges no longer covered by returned federal aid.

Under the Title IV Return of Funds calculation, the amount of Title IV aid a student has earned is determined by the percentage of days enrolled during a semester. This percentage is determined by dividing the number of days enrolled by the number of calendar days in the semester, including weekends and holidays. The student may retain the amount of aid earned. Any aid not earned will be returned to the appropriate programs. Once the attendance percentage has reached 60 percent, all Title IV aid is considered earned.

The date of a student withdrawal is determined by the University as follows:

- The student began the prescribed official withdrawal process with Success Advising;
- The student otherwise provided the school with official notification of the intent to withdraw; or

- For “unofficial withdrawals,” the last date of attendance or the last date of participation in a class as determined by faculty. If no date can be documented, then the midpoint of the semester for which Title IV aid was disbursed will be used.

The federal return of funds policy requires that Title IV funds be returned in the following order:

- Unsubsidized Federal Direct Loans
- Subsidized Federal Direct Loans
- Federal Direct PLUS Loans
- Federal Pell Grants
- Federal SEOG

Return of Title IV Federal Student Aid funds will be completed no later than 45 days after the date that the school determines the student withdrew.

### ***Post-withdrawal Disbursement***

If Title IV Federal Student Aid has been earned by the student but not disbursed prior to withdrawal, the student is entitled to a post-withdrawal disbursement. If a post-withdrawal disbursement includes loan funds, Manchester University will request the student’s permission (or parent’s for a Direct Parent PLUS Loan) prior to disbursing the loan funds to the student’s account. A letter will be mailed to the student’s address of record within 30 days of the date of determination the student withdrew, requesting that the student (or parent for a Direct Parent PLUS Loan) provide authorization in writing to disburse the funds. We ask that students respond within 14 days of receiving the letter to inform us if they want to accept the funding. If we do not receive a response, we are not required to make the post-withdrawal disbursement.

### ***Payment of Refunds***

Refunds are distributed according to the guidelines governing refunds for each source of funds drawn upon to pay educational costs, including any or all Federal Title IV funds. Refunds will be paid directly to the student in all cases except where a Federal Parent PLUS loan has been disbursed to the student account. In the case of Federal Parent PLUS loan funds, the refund will be sent to the parent borrower. The parent may authorize the school (in writing) to transfer the proceeds of a PLUS loan to the student directly or to a bank account in the student’s name.

### ***Additional Information***

See the Manchester University [Student Financial Services website](#) for additional information regarding financial policies. 2025-2026 Charges can be found online at:

<https://www.manchester.edu/about-manchester/office-directory/student-financial-services/tuition-and-fees---all-programs>

## **Financial Aid**

Financial aid is an important factor for many students and 100 percent of eligible Manchester University students receive some combination of grants, scholarships, loans and work.

Student Financial Services will determine a student's eligibility for financial aid by using the results of the Free Application for Federal Student Aid (FAFSA), as well as the student's academic records and funds available.

The following steps must be taken for a student to receive a financial aid offer from Manchester University:

1. Apply for admission and be admitted to Manchester University. Eligibility for academic scholarships from the University is determined through the admission process.
2. Submit a FAFSA. Eligibility for federal and state grants and loans is determined through this process. The student must designate the results be sent to Manchester University and Indiana residents must have a receipt date to be received by April 15 prior to the academic year of application to be considered for state grant eligibility.
3. Submit any additional documentation requested by the Student Financial Services.

### **General Financial Aid Guidelines**

**Enrollment Requirements** Students receiving university scholarships/grants must maintain full-time enrollment (a minimum of 12 semester hours) in each of the fall and spring semesters. There are circumstances in which part-time students demonstrating need may be awarded financial aid depending on the guidelines and availability of federal, state and institutional funding. Part-time students must enroll in a minimum of six semester hours to maintain eligibility for federal loans.

**Degree Requirements** Students must be working toward their first baccalaureate degree to be eligible for federal, state or institutional grants and scholarships. Students who have completed a baccalaureate degree are eligible for loans only.

**Satisfactory Academic Progress Requirements** All sources of financial aid require that students make satisfactory, measurable academic progress toward completion of a degree. Students must maintain Satisfactory Academic Progress (SAP) requirements to remain eligible for assistance through Title IV federal grants, work and loan programs, Indiana state grants and gift aid administered by the University. These financial aid standards do not replace or override University academic policies.

Students must meet the SAP standards outlined below to maintain aid eligibility:

1. Cumulative Grade Point Average: Students must earn the GPA for the number of attempted credit hours listed below.\*
  - a. 1-24 hours: 1.6
  - b. 25-47 hours: 1.8
  - c. 48+ hours: 2.0
2. Ratio of completed credit hours to attempted credit hours: Student must earn/complete a minimum of 67% of the hours in which they enroll.\*
3. Maximum Time Period for Degree Completion.

\* Students are eligible to receive financial aid for up to 150% of the credit hours to complete a baccalaureate degree. Baccalaureate degrees at Manchester University require completion of

120 credit hours; therefore, students may receive financial aid for up to 180 attempted credit hours.

\*Transfer credits officially accepted by the University are included in the completed/attempted calculation and the maximum time period for degree completion.

Satisfactory Academic Progress is evaluated at the end of each spring semester using the official records of the Registrar. Students will be notified of their suspended financial aid eligibility if they have not maintained academic progress and may contact success advising about possible solutions. Financial aid will be reinstated when satisfactory academic progress has been re-established.

[The complete Satisfactory Academic Progress policy](#) can be found on the Student Financial Services website.

**Length of Eligibility** Financial aid packages are awarded one year at a time. All students must reapply for need-based financial aid each year. Manchester University funds are available for up to eight semesters of undergraduate study. Students from Indiana receiving state funds may receive up to eight semesters of funding for undergraduate study. A Federal Pell Grant is available for undergraduate enrollment in a first baccalaureate degree program, not to exceed federal program aggregate limits.

**Payment of Awards** Most scholarships, grants and loans are applied as a direct payment toward charges for tuition and fees and/or university room and board. Per federal, state and institutional awarding guidelines, one-half of the value of the total award is applied respectively to the fall and spring semester. Awards that exceed the charges listed on the statement of account may be paid to the student through Student Financial Services after the beginning of each semester for educationally related expenses such as books, transportation and personal expenses.

**Adjustments to Aid** A financial aid offer may be reviewed and adjusted at any time during the academic year. All adjustments are contingent upon student eligibility, program regulations and availability of funds.

Adjustments to the total financial aid package may be required if the total amount of scholarship and grant aid awarded by the University and all other sources exceeds billable costs. Total aid for an individual student cannot exceed the total cost of attendance.

Funding from federal and state agencies may be withdrawn if the student does not comply with each agency's requirements for clearing discrepancies.

If a student's financial situation changes after the FAFSA has been completed, the student can request a reevaluation of his or her financial aid eligibility. Requests should be submitted through Student Financial Services. Students will be advised of any additional documentation required. Only one reevaluation of eligibility will be granted per academic year.

**Appeal Procedures** Students who have lost financial aid eligibility due to extenuating circumstances may appeal in writing to Student Financial Services.

**Confidentiality** In accordance with the Family Educational Rights and Privacy Act of 1974, as amended (FERPA), students must complete a release form to allow Student Financial Services staff to discuss financial matters with persons other than the student. All information

and documentation submitted to Student Financial Services is held in the strictest of confidence and students are encouraged to consider financial aid offers with the same degree of confidentiality.

\*Financial aid descriptions are current. Rules, regulations and financial information required are subject to change by state and federal law.

## **Types of Undergraduate Financial Aid**

### ***Academic Scholarships*** (\*first-time and transferring U.S. domestic students)

Academic scholarships are awarded to first-time or transfer undergraduate students who meet eligibility criteria, regardless of financial need. Recipients must be accepted, enrolled full time and meet satisfactory academic progress (SAP) for renewal. A student may receive only one Manchester University academic scholarship at a time. Manchester University funds are intended for use toward tuition. For those students who demonstrate financial need, other grants and scholarships may be combined with academic scholarships. Adjustments will be made to aid offered by the University if the sum of all scholarships and grants from the University exceeds the student's billable tuition costs. (\*International students are eligible for hand-calculated International Scholarships.)

- **Presidential Scholarships:** Presidential Scholarships are awarded automatically at the time of admission based on class rank, college prep curriculum and grade point average.
- **Honors Scholarships:** One Honors Scholarship is awarded per each incoming first-year cohort through the Scholarship Day Program held on the first Saturday in December. The Honors Scholarship *replaces* the Presidential Scholarship and covers tuition, fees, room and board per year (for up to four years). Honors Scholars must maintain a 3.50 CGPA, maintain active status in the Honors Program and graduate with Honors & Achievement from the Honors Program.
- **Trustee Scholarships:** Multiple Trustee Scholarships are awarded through the Scholarship Day Program and they are up to \$2,000 more than the Presidential Scholarship (for up to four years). The Trustee Scholarship *replaces* the Presidential Scholarship. Trustee Scholars must maintain a 3.50 CGPA, maintain active status in the Honors Program and graduate with Honors from the Honors Program.
- **Dean's Scholarships:** Dean's Scholarship recipients are selected automatically at the time of admission based on class rank, college prep curriculum and grade point average.
- **Faculty Scholarships:** Faculty Scholarship recipients are selected automatically at the time of admission based on class rank, college prep curriculum and grade point average.
- **Founder's Scholarships:** Founder's Scholarship recipients are selected automatically at the time of admission based on class rank, college prep curriculum and grade point average.
- **Director's Scholarship:** Director's Scholarship recipients are selected automatically at the time of admission based on class rank, college prep curriculum and grade point average.

### **Other Scholarships** (first-time and transferring U.S. domestic students)

- **Esports Scholarships:** A limited number of Esports scholarships are available and require ongoing participation in the Esports program. These awards are determined by the Esports Director/coaching staff.
- **Music Scholarships:** A limited number of music scholarships are available and require ongoing participation in Manchester's musical opportunities. These awards are audition-based and determined by the Music faculty.
- **Church Matching Scholarships:** Manchester University matches church scholarships up to a total of \$500 each year. Churches must submit participation forms by June 1 for the next academic year.
- **Connections Awards:** In recognition of our commitments to the Church of the Brethren and our former students, an award up to \$1,000 is provided to each full-time student who is a member of the Church of the Brethren or has a family member who attended Manchester University. Students who meet both criteria will receive a single award.
- **Endowed Scholarships:** Manchester University awards more than 150 scholarships and grants funded by gifts to our endowment. These awards vary in criteria and amounts and students cannot apply for these awards.

### **Grants**

- **Manchester Grant\*:** A student who demonstrates financial need is considered for a Manchester Grant. Academic scholarship recipients who demonstrate additional need beyond the amount of the scholarship also will be considered for a Manchester Grant.
- **Brethren Volunteer Service Grant:** Students who have completed Brethren Volunteer Service assignments without salary are eligible for a tuition grant for each year of service (maximum of two). To qualify, the student must enroll full time at Manchester University within five years of completing his or her BVS service. The student also must be working on a first baccalaureate degree. The award will range from \$375-\$750 per year over four years of enrollment.
- **Federal Pell Grant\*:** The Federal Pell Grant is a form of financial aid provided by the federal government to help eligible undergraduate students to pay for college. Eligibility is based on financial need as determined by the FAFSA.
- **Federal Supplemental Educational Opportunity Grant (FSEOG)\*:** Students with exceptional financial need and Pell Grant eligibility may be offered this federal grant in amounts ranging from \$100 to \$4,000 per year. Grants are limited based on federal allocations to the University.
- **Frank O'Bannon Grant\*:** The Indiana Commission for Higher Education, Division of Student Financial Aid awards eligible Indiana residents grants to attend Indiana institutions. A student must demonstrate financial need by filing the FAFSA to be received by April 15 for consideration. The Division of Student Financial Aid determines the amount of a student's award based on financial need, high school diploma type and cost of the education. For additional information on eligibility requirements, please visit <http://www.in.gov/che/4506.htm>

- **21st Century Scholars Program\***: The Indiana Commission for Higher Education, Division of Student Financial Aid awards grants to 21st Century Scholar students who attend an Indiana institution. The state will award a student attending a private institution an amount comparable to that of a public institution. Income-eligible students enroll in this program as a 7th and 8th grader and are required to fulfill a pledge of good citizenship. For additional information on eligibility requirements, please visit <https://scholartrack.che.in.gov>.

### **Other State Grants**

Some other states permit their residents to utilize state grants at out-of-state colleges. Regulations vary by state.

### **Loans**

- **Federal Direct Loans\***: The Federal Direct loan is a fixed-rate loan. The subsidized loan program is available to those students with financial need. The U.S. Department of Education pays the interest on a Direct Subsidized Loan while the student is enrolled at least half time. The Direct Unsubsidized Loan program is available to students who do not demonstrate financial need. Under the unsubsidized program, the student is responsible for any interest that accumulates. Maximum annual loan limits are as follows: \$5,500 for first-year students, \$6,500 for sophomores and \$7,500 for juniors and seniors.
  - Students have a six-month grace period after they leave school, graduate or fall below half-time status before they go into repayment. All first-time borrowers are required to complete a master promissory note (MPN) and entrance counseling before their loan funds are disbursed to the student account.
- **Federal Direct Parent PLUS Loan\***: The Federal Direct Parent PLUS Loan is available for credit-worthy parents to borrow on behalf of their undergraduate student. It carries a fixed rate determined by the U.S. Department of Education each July 1<sup>st</sup> with repayment beginning 60 days after the loan is fully disbursed. The parent may request a deferment and should contact the designated servicer for more information. A parent can borrow up to the cost of education minus any financial aid received. For application information on the federal loan programs please visit [www.studentaid.gov](http://www.studentaid.gov)

### **Student Employment**

- **Federal Work-Study Employment\***: Students who have financial need may be awarded Federal Work-Study. Employment for such students indicates that their pay is partially subsidized by the federal government. The Office of Human Resources handles all on-campus student employment. Students can work a maximum of 20 hours per week during the academic year and 40 hours per week during breaks and in the summer. Employment is not guaranteed.
- **On-Campus Employment**: Part-time campus employment is available to all MU students. Students may inquire about these opportunities by searching on Spartan Jobs.

- **Off-Campus Employment:** Off-campus jobs are available in the surrounding communities. Students may inquire about these opportunities by contacting employers directly or searching on Spartan Jobs. The Office of Career and Professional Development is available to help students with their job search and application needs.

### ***Other Aid***

Many financial aid funds (scholarships, grants, loans) provided by sponsors such as business, industry, labor unions, service clubs, etc., may be used at Manchester University.

Other possible sources of aid that can be used at Manchester include funds secured through the Veterans Administration and the Vocational Rehabilitation Division of various states.

\*Requires completed Free Application for Federal Student Aid (FAFSA)

### **Types of Graduate Financial Aid**

#### ***Institutional Scholarships***

- **Program specific academic scholarships:** These scholarships may be available to graduate students and are awarded based on academic merit and/or need. Generally, scholarships are one-time awards divided over the students' first and second semesters of enrollment. If a student suspends enrollment for any reason, the scholarship will be removed.
- **Manchester Alumni Scholarship:** Manchester University offers a 10% tuition discount to all MU Alums who enter our MAT, Pharmacy, DPT, ABSN, PGx and NGx programs. Students must have graduated from Manchester University to be eligible.

#### ***Loans***

Graduate students may be eligible for federal, state or private loans. Federal and state loans may require the completion of the FAFSA. Duration and stipulations of lending are determined by the lending authority.

## **ACADEMIC PROGRAMS**

Manchester University seeks to equip each student with the knowledge and skills to become lifelong learners and engaged, productive citizens. The curriculum combines breadth of knowledge through a broad-based general education in the liberal arts with depth of knowledge in majors and specialized areas. This approach prepares students for their first job and long-term career success, while also fostering a lasting appreciation for learning. Graduates are well prepared for advanced study, professional fields, and leadership roles across society, with a flexible liberal arts curriculum that provides the foundation to meet contemporary challenges, fulfill career goals, and lead purposeful, healthy, and rewarding lives

### **Degrees Offered**

Manchester University offers programs leading to the Associate of Arts, Associate of Science, the Bachelor of Arts, the Bachelor of Science, the Bachelor of Science in Nursing, the Master of Athletic Training, the Timothy A. Ogden Master of Business Administration, the Master of Science, the Doctor of Physical Therapy and the Doctor of Pharmacy degrees.

In addition, the University offers a variety of certificates, details for which can be found in each respective program section of this catalog.

The University does not guarantee graduation to any student who does not complete requirements for a degree or a major.

### ***The Associate Degree***

The Associate degree requires the satisfactory completion of:

1. A minimum of 60 semester hours of credit to include:
  - a. Core curriculum requirements for the Associate of Arts degree (see Academic Program: Core Curriculum).
  - b. An approved AA major with a minimum average grade point of C (2.00) in those courses counted toward a major, excluding any courses taken Pass/Not Pass.
2. A minimum cumulative grade point average of C (2.00), excluding any courses taken Pass/Not Pass.
3. A minimum of 30 semester hours earned through Manchester University.

An associate degree cannot be received in the same commencement as a baccalaureate degree if the major of the associate program is available as a minor in the baccalaureate program. For a student to receive both an associate degree and a baccalaureate degree in similar majors, the associate degree must be received prior to the baccalaureate degree.

The Associate degree is available in the following areas:

- Criminology
- Communication Studies
- General Studies
- Pre-Pharmacy

All course work in the Associate program is of baccalaureate degree level. All credits earned are applicable to a baccalaureate degree at Manchester University.

### ***The Applied Baccalaureate Degree***

The applied baccalaureate degree requires the satisfactory completion of:

1. A minimum of 90 semester hours of credit to include:
2. Core requirements for the degree sought.
3. A major field of study with a minimum average grade point of C (2.00) in those courses counted toward the major, excluding any courses taken Pass/Not Pass.
4. A minimum average grade point of C (2.00) in those courses counted toward a minor if a minor is completed.
5. A minimum cumulative grade point of C (2.00), excluding any courses taken Pass/Not Pass.

The residence requirement consists of either a minimum of 90 semester hours or 30 of the last 36 semester hours of credit toward the degree earned through Manchester University. Credits earned in approved study abroad programs are considered Manchester University credits.

Manchester University has created an applied reduced credit program option for students to obtain their Baccalaureate Degrees in three years/six semesters with as few as 90 credits. The university's accreditor, the Higher Learning Commission, has approved these reduced-time and reduced-credit programs in lieu of the standard program that takes four years/eight semesters with 120 credits.

Given the novel nature of the programs, students should be aware of the following:

- Reduced credit programs are an emerging option for students who have identified a clear pathway to a career or graduate degree program.
- At the same time, the norm for a Baccalaureate Degree remains a four-year/eight-semester 120-credit program.
- Manchester's applied reduced credit programs are most appropriate for students who have clear career goals connected to an identified field or discipline and/or students who are focused on pursuing a graduate degree upon completing their undergraduate degree.
- Students who choose an applied reduced credit program will need to work with their academic advisors to create a detailed program of study with few or no elective credits.
- Staying on their program of study will be critical to the successful completion of an applied reduced credit program.
- Reduced credit baccalaureate programs are eligible for Title IV federal financial aid. Students who complete a reduced credit bachelor's degree and then return to Manchester or another University to complete additional undergraduate credits, either to earn a Certificate of Post-baccalaureate Studies or to earn a second baccalaureate degree, may have limited eligibility for additional federal grant aid and other federal aid programs. For more details, see Federal Subsidized & Unsubsidized Loans and Federal Pell Grants.

- Students can expect to save a full year of tuition fees and related costs, including room and board, assuming they complete the program within the expected time frame.
- Manchester's applied reduced credit programs will meet admission requirements for Manchester DPT and MAT programs. However, other institutions may have different admission requirements and may require students to complete additional prerequisite courses and/or 120 credits to meet their admissions requirements. It is critical that students confirm specific requirements with their institutions of choice.

### ***The Baccalaureate Degree***

The baccalaureate degree requires the satisfactory completion of:

1. A minimum of 120 semester hours of credit to include:
  - a. Core requirements for the degree sought.
  - b. A major field of study with a minimum average grade point of C (2.00) in those courses counted toward the major, excluding any courses taken Pass/Not Pass.
  - c. A minimum average grade point of C (2.00) in those courses counted toward a minor if a minor is completed.
2. A minimum cumulative grade point of C (2.00), excluding any courses taken Pass/Not Pass.
3. The residence requirement consists of either a minimum of 90 semester hours or 30 of the last 36 semester hours of credit toward the degree earned through Manchester University. Credits earned in approved study abroad programs are considered Manchester University credits.

### **The Major**

The major is a grouping of courses in one field of study, sometimes with the addition of courses from other, related subject areas, to provide depth in one academic area. All degree candidates must complete at least one major. Students may complete more than one major if all requirements for each major are met. The concentration is an area of emphasis within a major.

Each major must include at least 9 semester hours of courses that are not included in any other major or minor.

Students must elect a major by the end of the sophomore year. Instructions for electing a major are available from the department chair of the intended major and on the registrar's web page.

### **The Minor**

The minor field of study is an option provided to complement study in a major field or to develop a special area of interest. Each minor must include at least 9 semester hours of courses that are not included in any other major or minor.

### **Senior Comprehensive Evaluation (SCE)**

Select academic majors include a senior comprehensive evaluation (SCE) requirement. The comprehensive evaluation is a learning/assessment experience consistent with the learning goals of the major. Relevant departments provide students with information about the structure of the SCE, how it will be evaluated and procedures for remediation.

### **Concurrent pursuit of a BS and BA Degree:**

A student who double majors in one discipline that offers a BA and another discipline that offers a BS will receive both degrees. The student will only walk in commencement for one degree, to be decided when the student files the graduation application.

### **Requirements for an additional baccalaureate degree are (for students returning to complete another degree):**

1. A minimum of 32 additional semester hours of credit earned at Manchester University.
2. A minimum cumulative grade point average of 2.00, excluding any courses taken Pass/Not Pass.
3. Completion of a major field of study, distinct from the major field in the first degree, with a minimum average grade point of 2.00 in those courses counted toward the major.
4. Conferral of the additional degree at a commencement other than the one in which the first degree(s) is conferred.

### ***Graduate and Professional Degrees***

Requirements for each graduate and/or professional degree can be found within each individual program section of this catalog.

### ***Certificates***

A certificate requires the satisfactory completion of:

1. Minimum number of credits
  - a. A certificate must consist of at least nine (9) credits.
  - b. Certificates must contain an appropriate number of upper-level courses.
    - i. Undergraduate certificates must contain at least one course at the 300- or 400-level.
    - ii. Graduate certificates must include at least one course at the 500-level or meet external accreditation requirements when applicable.
2. Transfer courses accepted by the University may be applied to a certificate.
  - a. At least 2/3 of certificate credits must be MU courses.
3. A passing grade in all courses is required for the completion of a certificate.

Completed certificates are documented on the student's transcript and credentialing follows University policy (December, January, May or Summer). All University academic policies apply to certificate programs. Accredited programs may have additional requirements stipulated by accrediting bodies. All accredited programs must submit guidelines from their accrediting bodies with their application for a certificate program. Certificates may be stand alone or linked to existing degree programs.

Certificates are available in:

- Audio Production
- Early Childhood Education
- Spanish for Educators
- Medical Assisting
- Lifestyle Nutrition
- Performance Nutrition
- Sport Leadership
- Strength & Fitness Performance
- Business Management
- Marketing
- Nutrigenomics
- Professional Sales
- Pharmacogenomics

## **COLLEGES, DEPARTMENTS AND SCHOOLS**

The detailed requirements for major and minor fields of study and certificates, as well as the descriptions of each course, are listed on the following pages.

### **College of Arts and Sciences**

#### ***Niswander Biology Department***

The Niswander Department of Biology provides a welcoming academic environment with student-focused mentoring to graduate biologists with the communication skills and technical expertise necessary to address today's complex challenges in order to improve the human condition.

#### ***Biology***

##### Bachelor of Science

Major in biology, 47-49 hours: BIOL 106, 106L, 108, 108L, 229, 229L, 315, 315L, 395; either 243/243L or 245/245L; either 331/331L or 364/364L; either 475 or 496; one course selected from: BIOL 313/313L, 332 or 365; nine hours of electives in biology; two semesters of chemistry with lab selected from: CHEM 105/105L and 106/106L or 111/111L and 113/113L.

No more than four hours of combined internship and practicum credit can count toward the major.

Major in biology education, 87.5-89.5 hours: BIOL 104, 106, 106L, 108, 108L, 229, 229L, 260; one course with lab selected from: 243, 243L or 245, 245L; one course with lab selected from 315, 315L or 413, 413L; one course selected from: BIOL 313 and 313L or 365; CHEM 105, 105L and 106, 106L; EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475 and 477; ENG/MODL 350, INTD 355, NASC 210.

Minor in biology; 24 hours: BIOL 106, 106L, 108, 108L; 16 hours of departmental electives.

#### ***Environmental Studies***

##### Bachelor of Science

Major in environmental studies, 51-56 hours. Core, required for all majors; 26 hours: BIOL 106, 106L, 108, 108L, 225, 225L; ECON 115; ENVS 130, 401, 475 or 380/480; INTD 425; POSC 121 or 122.

Natural history concentration, 54-56 hours: core courses plus the following: BIOL 331, 331L, 241, 241L or 243, 243L, 315/315L or 413/413L; ENVS 201; NASC 207/207L or 209; one sequence selected from: CHEM 105, 105L and 106, 106L or 111, 111L and 113, 113L.

Policy concentration, 56 hours: core courses plus the following: one sequence selected from: CHEM 105, 105L and 106, 106L or 111, 111L and 113, 113L; DATA 210; POSC 225; one course selected from: POSC 222, SOC 222.

Technical concentration, 53 hours: core courses plus the following: BIOL 315/315L or 413/413L; CHEM 111, 111L, 113, 113L, 235, 235L, 260, 106/106L or 311/311L; DATA 210.

Majors must successfully complete the senior comprehensive evaluation prior to graduation. Details are available from the director of environmental studies.

Minor in environmental studies, 26 hours: BIOL 106, 106L; ENVS 130; one course selected from: CHEM 105/105L, 106/106L, 111/111L; ECON 115; ENVS 401; INTD 425; POSC 121 or 122; three hours of elective credit to be approved by the director of environmental studies.

### ***Chemistry and Physics Department***

The Department of Chemistry and Physics strives to equip students with the conceptual knowledge, laboratory proficiency, data analysis skills, critical thinking skills and scientific communication skills that enable them to use chemistry and physics to enrich their workplaces and communities in principled, productive and compassionate ways. Chemistry majors and minors build a strong foundation of conceptual knowledge through coursework in analytical chemistry, inorganic chemistry organic chemistry, physical chemistry and biochemistry.

Laboratory courses and research experiences guide students to apply chemical and physical concepts and skills in authentic contexts that mimic aspects of a variety of graduate programs, as well as careers in industry, education or the health professions.

#### ***Biology-Chemistry***

The biology-chemistry major is a joint major involving the Biology and Chemistry and Physics Departments at Manchester University. It provides a strong, broad-based, interdisciplinary background in science that prepares students for a variety of career paths, including the professional areas of medicine, dentistry, optometry, pharmacy and veterinary medicine, as well as graduate programs leading to master's or doctorate degrees in chemistry, biochemistry, molecular and cell biology organismic biology and pharmacogenomics. Additional options include entry-level employment in the fields of biology, chemistry or biochemistry.

#### **Bachelor of Science**

Major in biology-chemistry, 59-63 hours: BIOL 106/106L, 108/108L229/229L, 365 or 313/313L, 422/422L; CHEM 111/111L, 113/113L, 235, 235L, 311/311L, 312/312L, 405; NASC 202 and NASC 450; either BIOL 204/204L or BIOL 364/364L; either BIOL 313/313L or BIOL 365; either CHEM 405L or CHEM 406; one year of physics selected from PHYS 111/L and 112/L or PHYS 210/L and 220/L; two hours of experiential learning selected from BIOL 475, BIOL 496, CHEM 475, CHEM 496, NASC 310NASC 375, NASC 475 or PHYS 499.

Major in biology-chemistry education, 95.5-97.5 hours: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475, 477; INTD 355, ENG/MODL 350; BIOL 229/L; CHEM 111/L, 113/L, 235/L, 311/L, 312/L; NASC 202 and 450; 8 hours of physics selected from: PHYS 111/L and PHYS 112/L or PHYS 210/L and PHYS 220/L; two of the following: BIOL 106, BIOL 108, BIOL 202/L and BIOL 204/L; one of the following: BIOL 313/L or BIOL 360; two hours from the following: CHEM 341, 342, 405, 412, 425, 435, 441, 443 and 496.

#### **Associate of Science**

Pre-Pharmacy Associate of Science, 44 hours; BIOL 202/L, 204/L, 229/L, 313/L; CHEM 111/L, 113/L, 311/L, 312/L; DATA 210, MATH 121, NASC 202; and a course in Financial Literacy, Economics, Accounting or Business approved by the Biology-Chemistry Council.

### *Chemistry*

#### Bachelor of Science

Major in Chemistry, 60 hours: CHEM 111, 111L, 111R, 113, 113L, 113R, 235, 235L, 311, 311L, 311R, 312, 312L, 312R, 341, 341L, 342, 342L; NASC 202, 450; PHYS 210 (MATH 121), 220 (MATH 122); two hours of laboratory work selected from: CHEM 405L, 441, 443; six hours of electives selected from: CHEM 405, 406, 412, 425, 435; two hours of experiential learning selected from: CHEM 475, 496.

Major in chemistry education, 84.5 hours: CHEM 111, 111L, 113, 113L, 235, 235L, 311, 311L, 312, 312L, 341, 341L; PHYS 210, 220; three hours selected from CHEM 342, 342L, 405, 406, 425, 435, 412; one hour selected from CHEM 342L, 405L, 441L, 443L; EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475 and 477; ENG/MODL 350, INTD 355.

Minor in chemistry, 23 hours: CHEM 111, 111L, 113, 113L, 235, 235L, 311, 311L and seven hours of electives selected from CHEM 200-400 level courses with no more than four hours from CHEM 380, 385, 475, 480, 485.

Courses listed in parentheses are prerequisites.

### *Medical Laboratory Sciences*

The medical laboratory science major prepares students for a job in the clinical laboratory. These professionals provide vital services to the health care profession, including, blood analysis, pathogen identification, transplantation donor matching and serology. Completion of this major combined with a year of clinical experience and education prepares students for a full career in medical technology. This major may be finished in three years at Manchester University and one year at an affiliated clinical hospital. Upon successful completion of the clinical year and the national exam, students receive their degree from Manchester and accreditation for clinical laboratory work.

#### Bachelor of Science

Major in medical laboratory sciences, 48-49 hours: BIOL 108, 108L, 204, 204L, 229, 229L, 313, 313L, 360, 395, 431; CHEM 111, 111L, 113, 113L, 311, 311L, 312, 312L; CHEM 235/L or CHEM 405; ESAT 106; DATA 210 or MATH 240. Senior year off campus in clinic.

All medical laboratory science majors must successfully complete a senior comprehensive experience before graduating.

### ***Expressive Arts and Communication Department***

#### *Art*

The Department of Art offerings include studio and lecture courses designed to develop artistic skills and an understanding of the fundamentals of aesthetics. An Art major is a mixture of foundational art courses and flexible electives with an interdisciplinary focus of courses that support an art-based career. This combination gives students the opportunity to specialize according to their interests. Students choose a concentration in Pre-Art Therapy, Video Game Development or Studio and Focus.

#### Bachelor of Arts

Major in art, 40-41 hours. Core courses, required for all majors; 12 hours: ART 131, 201, 213; 3 hours from one of the following: 310, 313, 341; 9 hours of Art electives and 19-20 hours of courses with an interdisciplinary focus.

Pre-Art Therapy concentration, 41 hours: core courses plus the following: PSYC 110, 201, 224, 225, 366.

Art: Studio Focus, 39-40 hours: ART 131, 201, 213; 3 hours from the following (Advanced Studio): 310, 313, 341, 9 hours of Art elective courses (\*cannot be counted as both 3-credits of Advanced Studio and Art electives); 19 credits from interdepartmental courses reflective of area of focus with departmental approval.

Video Game Development concentration, 41 hours: core courses plus the following: CPTR 111, 113, 218, 231, 318; and 3 hours from one of the following; CPTR 310, 340, 342, COMM 336

Major in visual arts education, 74.5 hours: core courses plus the following: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402,430, 440, 479; ENG/MODL 350; INTD 355.

Art Majors must complete a digital portfolio as well as a senior project based on their concentration.

Minor in art, 18 hours: ART 131, 201, 213; 3 hours from the following: 310, 313, 325, 341, 415; - six hours of electives in art.

Major in digital media arts (graphic design) is an interdisciplinary major. See: digital media arts.

#### *Communication Studies*

Communication Studies equips students with the skills to effectively create, transmit and analyze communication across various contexts—professional, personal and community. Students develop advanced communication abilities and cultivate sensitivity to diverse perspectives, critical thinking, self-expression and self-reflection. These empower our graduates to embody the values of our university mission, using their education and insights to contribute meaningfully and compassionately to society

#### Bachelor of Science

Major in communication studies, 39 hours: COMM 130, 210, 230, 232 or 235, 240, 256, 260, 324, 370 430; SOC 222: 12 hours in COMM, ART, ENG or approved in consultation with academic advisor.

#### Bachelor of Arts

Major in digital media arts, 39 hours: ART 131, 221, 261, COMM 130, 230, 232, 256, 235 or 364, 432, 430; 9 hours of electives from ART 213, 263, BUS 111, 306, CPTR 117, COMM 234, 235, 260, 336, 337, ENG 363 and MUS 141.

Minor in communication studies, 21 hours: COMM 130, 230, 256, 324; nine hours of electives selected in consultation with advisor and with approval of the department.

Minor in digital media arts, 21 hours: ART 261, COMM 130, 230, 232, 235 or 364; 6 hours of electives from ART 213, 221, 263, BUS 111, 306, CPTR 117, COMM 234, 336, 337, ENG 363 and MUS 141.

Minor in public relations, 21 hours: COMM 260, 324, 364, 430; 9 hours of electives from: ART 261, BUS 234\*, BUS 369, COMM 221, 232, 234 or ENG 363.

\*Students majoring or minoring in public relations are not required to take the prerequisite for BUS 234.

### *English*

The English major is offered with a concentration in literature or professional and creative writing. Both concentrations prepare students for continued study in graduate or professional school as well as for professional employment. Literature is the recorded history of cultural and linguistic change, demonstrates storytelling and is an essential component of all concentrations. Students who concentrate on literature acquire an understanding and appreciation of various literary forms, of specific literary works and of the development of literature within their cultural contexts. Students who choose to concentrate in professional and creative writing take courses in literature, journalism and professional and creative writing, as well as internships that give them experience working in a professional setting.

#### Bachelor of Arts

Literature concentration, 37 hours: ENG 115, 216\*, 311, 321, 332, 333, 340, 344; twelve hours of electives selected from English courses (200 level and above). \*ENG 216 may be taken up to three times, under different subtitles.

#### Bachelor of Science

Professional and creative writing concentration, 38 hours: ENG 115, 201, 317, 321, 358, 363, 365; 310 or 311; 332 or 333; 340 or 344; six hours of electives selected from English courses 200 level and above.

#### Bachelor of Arts or Bachelor of Science

Major in English/language arts 5-12 education, 85.5 hours: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475, 477; ENG/MODL 350; INTD 355; ENG 115, 201, 317, 321, 332, 333, 340, 344, 365, 486, 310 or 311; one course from ENG 216, 238, 246, 250 or 261.

Minor in English, 18 hours: 18 hours of electives selected from English courses (200-level and above). Courses should be 200-level or above, but ENG 115 may be included.

Minor in journalism, 24 hours: ENG 201, 317, 363, 365, 377; COMM 130 or 232; one course selected from ART 221, 261 or 263; one course selected from COMM 234, 314 or 432.

### *Modern Languages*

Modern Languages prepares student to (a) communicate effectively in the target language, (b) read and analyze literature from across time and around the world and (c) understand and appreciate the culture of countries in which the target language is spoken.

Students in our minor undertake graduate study or employment in a variety of fields that include linguistics, law, teaching, medicine and business. Many of our graduates have received prestigious awards such as the Fulbright and Rotary fellowships.

### Language Placement Information

Students with two or more years of prior study in a language (including coursework through high school or heritage experience) at a non-collegiate level are expected to demonstrate their current proficiency level before enrolling in a college-level language course. This can be done in one of the following ways:

1. Take the department's placement exam, offered during New Student Orientation or by appointment prior to registration or
2. Submit official scores from a nationally recognized exam, such as the Advanced Placement (AP) or College Level Examination Program (CLEP) or
3. Submit International Baccalaureate (IB) scores, with credit awarded based on the Higher Level (HL) or Standard Level (SL) exam score and departmental evaluation.

Students will be placed in the course level that best reflects their demonstrated proficiency.

*Note: Students who place into an intermediate-level course will not receive credit for elementary-level coursework.*

### Heritage and Native Speakers

Students who speak the language at home or have extensive informal experience (heritage speakers) are strongly encouraged to take the placement exam and consult with a language faculty member. Placement and credit decisions will consider both linguistic ability and academic preparedness for advanced coursework.

### Earning Credit for Intermediate Language Study (6 semester hours)

Students may earn six semester hours of credit for intermediate-level coursework (typically 201–202) through one of the following:

1. Successfully completing the 201–202 sequence at Manchester University,
2. Placing into an advanced (300-level) course and earning a grade of C or higher,
3. Passing a departmental proficiency exam with a grade of B or higher, following the placement exam,
  - a. Submitting qualifying exam scores:
  - b. AP score of 4 = 9 semester hours (intermediate and some advanced credit)
  - c. AP score of 5 = 12 semester hours (intermediate and advanced credit)
  - d. IB HL score of 5 or above may qualify for up to 9–12 hours, based on departmental review

- e. CLEP scores may also yield credit per ACE recommendations and department guidelines.

Minor in Spanish, 24 hours: SPAN 201, 202, 301, 302, 321; 9 elective hours from the following: SPAN 230, 231, 325, 330, 333, 340, 403, MODL 411.

Minor in TESOL (Teaching English to Speakers of Other Languages), 24 hours: ENG 310, 311; ENG/MODL 350, 352, 354; one course from the following: COMM 256, ENG 238, 310, 311, MODL 241, 411 or SOC 228; two courses from the following: EDUC 111, 216, 223, 230 or 246; one course from the following: SPAN 201 or 202.

#### Certificate

Certificate in Spanish for Educators, 12 hours: SPAN 111, SPAN 116, SPAN 203, MODL 375.

#### *Music*

The curriculum of the Music department is designed (a) to offer students a solid foundation in audio production and music technology, (b) blend theoretical knowledge with practical skills, (c) equip students for proficiency in industry-standard software and hardware, (d) to enrich the cultural climate of the University and surrounding communities and (e) to foster a lifelong desire to perform and listen to music.

#### Applied Music

Private lessons and ensembles are available to the general University student either with or without credit. Students studying for credit must meet standards of performance established by the music faculty. The teaching aims in private lessons are the development of performance skills and the presentation of representative literature. Each course is adapted to the ability and background of the individual student, subject to minimum standards of progress for each year of study. All students studying for credit are tested for achievement at the end of each semester by an examining board from the music faculty. Additional fees for individual music lessons apply.

#### Minor

Minor in creative music technology, 19 hours: MUS 106, 117, 118, 126, 318, 378; 6 hours of electives from BUS 234, COMM 235 or other courses from music or communications with department chair approval.

#### Certificate

Certificate in Audio Production, 9 hours: MUS 117, 118, 126, 318 and 378.

#### ***Marvin L. Bittinger Department of Mathematics and Computer Science***

The Department of Marvin L. Bittinger Department of Mathematics and Computer Science offers majors in applied mathematics, data science and software engineering. These programs seek to graduate students who can: appropriately analyze a wide variety of mathematical and computational problems, understand and apply relevant theory and technology to solve real-

world problems, develop and implement insightful and effective solutions and effectively communicate both abstract ideas and concrete information.

Students are placed in the appropriate mathematics course based on their high school GPA as well as what math classes were taken in high school. Students who do not agree with their placement may take a placement test in mathematics. Advanced placement credit in calculus, statistics and computer science is possible for students with strong AP scores.

### *Mathematics*

Courses in mathematics are designed for students who want to: acquire cultural knowledge of mathematics and its applications, apply mathematical principles of analysis and modeling in the natural and social sciences and business and industry and prepare for graduate studies in mathematics or related disciplines.

#### Bachelor of Science

Major in applied mathematics, 42-45 hours: CPTR 105 or 111; DATA 210; MATH 121, 122, 130, 233 or 245, 251, 330; 3 hours of MATH 475 or 499; 10 or more hours of approved electives at least six credits must be 300-level or higher.

Major in applied mathematics education, 89.5-90.5 hours: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475 and 477; ENG/MODL 350; INTD 355; CPTR 105 or 111; DATA 210; MATH 121, 122, 130, 233, 245, 251, 315, 330; six hours of approved electives selected from: (CPTR 113) 310, (DATA 231) 430; MATH 231, 340, 380/480, 385/485, 440.

Minor in mathematics, 22 hours: MATH 121, 130; twelve or more hours chosen from (CHEM 113) CHEM 341; (CPTR 113) CPTR 310; DATA 210 or PSYC 241; DATA 242; MATH 122, 231, 233, 245, 251, 330, 340, 380/480, 385/485.

Courses listed in parentheses are prerequisites.

### *Software Engineering*

The software engineering major focuses on the software development process and the implementation of software systems. The foundation of software development consists of soliciting and documenting customer requirements, creative problem-solving and effective software design. This is followed by constructing, testing, documenting and delivering professional quality software systems that are reliable, maintainable and extensible. Emphasis is placed on working with industries and software companies to provide students with real-world software experience through classroom projects, internships and senior research. Graduates will be prepared for successful careers in software development in a wide variety of businesses and industries and will be equipped to pursue a variety of graduate programs in computing.

#### Bachelor of Science

Major in software engineering, 49-51 hours: CPTR 111, 113, 231, 310, 340, 342, 420, 422, 475/477 or 499; DATA 231; MATH 130, 251; NASC 206; six or more hours chosen from: CPTR 218, 308, 318, 410, MATH 340; MBA 510, 555.

Minor in computer science, 24-26 hours: CPTR 111, 113; MATH 130; One of MATH 121, 125, or 251; three courses from the following: CPTR 231, 308, 310, 410, 424, 430; DATA 231; MATH 233, 315.

Minor in systems analysis, 27-29 hours: CPTR 111, 113, 340, 342 or 422; BUS 111; IDIV 205; one course selected from BUS 108; DATA 231; two courses selected from BUS 231, 310, 447.

Courses listed in parentheses are prerequisites.

## ***History and Philosophical Studies***

### *History*

History is the study and interpretation of the human past. It emphasizes the interrelation of culture, social structure, economic conditions and political institutions. Through the study of history, students gain an understanding and appreciation of diverse points of view and insights into ways of life and perspectives different from their own. Students taking courses in the field will learn about historical events, trends and causation. They will learn to use a variety of research skills and analytical categories in explicating and interpreting the past.

### Bachelor of Arts

Major in history, 36 hours: HIST 121; HIST 123; HIST 113, 114, 226, 237, 344; 15 hours of electives at the 200-level or above. These must include 9 hours at the 300-level or above and must include at least one course in American (3 hours); European (3 hours); Asia/World (3 hours).

Major in history education, 69.5 hours: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475 and 477; ENG/MODL 350; INTD 355; HIST 121; HIST 123; HIST 113, 114, 226, 237, 344; fifteen hours of electives from the list of approved HIST courses at the 200-level or above and must include nine hours of electives at the 300-level or above and must include at least one course in American (3 hours), European (3 hours) and Asia/World history (3 hours).

Majors must successfully complete the senior comprehensive evaluation prior to graduation. Details are available from the department chair.

Minor in history, 24 hours: HIST 113 or 114; HIST 121; HIST 123; HIST 226 or 237; 12 hours of electives at the 200 level or above. Must include at least 3 hours of 300-level or above.

### *Peace Studies*

Peace Studies graduate persons with a critical understanding of the causes and consequences of violence and injustice, equipped with both theoretical and practical knowledge of nonviolent

ways of resolving conflict and promoting justice. Peace studies prepares our graduates to be capable, confident and courageous in the work of building a peaceful and just world.

#### Bachelor of Arts

Major in peace studies, 39 hours: core courses (24 hours): INTD 425; PEAC 110, 218, 235, 320, 330; PHIL 444; REL 205; plus, one course from: SPAN 201, 202 or REL 222, 223, 325, 435; plus 12 hours of PEAC electives or approved by the Peace Studies Council.

#### Bachelor of Science

Major in peace studies, 39-40 hours: core courses (24 hours): INTD 425; PEAC 110, 218, 235, 320, 330; PHIL 444; REL 205; plus, one course from DATA 210 or PSYC 241 or SOC 324; plus 12 hours of PEAC electives or approved by the Peace Studies Council.

All majors must successfully complete the senior comprehensive evaluation. Details are available from the Peace Studies director.

Minor in peace studies, 18 hours: PEAC 110; 15 hours of electives approved by the Peace Studies Council.

#### *Philosophy*

The philosophy program studies questions of being, knowledge, action and the good and examines conceptual frameworks and practices of other disciplines such as religious studies, art, psychology and the natural sciences. Students will develop strong oral, written and analytical skills in creating and critiquing arguments, demonstrate critical and independent thinking, and develop a sense of self and of responsibility to others with respect to philosophical frameworks.

#### Bachelor of Arts

Major in philosophy, 30 hours: PHIL 205, 206, 444; REL, 435; INTD 425; one course selected from PHIL 327, REL 222, REL 223; one course selected from PHIL 230 or COMM 324; one course selected from POSC 201, PHIL 350, PEAC 235; one course selected from INTD 324 or REL 325; one course selected from INTD 343, INTD 405, PHIL 221, REL 113, REL 205 or SOC 305.

Minor in philosophy, 21 hours selected from departmental courses and with departmental approval.

#### *Political Science*

Political science focuses on the systematic study of collective decision-making and the interactions between power and interest in human affairs. Students of political science explore such topics as the institutional and socio-economic bases of political behavior; the cultures, institutions and processes of contemporary political systems; the relations between and among

nations; and the world's major political philosophies. Through the study of political science, students learn the theories and research methods necessary for analyzing and understanding political life.

#### Bachelor of Science

Major in political science, 36-37 hours: POSC 121, 140, 201, 233, 325; POSC 236 or 237; POSC 321 or 322; one course selected from: POSC 225, 311, 344; one course selected from: POSC 360, 365, 367; nine hours of electives in political science.

Majors must successfully complete the senior comprehensive evaluation prior to graduation. Details are available from the department chair.

Minor in international studies, 24 hours: HIST 226, PEACE 110, POSC 131, 140; one course selected from: INTD 345, INTD 425, INTD 427, INTD 441; one course selected from: PEAC 330, POSC 360, POSC 365, POSC 367; one course selected from: COMM 256, HIST 210, HIST 246, HIST 263, POSC 236, POSC 237; one course selected from: ART 348, REL 222, REL 223.

Minor in political science, 24-25 hours: POSC 121, 140, 201, 233; POSC 236 or 237; POSC 321 or 322; one course selected from: POSC 225, 311, 344; one course selected from: POSC 360, 365, 367.

Minor in international studies, 24 hours: HIST 226, PEAC 110, POSC 131, 140; one course selected from: INTD 345, INTD 425, INTD 427, INTD 441; one course selected from: PEAC 330, POSC 360, POSC 365, POSC 367; one course selected from: COMM 256, HIST 210, HIST 246, HIST 263, POSC 236, POSC 237; one course selected from: ART 348, REL 222, REL 223.

#### *Religious Studies*

The religious studies program engages in the academic study of religion, which aims to understand religious phenomena – texts, beliefs, doctrines, practices and worldviews – by way of historical, critical and constructive methodologies. This department equips students to recognize and appreciate religious diversity and analyze religious arguments and beliefs.

#### Bachelor of Arts

Major in religious studies, 27 hours: REL 113 120, 210, 325, 435; four courses selected from departmental offerings.

Minor in religious studies, 21 hours: twenty-one hours from religious studies courses and with departmental approval.

## **College of Business and Human Services**

### ***Arthur L. Gilbert College of Business***

The Gilbert College of Business builds upon the University's liberal arts program, combining traditional academic course work with experiential learning to prepare students for professional careers in for-profit businesses and nonprofit organizations. Students will have the opportunity to explore accounting, business management, entrepreneurship, finance, marketing, professional sales, Esports management and sport management. Internships are required in each major area of study.

#### Bachelor of Science

Business core courses: Core, 30 hours: ACCT 200, BUS 111,209,210,250,313,474; FIN 120,333; MATH 211.

Major in accounting, 59 total hours: business core courses plus ACCT 220, 311, 312, 321, 331, 409, 475, 485; BUS 310.

Major in business management, 51 total hours: business core courses plus BUS 231, 310, 435, 441, 444, 450, 454, 485.

Major in finance, 52 total hours: business core courses plus ACCT 220, 331; FIN 333, 335, 340, 423, 455, 475, 485.

Major in marketing, 51 total hours: business core courses plus ART 261; BUS 234, 301, 306, 435, 445, 461, 445, 485.

Major in sport management, 53 hours: business core courses plus BUS 117,241, 245,363, 365, 369,425,435; Majors must successfully complete the senior comprehensive evaluation prior to graduation. Details are available from the dean of the College of Business.

Minor in business, 21-22 hours: ACCT 200, BUS 111, 210, 231, 313; FIN 120; three or four hours of electives selected from departmental courses.

Minor in entrepreneurship, 24 hours: ACCT 200; BUS 111, 234, 431, 454; IDIV 201; six hours of electives approved by the Johnston Chair.

Minor in professional sales, 24 hours: ACCT 200; BUS 111, 209, 234; two courses selected from BUS 318,322,431,453; COM 240, 210.

Minor in Esports management, 18 hours: BUS 130, 230, 363, 369, 430; one course selected from BUS 111 and BUS 117.

#### ***Mark E. Johnston Entrepreneurship Program***

The Mark E. Johnston Entrepreneurship Program exposes students to the academic background needed to start an organization. Whether students are interested in starting a traditional for-profit business or a nonprofit organization with a social purpose, they need a solid foundation in basic business principles and this program provides that foundation. It is designed to achieve the following goals:

- Students will experience the nature of an entrepreneurial venture and assess their personalities and abilities in the context of the common traits and challenges facing entrepreneurs.
- Students will demonstrate an understanding of basic accounting, marketing, management and finance in the context of start-up and growth scenarios.
- Students will demonstrate an understanding of business topics unique to entrepreneurial ventures.
- Students will develop a business plan either for a start-up idea of their own or for a community member seeking assistance.

The primary take-away for the student will be a business plan, comparable to what a business professional would develop and suitable for presenting to potential lenders and investors.

*Timothy A. Ogden Master of Business Administration*

Master of Business Administration, Accounting Track, 30 hours: MBA 523, 530, 540, 554 and 555; ACCT 515, 531, 536 and 551; FIN 523.

Master of Business Administration, Doctor of Physical Therapy Track, 31 hours: MBA 523, 530, 540, 542, 545, 550, 554, 555; DPT 779 and PHRM 597.

Master of Business Administration, Healthcare Track, 30 hours: MBA 523, 530, 540, 542, 544, 545, 550, 554, 555 and PHRM 597.

Master of Business Administration, Management Track, 30 hours: MBA 510, 523, 530, 540, 541, 544, 550, 554, 555 and 556.

Master of Business Administration, Pharmacy Track, 32 hours: MBA 523, 530, 540, 554, 555; PHRM 442, 540, 541, 596 and 597.

*Certificates*

Certificate in Professional Sales, Selling Skills and Sales Operations, 9 hours: BUS 209, BUS 431, BUS 453.

Certificate in Business Management, Business Administration and Management, General, 9 hours: BUS 231, BUS 441, BUS 450.

Certificate in Marketing, Marketing/Marketing Management, General, 9 hours: BUS 234, BUS 445, BUS 461.

***Henney Department of Education***

The Education Department prepares students for a variety of careers that involve working with children and young adults. The department prepares teachers of ability and conviction at the early and middle childhood, middle school, high school and all-grade levels. Each of the

licensure-seeking majors is aligned with regulations determined by the Indiana Department of Education's Office of Educator Licensure and Development.

In addition, the Education Department offers a major in Educational Studies. Intended for students who are interested in a career working with people of all ages but not as a licensed teacher, this major offers a variety of focus areas including business, counseling and education.

Manchester University is accredited by the Department of Education, Division of Professional Standards, the Council for the Accreditation of Educator Preparation (CAEP) and the Higher Learning Commission.

### *Educational Studies*

Bachelor of Science

Major in educational studies, 39.5 hours: EDUC 111, 112, 202, 204, 223, 230, 302, 304, 402, 465; INTD 355; PEAC 218; SOWK 110; 12 hours from one of the five foci:

- Business: ACCT 200; BUS 111, 209, 210, 231, 234, 250; FIN 120
- Coaching: NUTR 102, 103, 210, 2114; EXSC 107, 115, 209, 243
- Counseling: PSYC 201, 225, 366; SOC 335; SOWK 274
- Education: EDUC 203, 205, 207, 216, 246, 341, 343, 354, 405, 430
- Fine Arts: ART 131, 201, 210, 213; ENG 346, 363, 365; MUS 106, 117, 126, 128, 230

### *Elementary Education*

Major in elementary education early and middle childhood generalist with an emphasis in mild intervention or English learners.

Required courses for all elementary education majors: EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 341, 354, 401, 402, 403, 405, 430, 474; ENG/MODL 350; HIST 216, 218; INTD 355; MATH 108, 208; NASC 210.

English learners concentration: EDUC 471, ENG 310 or 311; ENG/MODL 354, 350; one Spanish course at 300 or 400 level.

Mild intervention concentration: EDUC 263, 315, 350, 478.

Elementary Education Methods Block: EDUC 401, 403, 405, 430. Prerequisites: EDUC 230, 341, 354.

Professional Semester in Elementary Education: EDUC 474; EDUC 471 or 478. The student teaching experience will be a full semester.

All grade teaching majors human performance education, visual arts.

### *Secondary Education*

Secondary teaching majors: biology, biology-chemistry, chemistry, English/language arts, history, applied mathematics. An option of mild intervention or English learners may be added to any secondary teaching major.

All teacher certification and licensure requirements are listed in Teacher Education Student Handbook issued by the Department of Education, located on departmental website.

All Grade and Secondary Education Methods: EDUC 430, 440. Prerequisites: EDUC 230.

Professional Semester in All Grade and Secondary Education: The courses 475 and possibly 477 or 479 are included in the professional semester.

The capstone project for all students seeking licensing through Manchester University consists of the following components:

- successful completion of the edTPA Impact on Student Learning project which consists of the development and teaching of a series of lessons in a student teaching placement,
- video recordings and analysis,
- the written representation of the research and data analysis and the written defense of the project.

Additional information regarding the SCE can be found in the Teacher Education Student Handbook.

Admission to Teacher Education and Approval to Student Teach

Information can be found in the Teacher Education Student Handbook on the Department of Education website.

Teacher Licensing and Graduation Requirements

Candidates for an Indiana teaching license can find information on the Indiana Department of Education website ([www.doe.in.gov](http://www.doe.in.gov)). The application will be processed when the candidate has met the following criteria, which are subject to change by action of the Teacher Education Committee of Manchester University:

1. Satisfaction of all requirements for admission to the Teacher Education program and student teaching, a cumulative grade point average of 2.50, including a C+ or better in student teaching.
2. A 2.75 grade point average major GPA. A C or higher in all education courses, except EDUC 111.
3. Conduct approval from Student Life.
4. Completion of the baccalaureate degree and an approved Manchester University teacher licensing program.
5. Submit SAT or ACT score prior to admission to the program or complete 240 Tutoring CORE math and reading modules.
6. Successful completion of the Indiana Developmental/Pedagogy exam as well as the appropriate Indiana Content Area Assessments in areas of licensure.
7. Minimum of proficient rating on each professional disposition from faculty members of the unit and/or clinical faculty.
8. A current CPR/Heimlich certification (no older than one year) must be on file with Education Department. Evidence of current suicide prevention training.

*Transition to Teaching Program*

The Transition to Teaching (T2T) program prepares a qualified person who holds at least a baccalaureate degree to enter the teaching profession. Having passed the appropriate licensure tests to be admitted, participants enroll in a set of education courses focused on pedagogy, enabling the professional to enter the field of teaching. This non-degree track provides coursework required for a teaching license in the state of Indiana. All transition to teaching students must meet with an academic advisor to determine a course schedule and rotation.

T2T Secondary Education required courses (18 credit hour maximum): EDUC 411, 413, 421, 423, 431 and 433.

According to the state of Indiana, Transition to Teaching candidates can be hired while working on the T2T program if they meet the criterion outlined on the IDOE web page. Should a Henney Department of Education Transition to Teaching candidate secure employment in the content area of their bachelor's degree (see admission requirements), Manchester University will use their teaching placement as their student teaching experience. More details will be provided by the Director of Teacher Education based on the requirements outlined by the Indiana Department of Education.

Completion of the edTPA project is required. A separate fee of \$300 is required for the online evaluation of edTPA project.

A separate fee of \$350 will be assessed for their student teaching experience.

## ***Psychology***

The goals of the department are to assist students in (a) understanding the basic concepts and methods used in psychology, (b) understanding the relation of psychology to other disciplines, (c) preparing for graduate work in psychology, in fields such as clinical psychology, cognitive neuroscience, counseling psychology, developmental psychology, industrial organizational psychology, neuropsychology and social psychology, (d) preparing for professional training in such fields as social work, medicine and education, (e) preparing for work in such fields as business, education and mental health.

### **Bachelor of Science**

Major in psychology, 42-44 hours: PSYC 110, 201, 224, 225, 227, PSYC 235 or 250; PSYC 241, 341, 444; 3-4 hours of electives selected from departmental courses or PEAC 218; one course selected from PSYC 346, 347 or 349.

Major in psychology, cognitive neuroscience concentration; 47-48 hours: PSYC 110, 201, 224, 225, 227, 235, 241, 250, 341, 360, 444; one course must be selected from PSYC 346, 347 or 349.

Major in psychology, industrial organizational concentration; 46-48 hours; PSYC 110, 201, 224, 225, 227, PSYC 235 or 250; PSYC 241, 341, 345, PSYC 376 or BUS 340; PSYC 444. One course selected from: PSYC 346, 347 or 349.

Major in counseling, 56-58 hours; PSYC 110, 224, 235, 241, 341, 366, 444; REL 106, 113, 121, 223; one course selected from: PSYC 346, 347 or 349; two courses from: PEAC 320, PSYC 201, REL 205 or REL 325; one course from: REL 222 or 247; one course from: INTD 343, PHIL 201 or PHIL 221.

Majors must successfully complete the senior comprehensive evaluation prior to graduation as part of the course requirement for PSYC 444. Details are available from the department chair.

Students majoring in both Cognitive Neuroscience Psychology and Industrial Organizational Psychology must have at least 9 distinctive hours between the two majors in order to graduate with both. Part of the resolution for this is to take two courses from PSYC 346, 347 and 349.

Minor in psychology, 19 hours: PSYC 110; 15 hours of electives selected from departmental courses or PEAC 218.

Minor in cognitive neuroscience, 20 hours: PSYC 110, 235, 250, 360, one course selected from departmental courses.

Minor in industrial organizational psychology, 23-24 hours; PSYC 110, 201, PSYC 245 or DATA 201, 345, PSYC 376 or BUS 441 (BUS 111 pre-requisite)

## ***Sociology, Social Work and Criminology***

### *Criminology*

The criminology program provides students with an interdisciplinary overview of the origins of criminal behavior, the consequences of crime for society and the legal responses societies develop to combat crime.

The criminology major and minor provide the foundation for successful careers in areas such as mediation and conflict resolution, juvenile justice, victim assistance, law enforcement, substance abuse prevention, rehabilitation counseling and restorative justice. The criminology major and minor can serve as an academic foundation for advanced study in law, justice studies, social work, sociology, criminology or public policy.

A two-year Associate of Arts degree is also available with the option of merging into a four-year degree.

### Bachelor of Science

Major in criminology, 49-51 hours: CRIM 110, 244, 440; PSYC 110; SOC 101, 240, 322, 324; SOC/SOWK 222, 228; one course selected from: CRIM 275 or CRIM 496; 12-14 hours of electives selected from: CRIM 210, 220, 310, 340; PEAC 112, 218; PSYC 201, 225; PHIL 215, 230; SOC 262, 305, 350; SOC/SOWK 102, 220; SOWK 110, 366; or others approved by the department.

Minor in criminology, 21-23 hours: CRIM 110, 244; SOC 101; SOC/SOWK 228; 6-8 hours of electives selected from: CRIM 210, 220, 275, 310, 340; PEAC 112, 218; PHIL 215, 230; PSYC 201, 225; SOC 262, 305, 350; SOC/SOWK 102, 220, SOWK 110, 366; or others

approved by the department.

### Associate of Arts Degree

Major in criminology, 27 hours: CRIM 110, 244, 275, 340; SOC 101, 345; SOC/SOWK 228; SOWK 110, 274.

### *Gender Studies*

The interdisciplinary courses in the gender studies minor afford students the opportunity to study gender both as an analytical perspective and as a social and cultural phenomenon. The minor will complement most academic majors, preparing individuals to do the critical thinking required in business and the professions as well as in graduate study in the humanities and the social sciences.

Minor in gender studies, 18-19 hours: GNST 125 or 201; INTD 324; 12 hours of electives from the following courses (from three different disciplines) or others approved by the Gender Studies Council.

### *Social Work*

The Manchester University Social Work Program, a baccalaureate degree program accredited by the Council on Social Work Education, graduates generalist social work professionals of ability and conviction who respect the infinite worth of every individual. Graduates of the program improve the human condition by applying social work knowledge, values and skills to enhance the well-being of all people, especially those who are vulnerable, oppressed or living in poverty; to alleviate poverty and oppression; and to promote social, economic and environmental justice and peace. The program also prepares students for graduate studies in social work.

### Degree Bachelor of Science

Major in social work, 58 hours: PEAC 112; PSYC 110; SOC 101; SOWK 110, 222, 228, 274, 334, 366, 375, 384, 475, 476, 477; one course selected from: POSC 121, 122, 140, 233; one course from BIOL 104 or 204; one course selected from POSC 121, 122, 140 or 233.

Academic credit for life experience and previous work experience is not granted, in whole or in part, in lieu of field instruction or of courses in the professional foundation of the social work major.

Minor in Human Services, 21-22 hours: SOC 101; SOWK 110, 228, 274, 275; 6-7 hours of electives chosen from CRIM 244, 310, 340; PEAC 112; SOC 335; SOC/SOWK 102, 220, 355; SOWK 334, 366 or others approved by the director of the Social Work Program.

The human services minor will be useful to any student interested in a career helping people and communities meet their basic human needs, but it does not lead to professional social work licensure or advanced standing in master's degree programs in social work. Students pursuing those goals should consider the social work major.

## *Sociology*

Sociology is the study of social life. At the interpersonal level, sociology studies the causes and consequences of such things as identity, romantic love and deviance. At the societal level, it examines and explains such things as poverty, crime and racism. At the global level, it studies such things as immigration, modernization and war.

The sociology major and minor are designed to prepare students to enter career fields such as public policy, human services, research analysis and community organizing, among others. The sociology major and minor can also serve as an academic foundation for advanced study in law, justice studies, social work, sociology, gerontology, criminology or public policy.

### Bachelor of Science

Major in sociology, cultural competency concentration (39 hours): SOC 101, 222, 240, 275, 322, 324, 440; one from POSC 121, 122, 140, 233; 9 hours from COMM 256; INTD 441, 450; PEAC 250, 385; PSYC 352; SOC 220, 311, 313, 355; 6 additional hours approved by the dept.

Major in sociology, social inequality concentration (39 hours): SOC 101, 222, 240, 275, 322, 324, 440; one from POSC 121, 122, 140, 233; 9 hours from COMM 327; EDUC 216; GNST 125, 201; HIST 327; INTD 324; PEAC 112; SOC 228, 328, 345, 355, 351; SOWK 350; 6 additional hours approved by the dept.

Minor in sociology, 24 hours: SOC 101, 222 or 240, 228, 345; twelve hours of electives in sociology (three hours at 300 level or above).

Minor in diversity and inclusion, 24 hours: GNST 125 or 201; HIST 237; SOC 345; SOC/SOWK 228; 9 hours from COMM 256; EDUC 216; ENG 216; HIST 226, 256; INTD 324; PEAC 110, 112; PHIL 327; PSYC 352; 313; SOC 313; SOC/SOWK 220; SPAN 200 level or above or others approved by the department.

Requirements for teaching majors are available in the Office of Teacher Education.

## **College of Health Professions, Nursing and Pharmacy**

### ***School of Health Professions and Nursing***

#### *Athletic Training*

Athletic trainers are health care professionals who collaborate with physicians to optimize activity and participation of patients and clients. Athletic training encompasses the prevention, diagnosis and intervention of emergency, acute and chronic medical conditions involving impairment, functional limitations and disabilities.

#### Master of Athletic Training

Master of Athletic Training, 62 hours: ATTR 502, 506, 512, 521, 522, 526, 531, 536, 563, 603, 612, 616, 622, 632, 633, 643, 652, 655, 662, 672, 682.

To earn the MAT degree, students must complete the following:

1. Maintain a cumulative grade point average of at least 3.00
2. Earn at least a 2.00 (P or a C) in each required didactic and clinical course

### *Exercise Science*

The goal of the department is to develop knowledgeable and skillful leaders and practitioners in various fields of exercise science. Students will be cognizant of scientific principles underlying movement patterns and analyses, as well as physiological, psychological and sociological perspectives of sport, fitness and strength and conditioning participation and management.

The department goal is focused on clinical and hands on experiences as well as practical learning. These are key learning components in the fields of athletic training, physical therapy, occupational therapy, nutrition/dietetics as well as strength and conditioning/human performance. More information can be found on the Exercise Science website.

The majors in the exercise science department prepare students for professions and programs in exercise sciences (e.g., physical therapy, athletic training, occupational therapy, exercise physiology, chiropractic care and biomechanics). It is an appropriate preparation for graduate school and credentialed positions in strength and conditioning as well as fitness and wellness. The strength and conditioning portion of the department is preparing students for the Certified Strength and Conditioning Specialist (CSCS) credential through the National Strength and Conditioning Association (NSCA). The nutrition sciences degree prepares students with hands-on experiences for future nutrition professional or as a gateway into graduate school to become a registered dietitian nutritionist (RDN).

Two applied degrees are available in a reduced credit format for applied pre-athletic training and applied pre-physical therapy. The 90-credit structure enables students to gain essential knowledge in their area of study with a streamlined process into graduate degrees.

### Bachelor of Science

Major in Applied Pre-Athletic Training, 69 hours: BIOL 106, 202/L, 204/L; CHEM 105/L/R, 106/L; EXSC 101, 107, 115, 255, 325/L, 345, 355, 400, 400, 410, 476; DATA 210/L; NUTR 210; PSYC 110; PHYS 111/L/R

Major in Applied Pre-Physical Therapy, 75 hours: BIOL 106/L, 108/L, 202/L, 204/L; CHEM 111/L/R, 113/L/R; DATA 210/L; EXSC 101, 107, 255, 325/L, 345, 355, 400, 410, 476; PHYS 111/L/R, 112/L; PSYC 110 and 224

Major in clinical and rehabilitation sciences, 58-59 hours: BIOL 202/202L, 204/204L, CHEM 105/105L/105R and 106/106L or CHEM 111/111L/111R and 113/113L/113R; DATA 210/210L; EXSC 101, 107, 255, 325/325L, 355, 410, 476; NUTR 210; 12 hours of electives approved by advisor.

Major in human performance, 47 hours: BIOL 202/202L, 204/204L; EXSC 101, 205, 206, 209, 230, 243, 250, 260, 276, 325/325L, 339, 345, 410, 425, 476; NUTR 210.

Major in human performance education, 90.5 hours: BIOL 202, 202L, 204, 204L; EDUC 111, 112, 202, 204, 207, 223, 230, 246, 302, 304, 343, 402, 430, 440, 475 and 477; ENG/MODL 350; EXSC 101, 205, 206, 243, 250, 260, 325, 325L, 339, 345, 410; INTD 355; 4 hours of directed electives (in consultation with advisor and department chair).

Human performance education majors will need to complete the education exams to continue the track for teaching in physical education. Details are published in the EXSC Student Handbook on the department website.

Minor in coaching, 27 hours: EXSC 115, 209, 243, 410; NUTR 210; 2-6 hours from EXSC 276, 339, 345; 3 hours from NUTR 102, 230, 320. Substitutions approved by department chair.

Minor in orthopedic studies, 23 hours: BUS 111; COMM 220; EXSC 107, 115, 255, 345, 355, 476. Substitutions approved by department chair.

Minor in medical health education and sales, 20 hours: BUS 111, 209, 231; COMM 220, 327; EXSC 107, 476. Substitutions approved by department chair.

### *Nutrition Sciences*

#### Bachelor of Science

Major in nutrition sciences, 55 hours: BIOL 204; CHEM 105/105L, 106/106L, EXSC 107, 476; MATH 115; NUTR 101, 102, 103, 210, 211, 220/220L, 320, 330, 340; 6 hours of electives from 230, 240, 250.

Minor in nutrition sciences, 26 hours; EXSC 107, 476; NUTR 101, 102, 210, 211, 220/220L, 320; 3 hours of electives from 230, 240, 250.

### *Nursing*

The mission of the Nursing Program is to prepare future nurses to respect the infinite worth of every individual and to practice nursing by drawing on their faith to lead principled, productive and compassionate lives that inspire them to be servant leaders within the nursing profession.

#### Bachelor of Science in Nursing

Major in nursing, 101 hours BIOL 202/L, 204/L, 219/L; CHEM 105/L; MATH 115; NURS 125, 200, 210, 216, 220, 300, 305, 310, 320, 325, 330, 400, 405, 425, 430, 440, 450; PSYC 110, 224.

Major in nursing (accelerated second degree ABSN), 65 hours: NURS 125, 200, 210, 216, 220, 300, 305, 320, 325, 330, 400, 405, 410, 430, 440, 450.

## *Doctor of Physical Therapy*

The Manchester University Physical Therapy program is a two-and-a-half-year (8 semester) doctoral program. Throughout the didactic coursework, there will be three Long Term Clinical Education experiences along with two Integrated Clinical Education (ICE) experiences that have been imbedded throughout the curriculum beginning in semesters 2, 4, 5, 7 and 8. Upon graduation, students will be required to take and pass the National Physical Therapy Exam (NPTE) in order to obtain licensure.

Doctor of Physical Therapy, 106 hours: DPT 710, 712, 714, 716, 720, 722, 724, 726, 728, 731, 732, 734, 736, 739, 747, 748, 749, 751, 573, 755, 758, 761, 763, 765, 777, 778, 779, 787, 788.

To earn the Doctor of Physical Therapy degree, students must:

1. Be in good academic and professional standing,
2. Have had satisfactory progress in all semesters of the academic program and
3. Satisfactorily complete the following:
  - a. Passed and completed all Didactic courses with a grade of C or better.
  - b. Passed and completed all Clinical Education courses with a grade of P.
  - c. Passed and completed all Professional Competencies courses as outlined in the syllabi.
  - d. Passed the Professional Competencies 3 course examination at or above the set score outlined in the syllabi.
  - e. Have a cumulative GPA of a 3.0 in the DPT program.

## ***School of Pharmacy***

### *Doctor of Pharmacy*

The Manchester University Pharmacy Program is a four-year doctoral program requiring at least two years of pre-pharmacy coursework. The program is an integrated educational environment involving the disciplines of pharmaceutical sciences and pharmacy practice. The program will consist of three years of didactic study, including Introductory Pharmacy Practice Experiences (IPPE) interwoven into the didactic curriculum sequence and one year of Advanced Pharmacy Practice Experiences (APPE) involving six required and four elective rotations. Upon graduation, students will be required to take and pass the North American Pharmacist Licensure Examination (NAPLEX) and the Multistate Pharmacy Jurisprudence Examination (MPJE) to obtain licensure.

Doctor of Pharmacy, 144 hours: 144 hours: PHRM 310, 318, 332, 322, 325, 330, 331, 334, 335, 336, 337, 340, 371, 411, 412, 413, 414, 420, 421, 422, 430, 434, 445, 444, 471, 503, 515, 516, 517, 518, 523, 524, 535, 525, 540, 541, 600, 610, 620, 630, 640, 670 and 5 didactic elective hours.

### Pharmacy Degree Requirements

To earn the Doctor of Pharmacy degree, students must:

1. Complete all required courses and the required number of elective courses, in the curriculum with a grade of C or better (or P);

2. Complete all co-curricular requirements; including but not limited to community outreach and professional identity formation requirements;
3. Pass all required competency assessments.

### *Nutrition and Nutrigenomics*

The Master of Science in Nutrition and Nutrigenomics (MSNGx) is designed to prepare students to become entry level registered dietitians nutritionists (RD/RDN). Students will complete didactic courses online and supervised experiential learning courses at preceptor sites.

Graduates of the program will earn a Master of Science degree and verification statement confirming their eligibility to sit for the Commission on Dietetic Registration Registered Dietitian examination.

Master of Science in Nutrition and Nutrigenomics, 54 hours: NUTN 505, 510, 515, 520, 521, 525, 535, 533, 540, 576, 610, 620, 630, 635, 640, 645, 650, 660, 670, 672.

To earn the Master of Science in Nutrition and Nutrigenomics degree and Verification Statement, students must:

1. Pass all required didactic graduate course and supervised experiential learning courses
2. Maintain a cumulative GPA of 3.00 or higher
3. Pass all supervised experiential learning rotations with a “4” or above for each required competency

### *Pharmacogenomics*

The Master of Science in Pharmacogenomics (MS in PGx) degree is designed to prepare students to enter the specialized field of application of genetic information, where an individual's DNA is used to optimize drug therapy.

Master of Science in Pharmacogenomics, 31 hours: PGX 501, 503, 512, 513, 515, 522, 526, 532, 533, 538 and choice of 6 hours from PGX 462, 482, 517, 527, 537, 547, 557, 592.

The Master of Science in Pharmacogenomics may be earned in one of two formats:

1. One year, On-Campus at the MU Fort Wayne location
  - a. The on-campus program at the Fort Wayne, IN campus is designed primarily for those with an undergraduate science degree, offering a one-year, intensive path to a master's degree divided into three four-month semesters.
2. Two year, Online
  - a. The online program is designed primarily for those with an undergraduate science or professional degree, offering a two-year, part-time path to a master's degree divided into intensive 7-week courses.

To earn the Master of Science in Pharmacogenomics degree, students must:

1. Have a cumulative grade point average of at least 3.00
2. Complete a total of 31 credit hours of course work (26 credit hours required and at least 5 credit hours elective) with a grade of “C” or better

- a. Students in the MS in PGx are eligible for the PGx certificate

Dual Degree Master of Science in Pharmacogenomics/Doctor of Pharmacy, On-Campus and Online, 170 hours: PGX 501, 522, 513, 515, 526, 532, 533, 538, PHRM 310, 318, 332, 322, 325, 330, 331, 334, 335, 336, 337, 340, 371 411, 412, 413, 414, 420, 421, 422, 430, 434, 445, 444, 471, 503, 515, 516, 517, 518, 523, 524, 535, 525, 540, 541, 600, 610, 620, 630, 640, 670 and 5 didactic pharmacy elective hours and choice of 6 hours from PGX 462, 482, 517, 527, 537, 547, 557, 592.

The dual degree program is for students in the Manchester University Pharmacy Program. It combines both on campus and online courses.

To earn the Master of Science in Pharmacogenomics degree as a Pharm D/MS PGx dual degree student, students must:

1. Have a cumulative grade point average of at least 3.00
2. Complete a total of 31 credit hours of pharmacogenomics course work with a grade of "C" or better
  - a. The following substitutions will be made from pharmacy course work towards the pharmacogenomics course work:
    - i. PHRM 337 will satisfy PGx 512 requirement towards the Masters degree (2 credit hours).
    - ii. PHRM 518 will satisfy PGx 503 requirement towards the Masters degree (3 credit hours).
  - b. No pharmacogenomics course work will satisfy any pharmacy elective requirements.
  - c. Students in the Pharm D/MS in PGx are eligible for the PGx certificate
3. For students without a bachelors or professional degree, the MS in PGx degree will not be awarded until the pharmacy degree is conferred

## Certificates

The online graduate certificate (GC in PGx) is designed primarily for those with a professional health care degree or an undergraduate science degree.

Students that successfully complete the Graduate Certificate in Pharmacogenomics are eligible to apply for the Masters in Pharmacogenomics program. Any credits earned during the academic certificate will apply towards to total credits needed for the master's degree. See the Graduate Certificate in PGx requirements.

Graduate Certificate in Pharmacogenomics, 13 hours: PGX 501, 526, 547 and choice of 5 hours from PGX 462, 503, 512, 513, 522, 532, 533, 538, 557.

To earn the academic certificate in PGx, students must:

1. Have a cumulative GPA of at least 3.00
2. Complete a total of 13 credit hours of course work (8 required and at least 5 credit hours elective) with a grade of "C" or better

## Course Descriptions

Divisional and departmental courses are arranged alphabetically by division or department.

The level of courses is indicated by the course number as follows:

100: Beginning-Level Courses

200: Intermediate-Level Courses

300: Advanced-Level Courses

400: Advanced-Level Courses

500: Beginning Graduate/Professional-Level Courses

600: Intermediate Graduate/Professional-Level Courses

700: Advanced Professional-Level Courses

The semester and the year for the regular offering of the course are listed with most course descriptions. The University reserves the right not to schedule or offer a course if suitable faculty are not available or to cancel a course if enrollment is insufficient.

### Undergraduate Courses

#### **ACCT 200 FOUNDATIONS OF ACCOUNTING - 3 hours**

Students examine the accounting function in an organization including both financial and managerial accounting. Emphasis is placed on interpreting financial and managerial accounting information for management decisions. Additional focus is on financial planning and analysis. Topics include financial statement analysis, cost-volume-profit analysis, budgeting, internal controls and debt versus equity financing.

#### **ACCT 220 ACCOUNTING PRINCIPLES - 3 hours**

Students examine in depth the financial and managerial accounting functions in an organization. Emphasis is placed on the accounting cycle and recording transactions for a variety of complex business situations. Topics include financial reporting for receivables, inventory, long-term assets, liabilities, equity and product costing decisions. Prerequisite: ACCT 200.

#### **ACCT 311 INTERMEDIATE ACCOUNTING I - 4 hours**

Students examine the theoretical framework and underlying concepts that govern the field of accounting. Topics include the accounting cycle, measurement and valuation of balance sheet accounts and presentation of financial statements. Prerequisite: ACCT 220.

#### **ACCT 312 INTERMEDIATE ACCOUNTING II - 4 hours**

Students continue the examination of the theoretical framework of financial reporting. Topics include accounting for investments, income taxes, pensions and leases, as well as current issues in accounting. Prerequisite: ACCT 311.

#### **ACCT 321 MANAGERIAL & COST ACCOUNTING - 4 hours**

Students examine accounting methods that assist an organization with planning and control. Emphasis is placed on decision making. Topics include costing systems, cost allocations, budgeting and variance analysis. Prerequisite: ACCT 220.

#### **ACCT 331 INTRODUCTION TO TAXATION - 4 hours**

Students examine the concepts underlying federal taxation. Emphasis is placed on topics that affect both individuals and businesses, including tax accounting, revenue recognition, deduction allowance and depreciation.

**ACCT 405 ADVANCED ACCOUNTING - 4 hours**

Students explore the problems of accounting for partnerships, consolidations, foreign currency transactions and international accounting. Prerequisite: ACCT 312.

**ACCT 409 AUDITING - 4 hours**

Students examine the audit process, including its components: planning, fieldwork and reporting. Topics include professional responsibilities, audit risk and materiality, internal control and evidence accumulation. Prerequisite: BUS 310.

**ACCT 435 GOVERNMENT AND NONPROFIT ACCOUNTING - 3 hours**

Students learn the basic principles and procedures of financial accounting for state and local governments and nonprofit organizations. Prerequisite: ACCT 311.

**ACCT 475 INTERNSHIP - 0-12 hours**

This course option grants academic credit for a supervised professional experience designed to give students experience in their fields of study. Evaluation of the experience is provided by the student, the student's supervisor in the internship and a Manchester University supervising instructor. This course may be repeated for a maximum of 12 hours of credit. Prerequisite: Approval of department's internship committee. Grading is P/NP.

**ACCT 380 or 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated the ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**ACCT 385 or 485 SEMINAR -1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussion.

**ART 131 BASIC DESIGN - 3 hours**

Introductory experiments and practice in various media with emphasis on understanding the principles of composition, color theory and mechanical perspective. LA-TCE.

**ART 201 ART AND LIFE - 3 hours**

A course emphasizing the role of the artist in society through an introductory study of materials, processes and the history of art in its broadest sense. Progression from those areas with which the contemporary student is already acquainted (advertising, design and architecture) to a survey of the fine arts up to the present day. Materials fee required. LA-EAH.

**ART 210 PAINTING I - 3 hours**

An introduction to painting. Students learn techniques for rendering objects, starting with still life, followed by a range of subject matter. Final projects focus on subjects developed through a structured, creative process. LA-TCE.

**ART 213 FIGURE DRAWING - 3 hours**

This course introduces students to drawing portraits and the human body. Class time is primarily devoted to observational drawing of live models with emphasis on accurate form and proportions, using a variety of media and techniques. LA-TCE.

**ART 221 DIGITAL PHOTOGRAPHY - 3 hours**

An introduction to the principles, vocabulary and techniques of photography. Students will learn to use the functions of their cameras and explore a range of digital editing, from subtle improvements to major alterations. Open to all majors, no photography experience needed. A personal digital camera is required. LA-TCE.

**ART 241 CERAMICS - 3 hours**

Practice in wheel throwing, sculpture, various methods of hand building and glaze formation. Materials fee required. Prerequisite: consent of instructor. LA-TCE.

**ART 246 HISTORY OF MODERN AND CONTEMPORARY ART - 3 hours**

History of art from the 1800s to the present, including both European and American movements and the impact of photography. LA-EAH.

**ART 253 WOMEN IN THE ARTS - 3 hours**

This course offers an introduction to women's important and exciting participation and representation in the arts (visual art, music and literature) from a range of cultures and periods and in various media and forms. In addition to studying the creative works of women, our investigations will also address the ways gender identity is constructed in the arts, the conditions under which women have struggled and the ideologies and institutions that have and continue to shape women's relationships to the arts. LA-EAH.

**ART 261 GRAPHIC DESIGN CONCEPTS AND VECTORS - 3 hours**

An introduction to the broad field of graphic design. This course will include visual problem-solving, logo development and layouts using industry-standard software, such as Adobe products and will culminate in client-based projects. LA-TCE.

**ART 310 PAINTING II - 3 hours**

Students design a series of paintings in various media. Emphasis is placed on organized process, implementation of the student-designed projects and quality of the final pieces. Prerequisites: ART 210.

**ART 313 FIGURE DRAWING II - 3 hours**

Further exploration of art based on drawing from live models. Emphasis placed on organized process, implementation of the student-designed projects and quality of the final pieces. Prerequisite: ART 213.

**ART 341 ADVANCED CERAMICS STUDIO - 3 hours**

Further exploration of Ceramics studio work. Emphasis placed on organized process, implementation of the student-designed projects and quality of the final pieces. Prerequisite: ART 241.

**ART 475 INTERNSHIP - 1-12 hours**

Students will work with professionals in institutions or occupations related to their educational goals. They might act as research assistants, helpers in photo labs, catalogers, text-panel writers or packers/unpackers for art exhibits. This experience links classroom instruction to actual career responsibilities. The student is supervised by a professional employed by the specific agency. May be repeated for a maximum of twelve hours of credit. Prerequisite: approval of the department chair.

**BIOL 104 THE SCIENCE OF HUMAN HEALTH - 3 hours**

An introduction to the basic scientific principles related to the human body, with a focus on several physiological systems. The basic foundations of principles of physics and chemistry will be discussed specifically in how they help us understand the normal biological functions of these physiologies. In addition, pathologies of these systems will be discussed from a variety of perspectives including current and proposed treatments. These will serve as the vehicle for considering how scientific methodology illuminates issues in both the personal and public arenas. Statistical analysis of effectiveness of treatments will also be included. LA-ENS.

**BIOL 106 PRINCIPLES OF BIOLOGY I - 3 hours**

An examination of the nature of science and scientific thinking through an introduction to living organisms and their relationship to the environment. Biostatistics, biodiversity and ecological processes will be covered.

**BIOL 106L PRINCIPLES OF BIOLOGY I LAB - 1 hour**

An examination of the nature of science and scientific thinking through an introduction to living organisms and their relationship to the environment. Biostatistics, biodiversity and ecological processes will be covered. Prerequisite: Completion of or concurrent enrollment in BIOL 106.

**BIOL 108 PRINCIPLES OF BIOLOGY II - 3 hours**

Integrating principles of biology, stressing the common responses of life to the problems of existence. Major topics include cellular organization of organisms, genetics, evolution and organismic processes that maintain life. Examples drawn primarily from vertebrates and vascular plants. The associated laboratory (BIOL 108L) involves animal dissection.

**BIOL 108L PRINCIPLES OF BIOLOGY II LAB - 1 hour**

Laboratory experience in microscopy, Mendelian genetics, population genetics and anatomy and physiology of selected animals and plants. Data interpretation and scientific writing (laboratory reports and laboratory notebooks) will be emphasized. Prerequisite: Completion of or concurrent enrollment in BIOL 108.

**BIOL 202 FUNDAMENTALS OF HUMAN ANATOMY - 3 hours**

A regional approach to the study of human structure. Emphasis is on the basic structural organization of the human body, underlying anatomical principles and the anatomical details appropriate for allied health students. Cannot be taken for credit within the biology major.

**BIOL 202L FUNDAMENTALS OF HUMAN ANATOMY LAB - 1 hour**

Laboratory course to complement BIOL 202. Laboratory work in identifying anatomical structures in humans. Emphasis on musculoskeletal, circulatory and nervous systems. Prerequisite: Completion of or concurrent enrollment in BIOL 202.

**BIOL 204 FUNDAMENTALS OF HUMAN PHYSIOLOGY - 3 hours**

An introduction to the basic principles of human physiology. Emphasis is on the basic functional mechanisms operating at the cellular organ and system levels as well as the integrative control process that regulate each system. Cannot be taken for credit within the major following BIOL 422.

**BIOL 204L FUNDAMENTALS OF HUMAN PHYSIOLOGY LAB - 1 hour**

Laboratory work supplements the investigation of the systems covered in BIOL 204. Prerequisite: Completion of or concurrent enrollment in BIOL 204.

**BIOL 219 MICROBIOLOGY FOR HEALTH SCIENCES - 3 hours**

Understanding the taxonomy, morphology and physiology of microorganisms and the interaction between microorganisms and humans. Special emphasis on the causation and spread of diseases. Prerequisites: BIOL 106/106L and BIOL 108/108L; or BIOL 202/202L and BIOL 204/204L. Not to be counted in the completion of the major.

**BIOL 219L MICROBIOLOGY FOR HEALTH SCIENCES LAB - 1 hour**

Laboratory experiences in growing, controlling and identifying bacteria with mastery in microscopy and aseptic techniques. Prerequisite: Completion of or concurrent enrollment in BIOL 219.

**BIOL 225 CONSERVATION BIOLOGY - 2 hours**

Definitions and origin of biodiversity, threats to its maintenance, value of preserving variety, ecological and genetic principles relating to preservation and practical strategies for preservation.

**BIOL 225L CONSERVATION BIOLOGY LAB - 1 hour**

Data collection and hypothesis testing in conservation biology. Prerequisite: Completion of or concurrent enrollment in BIOL 225.

**BIOL 229 INTRODUCTION TO MOLECULAR BIOLOGY - 3 hours**

Introduction to the major classes of biological molecules. Structures and functions of carbohydrates, lipids, proteins and nucleic acids will be covered in addition to examples of cell structures, enzymes and metabolic pathways. Prerequisites: One year of biology and one year of chemistry.

**BIOL 229L INTRODUCTION TO MOLECULAR BIOLOGY LAB - 1 hour**

Focus is on the isolation and measurement of carbohydrates, lipids, proteins and nucleic acids. Experience in thin layer chromatography, spectrophotometry, electrophoresis and light microscopy. Prerequisite: Completion of or concurrent enrollment in BIOL 229.

**BIOL 245 PLANT SCIENCES - 3 hours**

The biology of plants and how plants interact with the environment. Particular emphasis on human uses including plant products, agronomy, forestry and horticulture. Prerequisite(s): BIOL 106, 106L, 108, 108L.

**BIOL 245L PLANT SCIENCES LAB - 1 hour**

Techniques in studying plants, their cultivation and use. Prerequisite: Completion of or concurrent enrollment in BIOL 245.

**BIOL 260 GENETICS - 3 hours**

This course will explore the nature of genetic material, inheritance patterns, gene expression and regulation and the methods and tools used in the field. Prerequisite: BIOL 106, 106L, 108 and 108L.

**BIOL 312 MARINE BIOLOGY - 3 hours**

The ocean as an environment, a survey of marine communities and adaptive strategies of organisms that live there. Emphasis on the biology, ecology and life histories of marine organisms. Prerequisites: BIOL 106 and 108.

**BIOL 313 MICROBIOLOGY - 3 hours**

From the discovery of microbes to the current research driving the field forward, students will examine the role microbes play in shaping this planet. Identification of major microbial groups, understanding basic principles of microbiology and the relationship between microbes and the environment and their hosts will be explored. Prerequisite: BIOL 229 or BIOL 260.

**BIOL 313L MICROBIOLOGY LAB - 1 hour**

Laboratory experiences in identification, classification and isolation of bacteria and mold from known cultures and environmental unknowns. Students will evaluate the effectiveness of environmental conditions and chemical compounds on controlling microbial growth. Mastery will be achieved in aseptic techniques and microscopic examination. Prerequisites: BIOL 229/229L or Genetics 260 and completion of or concurrent enrollment in BIOL 313.

**BIOL 315 ECOLOGY - 3 hours**

Relationships of individual organisms to the environment; structure and dynamics of single-species populations; interactions between and among populations; and the structure, dynamics and function of biotic communities. Prerequisites: BIOL 106, 106L, 108, 108L.

**BIOL 315L ECOLOGY LAB - 1 hour**

Collection, analysis and presentation of ecological data. Prerequisite: Completion of or concurrent enrollment in BIOL 315.

**BIOL 322L PLANT PHYSIOLOGY LAB - 1 hour**

Laboratory and field study of water relations, photosynthesis, growth and other plant processes. Prerequisite: Completion of or concurrent enrollment in BIOL 322.

**BIOL 331 INVERTEBRATE ZOOLOGY - 3 hours**

An introduction to major invertebrate phyla of the animal kingdom. Morphological and taxonomic characteristics, functional and evolutionary relationships, natural history and ecological relationships and life cycles of representative types will be discussed. Prerequisites: BIOL 106, 106L, 108, 108L.

**BIOL 331L INVERTEBRATE ZOOLOGY LAB - 1 hour**

A survey of major invertebrate phyla with dissections. Some outside collections will be made. A detailed laboratory notebook is required. Prerequisite: Completion of or concurrent enrollment in BIOL 331

**BIOL 364 COMPARATIVE VERTEBRATE ANATOMY - 3 hours**

An evolutionary and comparative morphological study of the organ systems in the phylum Chordata. Emphasis of the course is on the functional significance of specific vertebrate structural adaptations and their inclusion in the basic vertebrate body plan. The associated laboratory BIOL 364L requires animal dissection. Prerequisites: BIOL 106, 106L, 108, 108L.

**BIOL 364L COMPARATIVE VERTEBRATE ANATOMY LAB - 1 hour**

Laboratory experience in the dissection and identification of the various vertebrate anatomical systems including the integumentary, skeletal, muscular, circulatory, digestive, renal, reproductive and nervous systems. Emphasis will be on the cat as a representative mammal with frequent references to other vertebrates and chordates. The laboratory requires animal dissection. Prerequisites: BIOL 106, 106L, 108, 108L and completion of or concurrent enrollment in BIOL 364.

**BIOL 365 CELL BIOLOGY - 3 hours**

Structural and physiological aspects of the cell; its molecular subcellular and cellular organizations with emphasis on various microscopic and cytological techniques; its function as related to its organization including permeability, metabolism, reproduction, differentiation and certain other specialized functions. Prerequisite: BIOL 229 and 229L.

**BIOL 395 ORIENTATION TO RESEARCH - 1 hour**

An introduction to searching and interpreting scientific literature and to posing and developing research questions in the field of biology. Students develop a viable research proposal under the direction of a faculty mentor. Prerequisites: BIOL 106, 106L, 108, 108L; FYWS.

**BIOL 413 LIMNOLOGY - 3 hours**

An in-depth examination of the ecological relationships across the biological, chemical and physical parameters of inland lakes and streams. A watershed approach will be emphasized. Prerequisites: BIOL 106, 106L, 108, 108L, one college-level chemistry class with laboratory.

**BIOL 413L LIMNOLOGY LAB - 1 hour**

Laboratories will provide the necessary skills to plan and execute research and interpret data from on-site lake and stream studies. Writing laboratory reports in scientific format and keeping an appropriate laboratory notebook is required. Prerequisite: Completion of or concurrent enrollment in BIOL 413.

**BIOL 422 ADVANCED HUMAN PHYSIOLOGY - 3 hours**

A survey of human organ systems, their specific processes and the nervous and hormonal processes integrating the activity of the various systems. Topics include cellular metabolism, blood, nerve and muscle function, circulation, respiration, digestion, water and electrolyte balance and the nervous and endocrine systems. Prerequisites: BIOL 106, 106L, 108, 108L; one year of chemistry. (Exercise Science majors may substitute BIOL 204, 204L and ESAT 325 for BIOL 106 and BIOL 106L).

**BIOL 422L ADVANCED HUMAN PHYSIOLOGY LAB - 1 hour**

Laboratory experience in the collection and analysis of physiological variables of vertebrates. Investigations focus on the responses of most major physiological systems (including integumentary, muscular, circulatory, digestive, renal, respiratory, nervous and sensory systems). Investigations will utilize various vertebrates including humans. Completion of or concurrent enrollment in BIOL 422. Prerequisites: BIOL 106, 106L, 108, 108L.

**BIOL 431 IMMUNOLOGY - 3 hours**

Cells and tissues of the immune system and the nature and function of antigens and antibodies. Survey of immune capabilities of humans and animals, immune diseases, immunodeficiency states, transplantation of organs and the influence of nutrition on the immune system. Prerequisite: BIOL 365 or BIOL 313.

**BIOL 475 INTERNSHIP IN BIOLOGY - 3 hours**

Student interns will function as applied professionals in biology or related field in order to understand the real-world application of biological concepts and to develop critical-thinking and technical skills, as well as professionalism. May not be repeated for credit. Prerequisite: junior standing or above, appropriate course work in biology or related discipline and instructor permission.

**BIOL 496 RESEARCH IN BIOLOGY - 1-3 hours**

Students will work under the direction of a faculty mentor in order to develop a research question, collect and analyze data and communicate results in both written and oral formats. This course may be repeated for a total of three hours. Prerequisite: instructor permission.

**BUS 106 COMPUTER APPLICATIONS: VARIABLE TOPICS - 1 hour**

This course introduces students to computer software applications commonly used in business. Variable topics may include word processing, spreadsheets, database applications, presentation graphics, accounting applications or web design. This course may be repeated with different topics.

**BUS 111 FOUNDATIONS OF BUSINESS - 3 hours**

Students examine the basic elements of business enterprises with emphasis on marketing and management. Topics include the marketing mix and the functions of management as well as introductions to finance and accounting. No previous exposure to studying business is required or expected.

**BUS 117 PRINCIPLES AND PRACTICES IN SPORT MANAGEMENT - 3 hours**

Students examine the relationships, goals and missions that are relevant in gaining a general understanding of the sport industry. Topics include the history and evolution of sport

management, current trends in the profession, career options and professional development and an introduction into the major areas of the field.

**BUS 130 INTRODUCTION TO ESPORTS MANAGEMENT - 3 hours**

Students examine the different business segments of esports to gain a general understanding of the esports industry. Students will also learn about the esports ecosystem and the complexity involving different stakeholders. Topics include esports culture, the structure of esports business, governance at multiple levels and emerging career paths.

**BUS 202 EXPLORING INTERNATIONAL BUSINESS - 3 hours**

Students explore international business in one or more countries outside the United States. Topics include international marketing, advertising, manufacturing, distribution, tourism and promotion. No previous exposure to studying business is required or expected. LA-FCG.

**BUS 209 INTRODUCTION TO SALES - 3 hours**

Students explore the role of the selling function in the marketing mix. Topics include personal selling theory and practice, business-to-business theory and practice and an introduction to managing the sales force and designing sales territories.

**BUS 210 BUSINESS DATA ANALYSIS- 3 hours**

Students examine the process of transforming data to support business decision making. The focus of this course is developing the skills of students to pose questions of data, explore the data, draw conclusions and communicate the results to stakeholders.

**BUS 230 ESPORTS PERFORMANCE MANAGEMENT - 3 hours**

Students examine the roles of the esports coaches and managers at all levels including youth, amateur, university and professional. The topics focus on coaching concepts and strategies as it relates to communication, training, psychological and mental health, team building, evaluation, grassroots development, talent management and budget/financial planning. Prerequisite: BUS 111 or BUS 130.

**BUS 231 PRINCIPLES OF MANAGEMENT - 3 hours**

Students build upon the basic elements of the management process examined in BUS 111, exploring management in greater depth in the modern organization. Topics include planning organizing, leading and controlling, as well as management's impact on organizational effectiveness, employee productivity and employee satisfaction. Prerequisite: BUS 111.

**BUS 234 PRINCIPLES OF MARKETING - 3 hours**

Students build upon the basic elements of the marketing mix examined in BUS 111, exploring marketing in greater depth in the modern organization. Topics include the development of the marketing plan (products and services, pricing, promotion and distribution), as well as introductions to consumer behavior, market research, market segmentation, business -to-business marketing and the social responsibilities of marketers. Prerequisite: BUS 111, LA – TCE.

**BUS 241 SOCIAL AND ETHICAL ISSUES IN SPORT - 3 hours**

Students examine the social issues and policies that shape the climate of the current sport industry. Topics include psychosocial factors that affect the industry, ethical dilemmas, decision making, policies in sport governing bodies and the intersection between sport and various social institutions. LA-TFR.

**BUS 245 GOVERNANCE AND POLICY IN SPORT MANAGEMENT - 3 hours**

Students examine the organizational structure of a variety of athletic governing bodies. Topics include league structure and decision-making, conferencing of scholastic/intercollegiate athletics and professional sport, Olympic structure and governing policy development and management. Prerequisite: BUS 117.

**BUS 250 BUSINESS ECONOMICS - 3 hours**

Students examine the impact of economics on business by analyzing and understanding societal conditions stemming from national income, supply and demand, public provisions of goods, inflation and income. The emphasis of this course is on supply and demand theory, market theory, banking, fiscal and US monetary policies within the economic framework. Topics include trade-offs, opportunity costs, labor markets, resource allocation, income distribution and elasticity. LA-ESS.

**BUS 301 PROMOTION AND ADVERTISING - 3 hours**

Students examine the role of advertising in the marketing mix. Topics include all promotional mix elements with an emphasis on advertising; promotion strategies; market segmentation; brand positioning; creativity models; and regulatory, public policy and ethical issues.

**BUS 306 DIGITAL MARKETING - 3 hours**

Digital marketing is the dominant form of marketing in business. The Internet, smart devices, e-commerce and social media dominate the marketing landscape in organizational advertising and consumer usage. The course involves digital strategy, metrics, creative elements and ethical considerations. The final project involves a substantive evaluation and creation of a digital marketing strategy for an organization. Prerequisite: BUS 234.

**BUS 310 BUSINESS INFORMATION SYSTEMS - 3 hours**

Students examine information systems as well as system development through systems analysis, design and implementation. Topics include business processes, information flows, systems documentation, internal controls and relational database concepts. Prerequisite: ACCT 200 and BUS 210.

**BUS 313 BUSINESS LAW I - 3 hours**

Students examine the legal environment in which businesses operate. Topics include contracts, sales and introductions to business organizations, employment law and commercial paper.

**BUS 318 ADVANCED PROFESSIONAL SALES - 3 hours**

Students explore sales technology and decision-making systems that support achievement of sales objectives. Topics include customer relationship management systems (CRM), sales enablement and new technology, informational interviews, sales role plays and social selling. Prerequisite: BUS 209.

**BUS 322 SALES FORECASTING - 3 hours**

Students examine the role of formal statistical techniques in the forecasting of product sales and market demand. Topics include forecasting methods and model selection, forecasting with regression models, forecasting with time-series models and the evaluation of forecast accuracy. Prerequisites: BUS 234, MATH 211.

**BUS 363 MARKETING AND SPONSORSHIP IN SPORT - 3 hours**

Students examine principles of marketing and sponsorship related to the sport and fitness industry including professional sports, corporate fitness, college/high school athletics, clubs and resorts. Topics include sport consumer behavior, market segmentation, applying marketing mix concepts, creating marketing plans and creating sponsorship packages. Prerequisite: BUS 111 or BUS 117.

**BUS 369 EVENT AND FACILITY MANAGEMENT - 3 hours**

Students examine the multi-faceted nature of event and facility planning organizing and management. Topics include strategic planning in event and facility development, financing and revenue generation, event and facility operations and evaluation. Prior completion of BUS 363 preferred. Prerequisite: BUS 111 or BUS 117.

**BUS 425 SPORT MANAGEMENT SEMINAR - 3 hours**

Students examine strategic management issues in the sport business industry. Topics include management functions within sport, policy development, effective organizational leadership and decision making, corporate social responsibility and organizational change. Prerequisite: BUS 117, 363.

**BUS 430 CONTEMPORARY ISSUES IN ESPORTS - 3 hours**

Students examine contemporary issues in esports by focusing on social issues, policies and legal aspects that impact the esports ecosystem including talent, teams, publishers and event organizers. Topics include intellectual property, equality, diversity, international issues and social/ethical issues relating to esports business practices.

**BUS 431 SALES AND ENTREPRENEURSHIP - 3 hours**

Students explore the intersection between the sales function and the small business start-up and the differences between selling an established product or service and selling in the start-up context. Topics include selling to multiple audiences (e.g., investors, customers, government) and moving others to believe in the entrepreneur and in her or his vision for the future. Prerequisite: BUS 209.

**BUS 435 INTERNSHIP - 0-12 hours**

This course option grants academic credit for a supervised professional experience designed to give students experience in their fields of study. Evaluation of the experience is provided by the student, the student's supervisor in the internship and a Manchester University supervising instructor. This course may be repeated for a maximum of 12 hours of credit. Prerequisite: Approval of the department's internship committee. Grading is P/NP.

**BUS 441 MANAGING A DIVERSE WORKFORCE - 3 hours**

Students examine the aspects of human resource management. Topics include workforce performance assessment and development, compensation and benefits, managing human resources, acquiring and retaining talent organizational culture, diversity and inclusion, leadership and strategic human resource management. Prerequisites: BUS 111.

**BUS 444 OPERATIONS MANAGEMENT - 3 hours**

Students examine the processes by which land, labor and capital are transformed into goods and services. Topics include forecasting, inventory management, quality management, location planning and waiting lines. Prerequisites: BUS 111, MATH 211.

**BUS 445 MARKETING MANAGEMENT- 3 hours**

Students examine all elements of the marketing mix and develop a marketing plan for a product or service. Topics include new product and service development, pricing, promotion, segmentation, customer relationship management and Internet marketing. Prerequisite: BUS 234.

**BUS 453 SALES MANAGEMENT - 3 hours**

Students explore sales technology along with the responsibilities of sales executives and field sales managers. Topics include CRM; time and territory management; sales presentations; and sales force design, recruiting, training, motivation, compensation and evaluation. Prerequisite: BUS 209.

**BUS 454 STRATEGIC MANAGEMENT - 3 hours**

Strategic Management capitalizes on the basic functions of management to devise a road map for the organization's future. Students will embark on strategy formulation and choose a set of actions that lead to achievement of the organization's objectives. Then, students develop an implementation plan drawing on capital and human resources and, finally, learn evaluation and control processes to ensure intended results are attained. Through the systematic approach of the strategic management process, an organization's performance is optimized and benefits to stakeholders enhanced.

**BUS 455 PRINCIPLED LEADERSHIP - 3 hours**

Students explore leadership in multiple contexts including business, community and other organizations. Topics include styles and traits of both effective and ineffective leaders along with the role of organizational culture in leadership effectiveness. No previous exposure to studying business is required or expected. LA-TBI.

**BUS 461 MARKETING RESEARCH - 3 hours**

Students examine the use of research as a basis for marketing decision making. Topics include sources of marketing information; sampling; design of surveys and experiments; forecasting; and methods of analyzing, interpreting and using data. Prerequisites: BUS 234, MATH 211.

**BUS 474 CASE STUDIES IN BUSINESS - 3 hours**

Using the case method, students in this capstone course synthesize the materials examined in the other courses required in their majors. Students hone critical thinking as well as oral and written presentation skills in the context of analyzing unstructured business problems. Prerequisites: senior status; BUS 111, 313, FIN 333.

**BUS 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**BUS 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussion.

**CHEM 101 CHEMICAL SCIENCE - 3 hours**

Applications of chemistry in society. Topics covered include an introduction to chemical bonding, chemical energy and organic chemistry. These concepts are applied to fossil fuels, the food system, nutrition, drugs, plastics and current topics of pollution. LA- ENS.

**CHEM 105 INTRODUCTION TO INORGANIC CHEMISTRY - 3 hours**

A broad overview of the basic theory and principles of general and inorganic chemistry. Topics include bonding theories, stoichiometry, thermodynamics, kinetics, acids and bases and nuclear chemistry. The CHEM 105 and 106 sequence is recommended for students needing one year of chemistry. Prerequisite: Completion of or concurrent enrollment in MATH 105 or placement into a higher-level MATH course. Prerequisites: concurrent enrollment in CHEM 105R.

**CHEM 105L INTRODUCTION TO INORGANIC CHEMISTRY LAB - 1 hour**

Focuses on investigation of the topics covered in CHEM 105, including stoichiometry, thermodynamics, kinetics and acid-base chemistry. Prerequisite: Concurrent enrollment or successful completion of CHEM 105.

**CHEM 105R INTRODUCTION TO INORGANIC CHEMISTRY RECITATION - 1 hour**

Supplemental instruction to accompany Introduction to Inorganic Chemistry I Lecture. This course will focus on problem solving related to lecture content. Prerequisites: Concurrent enrollment in CHEM 105.

**CHEM 106 INTRODUCTION TO ORGANIC CHEMISTRY - 3 hours**

Emphasizes organic and biological aspects of chemistry. Lectures cover bonding, structure, reactions and naming of organic and biologically important molecules. Applications of organic chemistry to life sciences, industry and the home are stressed. The CHEM 105 and 106 sequence is recommended for students needing one year of chemistry. Prerequisite: CHEM 105.

**CHEM 106L INTRODUCTION TO ORGANIC CHEMISTRY LAB - 1 hour**

Focuses on investigation of the topics covered in CHEM 106, including properties of organic compounds, reactivity, synthesis. Prerequisites: CHEM 105L and concurrent enrollment or successful completion of CHEM 106.

**CHEM 111 GENERAL CHEMISTRY I - 3 hours**

Basis for all higher-level chemistry courses. Topics covered include atomic and molecular structure; stoichiometry; energy relationships; bonding; and solid, liquid and gaseous states. Prerequisite: Completion of MATH 105 or placement into a higher-level MATH course. Prerequisite: Concurrent enrollment in CHEM 111R.

**CHEM 111L GENERAL CHEMISTRY I LAB - 1 hour**

Laboratory experience in stoichiometry and introductory quantitative analysis supplement the classroom material. Prerequisite: Successful completion of or concurrent enrollment in CHEM 111.

**CHEM 111R GENERAL CHEMISTRY I RECITATION - 1 hour**

Supplemental instruction to accompany General Chemistry I Lecture. This course will focus on problem solving related to lecture content. Prerequisites: Concurrent enrollment in CHEM 111.

**CHEM 113 GENERAL CHEMISTRY II - 3 hours**

Thermodynamics as it relates to chemical equilibrium, acid-base systems and slightly soluble salts. The theory and application of kinetics to chemical systems is covered. Appropriate descriptive chemistry is included at all phases of the course. Prerequisite: CHEM 111 and concurrent enrollment in CHEM 113R.

**CHEM 113L GENERAL CHEMISTRY II LAB - 1 hour**

Includes work in kinetics, colligative properties and ionic equilibria. Prerequisites: CHEM 111L, successful completion of or concurrent enrollment in CHEM 113.

**CHEM 113R GENERAL CHEMISTRY II RECITATION - 1 hour**

Supplemental instruction to accompany General Chemistry II Lecture. This course will focus on problem solving related to lecture content. Prerequisites: Concurrent enrollment in CHEM 113.

**CHEM 136 FORENSIC SCIENCE - 3 hours**

Various aspects of analysis in the crime laboratory. Fingerprinting, drug analysis, arson investigation, blood analysis, DNA analysis, ballistics and a variety of other topics will be studied. Laboratory work will be emphasized. LA-ENS.

**CHEM 235 ANALYTICAL CHEMISTRY - 3 hours**

An introduction to volumetric, photometric, chromatographic, potentiometric and gravimetric analytical techniques. Prerequisites: CHEM 113.

**CHEM 235L ANALYTICAL CHEMISTRY LAB - 1 hour**

Laboratory work requires the use of spreadsheets for data analysis and computer searching of the Chemical Abstracts database. Students will also investigate acid-base equilibria, redox equilibria, spectroscopic techniques and separations. Prerequisite: CHEM 113L and concurrent enrollment or successful completion of CHEM 235.

**CHEM 311 ORGANIC CHEMISTRY I - 3 hours**

Fundamental concepts of organic chemistry including bonding, nomenclature, isomerism, stereochemistry and the relation of structure to chemical and physical properties are covered. Descriptive chemistry and reaction mechanisms related to hydrocarbons, alkyl halides and

alcohols are included. Prerequisite: A grade of C- or higher in CHEM 113 and concurrent enrollment in CHEM 311R.

**CHEM 311L ORGANIC CHEMISTRY I LAB - 1 hour**

Experience in techniques of purification, separation and identification. Reactions illustrative of topics covered in lecture are included. Prerequisites: CHEM 113L and successful completion of or concurrent enrollment in CHEM 311.

**CHEM 311R ORGANIC CHEMISTRY I RECITATION - 1 hour**

Supplemental instruction to accompany Organic Chemistry I Lecture. This course will focus on problem solving related to lecture content. Prerequisites: Concurrent enrollment in CHEM 311.

**CHEM 312 ORGANIC CHEMISTRY II - 3 hours**

Concepts covered in CHEM 311 as applied to the chemistry of aromatics, carbonyl compounds, amines, carbohydrates, etc. Continues to use reaction mechanisms and reactive intermediates in understanding the reactions of these compounds. Applications to related fields are made. Prerequisite: Must receive a C- or above in CHEM 311 and concurrent enrollment in CHEM 312R.

**CHEM 312L ORGANIC CHEMISTRY II LAB - 1 hour**

Experience in functional group transformation, synthetic sequences and laboratory techniques. Prerequisite: CHEM 311L; successful completion of or concurrent enrollment in CHEM 312.

**CHEM 312R ORGANIC CHEMISTRY II RECITATION - 1 hour**

Supplemental instruction to accompany Organic Chemistry II Lecture. This course will focus on problem solving related to lecture content. Prerequisites: Concurrent enrollment in CHEM 312.

**CHEM 313L SURVEY OF ORGANIC SYNTHESIS TECHNIQUES II - 1 hour**

Virtual experience in functional group transformation, synthetic sequences and laboratory techniques. Lab activities will be entirely virtual and will focus on data analysis. Prerequisite: CHEM 311L; successful completion of or concurrent enrollment in CHEM 312.

**CHEM 341 PHYSICAL CHEMISTRY I - 3 hours**

Foundations of quantum mechanics for describing atomic structure, molecular motion and chemical bonding, with specific applications to spectroscopy and chemical reactivity. Prerequisite(s): CHEM 113, MATH 122.

**CHEM 341L PHYSICAL CHEMISTRY I LAB - 1 hour**

Laboratory to accompany CHEM 341. Prerequisite: CHEM 113L, CHEM 341 concurrent enrollment.

**CHEM 342 PHYSICAL CHEMISTRY II - 3 hours**

Principles of chemical thermodynamics and statistical thermodynamics, with application to pure substances and mixtures. It also applies the principles of chemical kinetics and dynamic equilibrium theory to a variety of chemical applications, including electrochemistry and spectroscopy. Prerequisites: CHEM 113, MATH 122, PHYS 220.

**CHEM 342L PHYSICAL CHEMISTRY II LAB - 1 hour**

Laboratory to accompany CHEM 342. Prerequisites: CHEM 113L, CHEM 342 concurrent enrollment.

**CHEM 405 BIOCHEMISTRY I - 3 hours**

The chemical aspects of living organisms with an emphasis on structure-function relationships. Topics include biomonomers, protein structure and function and degradative and synthetic biochemical cycles. Prerequisite: CHEM 312, FYWS.

**CHEM 405L BIOCHEMISTRY I LAB - 1 hour**

Experience in the isolation, purification and characterization of proteins. Prerequisites: CHEM 312L, 405 concurrent.

**CHEM 406 BIOCHEMISTRY II - 3 hours**

Advanced topics on the chemical aspects of living organism with an emphasis on biopolymer interactions. Topics include protein-nucleic acid interactions, genetic information processing and molecular physiology. Prerequisite: CHEM 405.

**CHEM 412 MEDICINAL CHEMISTRY - 3 hours**

A survey of medicinal chemistry topics, including drug discovery and development, intellectual property, metabolism and drug-body interactions. Prerequisite: CHEM 312.

**CHEM 425 ADVANCED ORGANIC CHEMISTRY - 3 hours**

Advanced organic chemistry from a perspective of either physical organic and mechanistic studies or synthetic organic methodologies. The use of chemical literature is used to develop an understanding of current methods and techniques for studying organic chemistry. Prerequisite: CHEM 312.

**CHEM 435 ADVANCED INORGANIC CHEMISTRY - 3 hours**

Electronic structures and periodicity of elements. Includes bonding theories for covalent, ionic and metallic compounds; molecular symmetry; acid-base theories; and redox, transition metal and organometallic chemistry. Prerequisite: completion of or current enrollment in CHEM 341.

**CHEM 441 ADVANCED ANALYTICAL LAB I - 1 hour**

Experience in the use of chemical instrumentation. Various methods will include spectroscopy, chromatography, mass spectrometry, electrochemistry and others. Includes three hours of laboratory work per week. Prerequisite: CHEM 235, 235L.

**CHEM 443 ADVANCED ANALYTICAL LAB II - 1 hour**

Experience in the use of chemical instrumentation. Multi-week projects of chemical, environmental and biochemical analysis involving multiple methods will be employed. Various methods will include spectroscopy, chromatography, mass spectrometry, electrochemistry and others. Includes three hours of laboratory work per week. Prerequisite: CHEM 235, 235L.

**CHEM 475 INTERNSHIP - 2-4 hours**

Students with junior or senior status work in a professional setting related to chemistry: industrial, governmental or private research facilities. The students are supervised and

evaluated by professionals who submit reports to the students and the chemistry faculty supervisor. May be repeated once with consent of the department. Prerequisite: FYWS and Instructor permission.

**CHEM 496 RESEARCH - 1-4 hours**

Independent research under the supervision of a faculty member or other designee. Prerequisite: Instructor permission.

**CHEM 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions. Prerequisite: Instructor permission.

**CHEM T12 KITCHEN CHEMISTRY - 3 HOURS**

Cooking is one of the oldest types of science experimentation. This course will introduce students to the science behind many of the foods we eat. Students will learn basic information about the chemical, physical and biological processes that allow people to cook and bake food. Students are required to cook and bake recipes throughout the course.

**COMM 110 FOUNDATIONS OF HUMAN COMMUNICATION - 3 hours**

Examines a broad variety of communication contexts focusing both on the theoretical foundations and the development of communication skills. The course covers the definition and models of communication, including basic concepts such as the speaker, the listener and the message. The course also addresses mediating variables that affect communication across contexts, such as gender and culture. Finally, the course demonstrates how to communicate effectively in various settings, including interpersonal, group, public and mediated communication. LA-FCS.

**COMM 130 MEDIA LITERACY - 3 hours**

Media analysis, interpretation and creation. Topics include media literacy, effects, audiences, economics, history, narrative structures and forms. Projects are designed to increase students' media literacy and introduce media production tools.

**COMM 210 INTERPERSONAL COMMUNICATION - 3 hours**

A study of the factors involved in sending and receiving messages in interpersonal relationships. The student is encouraged to develop increased awareness of the effect one's communicating has on others and on the self. Both theoretical and applied aspects are stressed.

**COMM 212 SMALL GROUP COMMUNICATION - 3 hours**

An introduction to small group communication theory and practice. Lectures and assignments will provide the opportunity to examine the impact of the following on communication in a small group setting: group roles, leadership, group interaction patterns and group formation and development. LA-ESS.

**COMM 220 INTRODUCTION TO HEALTH COMMUNICATION - 3 hours**

Examines the ways communication shapes health and health practices. Topics may include provider-patient communication organizational communication in health contexts,

communication in community health education, information technologies in health communication and communication training for health care professionals. Students come away with a broad understanding of the implications of health communication on self and society.

**COMM 221 COMMUNICATION AND SOCIAL ACTIVISM - 3 hours**

Students examine how communication functions to create, maintain and reproduce social movement campaigns. Students will analyze the communication utilized in historical and current social movement campaigns. Students will develop a social justice orientation and organize their own communication campaign centered on a social movement.

**COMM 230 APPLIED THEORIES OF COMMUNICATION - 3 hours**

Students apply communication theory to examine human interaction, both interpersonally and in the larger social world. Emphasis on theories that can be applied in COMM 370.

**COMM 232 DIGITAL STORYTELLING I - 3 hours**

Introduces students to digital storytelling. Students tell stories across a website using text, audio, video, photos and graphics. Topics such as interactivity, convergence, virtual reality and fan cultures are emphasized.

**COMM 234 INTRODUCTION TO SOCIAL MEDIA - 3 hours**

This course encourages hands-on familiarity with current social media platforms, explores the history of social media and discusses ethical considerations for social media use. Prerequisite: COMM 110.

**COMM 235 COMMUNITY PODCASTING - 3 hours**

Students use microphones, digital audio files, audio production software and the Spartan Stream production facilities to tell stories that are relevant to the North Manchester community. Students record and edit stories and then create Spartan Stream channels for them. Lectures include formal instruction on equipment usage, audio composition and the role of podcasting in communities.

**COMM 240 PROFESSIONAL COMMUNICATION - 3 hours**

A study of and hands-on experience with, professional presentations, interviews and negotiations. Course content will emphasize strategies, technology issues, verbal and nonverbal communication, roles and ethics.

**COMM 241 COMMUNITY HEALTH WORK - 3 hours**

In this course, we examine and analyze the broad context of public health, health inequality, public policy and community health. We then learn core competencies and skills relevant to community health work at the interpersonal, group and community levels. We explore application of these core competencies and skills to specific health topics within given situations. The course material comes recommended by the Indiana Community Health Workers Association which will provide an optional opportunity for students to earn certification as a community health worker through the association after the completion of this course.

**COMM 256 INTERCULTURAL COMMUNICATION - 3 hours**

An examination of how communication is influenced by culture and how culture is created and maintained through communication. Students explore the complex relationship between culture and communication and how these issues interact with context and power in intercultural interactions.

**COMM 260 INTRODUCTION TO PUBLIC RELATIONS - 3 hours**

An introduction to the ethical management of relationships between organizations and the publics that can affect their success. Students learn the public relations process of research, planning, communication and evaluation.

**COMM 314 LANGUAGE AND THOUGHT - 3 hours**

Examination of some of the connections between the structure of language and the structure of thinking. Types of misvaluations are analyzed in terms of the language habits from which they spring. Effort is made to help students be more aware of the interpersonal and organizational problems created by unexamined attitudes toward language.

**COMM 324 PERSUASION - 3 hours**

A study of the messages that move humans to act. Emphasis on the persuasive, argumentative and propagandistic appeals used to secure or resist social change. Students employ a number of analytical tools to build critical inquiry skills and develop advocacy skills by creating and presenting ethical arguments.

**COMM 336 VIDEO GAMES AND VIRTUAL IDENTITIES - 3 hours**

A study of the convergence of media and rhetoric in video games. Students learn how to analyze video games as cultural artifacts, as configurations of distinct but interlocking units of meaning. Lectures emphasize the interactivity, rhetoric and cultural implications of this emergent medium. Assignments include theoretical analyses and a presentation on contemporary issues.

**COMM 338 COMMUNICATION, TRAINING and DEVELOPMENT - 3 hours**

An in-depth exploration of the art and methods of training and development as applied to communication problems in organizational settings. Provides students the opportunity to develop and/or refine training and facilitation skills and to link communication theory and research to organizational practice. Students come away equipped to apply insights in organizational settings.

**COMM 341 COMMUNICATION IN ORGANIZATIONS - 3 hours**

An examination of approaches to the study of communication channels in complex organizations. Units cover organizational theories, communication climate, message flow, communication audit and communication with the public. Prerequisite: FYWS.

**COMM 345 APPLIED THEORIES OF COMMUNICATION - 3 HOURS**

Students explore and apply foundational communication theories to analyze and understand human interaction. Through critical examination, they will investigate the dynamics of communication in the broader societal contexts in which communication occurs, gaining practical insights into how theory informs real-world communication challenges.

**COMM 364 PRODUCING FOR THE INTERNET - 3 hours**

Producing for the Internet introduces students to production techniques and distribution practices for contemporary internet productions. The class places a particular emphasis on video streaming, website design and mobile app development. Students will learn about the increasingly diverse distribution economy of online content as well as practical skills to participate in Internet production, including the production of online video essays, personal websites for professionalization purposes and mobile application prototypes.

**COMM 370 RESEARCH METHODS - 3 hours**

This course provides an introduction to communication research. It includes framing appropriate questions for research, choosing a suitable qualitative or quantitative method and sample, crafting the research design and data collection. Data analysis and interpretation, as well as research ethics, are also addressed.

**COMM 375 INTERNSHIP IN COMMUNICATION STUDIES - 3 hours**

Students function as applied professionals in communication fields appropriate to their interests and training, including radio and television stations, theatres, public relations firms, etc. May not be repeated for credit. Application forms are available from faculty advisors. Prerequisite: Juniors or seniors majoring or minoring in communication studies, digital media or public relations.

**COMM 410 PROFESSIONAL COMMUNICATION - 3 hours**

A study of and hands-on experience with, communication in professional contexts. Course content will emphasize assessing and reflecting on communication and especially on learning and applying techniques for interpersonal and mediated communication with supervisors, co-workers, clients and high-conflict personalities.

**COMM 430 APPLIED STRATEGIC COMMUNICATION - 3 hours**

This is a capstone course designed to give students practical experience with understanding how elements of public relations, social media and digital media are integrated and applied to help organizations strategically achieve their objectives. Students will be assigned a client and will work together to design and execute their own campaign. EXL Designation. Prerequisite: COMM 232 or 260 or BUS 234.

**COMM 432 DIGITAL STORYTELLING II - 3 hours**

Digital Storytelling II is the capstone course in digital media. Students use cameras, microphones and editing software to create, edit and distribute documentary films. Students form production teams, plan projects and gather and edit footage. Activities include advanced instruction on equipment usage, video composition and distribution. Prerequisites: COMM 232.

**COMM 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean must also approve. A set of guidelines is available at the Office of the Registrar.

**COMM 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**CPTR 105 COMPUTER PROGRAMMING - 3 hours**

An introductory course in computer programming. Students will learn how to conceptualize, write and run programs. Programming topics include variables and types, methods, decision structures, loops, arrays, classes and objects. In addition to the syntax and semantics of programming, debugging, documentation and programming aesthetics are also emphasized. Prerequisite: MATH 105 or higher mathematics placement.

**CPTR 111 FOUNDATIONS OF COMPUTER SCIENCE I - 4 hours**

As a first course in Computer Science, the emphasis is on problem solving. Students will learn and apply the methods of computational thinking. They will learn how to decompose a problem into a computational solution that can be written as a computer program using if-statements, loops, classes and methods.

**CPTR 113 FOUNDATIONS OF COMPUTER SCIENCE II - 3 hours**

A continuation of Foundations of Computer Science I, the emphasis will be on extending and formalizing student knowledge of problem solving. Students will also be exposed to object-oriented design topics such as: information hiding, reusability coupling, cohesion, polymorphism and inheritance. Prerequisite: CPTR 111.

**CPTR 117 MOBILE APP DEVELOPMENT - 3 hours**

This course assumes no previous programming experience. Students will learn the basics of the mobile environment, mobile development tools and basic programming concepts in order to create their own mobile apps.

**CPTR 218 VIDEO GAME CREATION I - 3-4 hours**

An introduction to video game development. Students will join an interdisciplinary team to learn the process of creating a video game using industry standard software. Students will study graphics, story creation and programming.

**CPTR 231 OBJECT-ORIENTED PROGRAMMING - 3 hours**

This course will extend and formalize student knowledge of Object-Oriented Programming and Object-Oriented Design. Students will learn and practice polymorphism, the Unified Modeling Language (UML) and common design patterns. Emphasis will be to learn how to utilize Object-Oriented principles well. Prerequisite: CPTR 113.

**CPTR 308 COMPUTER ARCHITECTURE - 3 hours**

An introduction to the organization of computers. Topics include Turing Machines, information representation, assembly language programming, registers and Central Processing Units (CPU). These topics will be examined for their impact on software development. Prerequisite(s): CPTR 113, MATH 130.

**CPTR 310 ALGORITHMS AND DATA STRUCTURES - 3 hours**

This course explores the mathematical modeling of problems in computing. We will study the algorithms and data structures used for common tasks such as searching, sorting and solving graph and geometric problems. The course will rely heavily on programming as the means for presenting the solutions. The emphasis will be on constructing correct and efficient algorithms and on analyzing their performance. Prerequisite: CPTR 113, MATH 130.

**CPTR 318 VIDEO GAME CREATION II - 3-4 hours**

A continuation of Video Game Creation I. Students will further develop the video game concept they created CPTR 218. Using industry standard software, students will improve the story, graphics and game play of the video game. Prerequisite: CPTR 218.

**CPTR 340 SOFTWARE ENGINEERING METHODOLOGIES - 3 hours**

This survey course focuses on the software engineering processes of requirements engineering, architecture and design and quality. In this course a foundation for later studies will be laid by examining the trade-offs of a variety of software development philosophies/methodologies. Prerequisite: CPTR 113.

**CPTR 342 SOFTWARE QUALITY - 3 hours**

This course focuses on the software quality process. Students will learn and practice various techniques including test driven development, boundary condition testing, black and white box testing, regression testing and system verification/validation. Prerequisite: CPTR 113.

**CPTR 410 TOPICS IN COMPUTER SCIENCE - 3 or 4 hours**

This course will be offered based on sufficient interest of students and faculty in particular areas of computer science. Possible topics include artificial intelligence, numerical computation, computer graphics, expert systems, real-time systems, simulation, telecommunications, resource utilization, coding theory, UNIX and compiler design. This course requires significant independent work including a major research or programming project. Course may be repeated once on a different topic. Prerequisite: varies depending on topic.

**CPTR 420 SOFTWARE REQUIREMENTS ENGINEERING - 3 hours**

This course focuses on the software requirements engineering process. Students will learn and practice elicitation, documentation, verification and validation of software system requirements. Emphasis will be placed on using Unified Modeling Language (UML) and dealing with multiple audiences such as management stakeholders, end user stakeholders and technical stakeholders. Prerequisite: IDIV 205, CPTR 340.

**CPTR 422 SOFTWARE ARCHITECTURE AND DESIGN - 3 hours**

This course focuses on the software engineering process of architecture and design. Students will learn and practice creating a software system architecture and design from requirements using Unified Modeling Language (UML), architectural patterns and design patterns. Prerequisite: CPTR 340.

**CPTR 430 MACHINE LEARNING - 3 hours**

Study of advanced machine learning techniques such as support vector machines, linear discriminate analysis and cluster analysis. In-depth treatment of ensemble techniques and model validation. Application of artificial intelligence paradigms such as Bayesian networks,

neural networks and evolutionary algorithms. Development of systems that update their own knowledge base, independently make modeling decisions and produce actionable recommendations. Application to such areas as risk assessment, fraud detection, visual recognition and natural language processing. Prerequisites: DATA 231, 242 or MATH 315.

**CPTR 499 SENIOR PROJECT - 1-3 hours**

Students will conduct a significant research project to consist of the development, analysis and/or implementation of an algorithm or software system or an in-depth study in some area of computer science. A formal paper as well as an oral presentation will be required. Course may be repeated once for a maximum of three hours credit. Prerequisite: Permission of the department chair.

**CPTR 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**CRIM 110 INTRODUCTION TO CRIMINAL JUSTICE - 3 hours**

An introductory course designed to provide students with an understanding of crime, law and the criminal justice system in the United States. This course explores the underlying justifications for and latent effects of, the criminal justice system. Topics include factors driving the actions of structural elements of the system (e.g., policing, courts, corrections) as well as individual actors within the system (e.g., judges, jurors, prosecutors). LA-ESS.

**CRIM 211 POLICING - 3 hours**

An in-depth examination of the institutions of policing and corrections within the United States. An emphasis will be placed on the social, political, legal and technological forces that shape how we police society and how we treat individuals who are found guilty of criminal acts.

**CRIM 220 CORRECTIONS - 3 hours**

An in-depth examination of the institution of corrections within the United States. This course will cover the history of corrections, different types of corrections, correctional programming, correctional facilities, special populations in corrections and contemporary issues within corrections. An emphasis will be placed on the social, political, legal and technological forces that shape how we treat individuals who are guilty of criminal acts.

**CRIM 244 CRIMINAL BEHAVIOR - 3 hours**

The study of theories pertaining to criminal behavior and delinquency in both adult and juvenile populations. Biological, psychological and sociological theories explaining criminal behavior will be explored and criminogenic factors across the life course will be discussed. Prerequisites: CRIM 110, SOC 101.

**CRIM 275 PRACTICUM IN CRIMINOLOGY - 1-3 hours**

Observation and participation in any of a wide range of human experiences and social systems in the criminal justice system. May be repeated for a total of six credit hours, three credit hours of which may be used to meet requirements in the criminology major. Prerequisites: CRIM 110, PSYC 110, SOC 101, SOC/SOWK 222 and consent of instructor.

**CRIM 310 VICTIMOLOGY - 3 hours**

A review of historic and current theories of criminal victimization and human rights violations. Topics include: an examination between victim and offender, societal treatment of victims and victimization, biological and psychological facets and trauma and recovery and elements of restorative justice and the role of the victim in that process. Prerequisites: CRIM 110, PSYC 110, SOC/SOWK 222.

**CRIM 340 ADOLESCENCE AND JUVENILE JUSTICE - 3 hours**

Examination of the problem/need-definition process with youth and young offenders, including the ambiguity of social policies and adolescent roles in the United States. Adolescent needs and need-meeting structures. Historic landmarks in juvenile justice, including major movements and course decisions. Elements of current U.S. youth justice systems and examination of policy and program alternatives for intervention. Prerequisites: CRIM 110, SOC 101.

**CRIM 440 SENIOR SEMINAR - 3 hours**

A capstone course for criminology majors integrating diverse elements of their coursework in theoretical and methodological domains. Students will demonstrate the breadth and depth of understanding in criminology as an interdisciplinary social science. Prerequisites: FYWS, CRIM 110, SOC 101, 222, 322, 324 and junior or senior standing.

**CRIM 496 DIRECTED RESEARCH - 1-3 hours**

Supervised research on a topic of the individual student's choosing. This course may be taken for up to six credits. Prerequisites: CRIM 110, PSYC 110, SOC 101, SOC/SOWK 222 and consent of instructor.

**DATA 115 INTRODUCTION TO DATA ANALYTICS - 3 hours**

In today's data-driven world, the ability to understand and leverage data is crucial. This introductory course equips students with essential skills for the 21<sup>st</sup> century, including data comprehension, knowledge extraction, predictive analysis and data presentations using industry standard software. Through hands-on practice, students will learn to locate, wrangle and visualize data to uncover patterns and derive meaningful insights. Additionally, the course will address the ethical considerations involved in collecting and interpreting real-world data. Prerequisite: MATH 105 or higher math placement.

**DATA 210 and 210L STATISTICAL ANALYSIS AND LAB - 4 hours**

An introduction to statistical techniques used in the social and natural sciences. Topics include graphical and numerical summaries of data; sampling and experimental design; elementary probability; binomial, uniform, normal, Student's T and chi-squared distributions; hypothesis tests and confidence intervals for means and proportions, ANOVA and linear regression. Statistical software is introduced during weekly lab sessions in DATA 210L. Students are expected to be proficient in using computer applications and the campus network. Prerequisite: MATH 105 or placement and concurrent enrollment in DATA 210L. LA-FQR.

**DATA 227 STATISTICAL COMPUTING - 1 hour**

Students will apply a statistics programming language to facilitate computational methods for collecting organizing, graphing and analyzing data. They will learn basic statistical data objects

such as data frames, matrices, tables and lists and how to perform statistical manipulations with these objects. All of the computing methods will be illustrated using a high-level language such as R or Python. Prerequisite: DATA 210 or PSYC 241.

**DATA 231 DATABASE PROGRAMMING AND DESIGN - 4 hours**

This course introduces the fundamental topics in database programming and design as well as development of database-backed applications. Topics include the relational model, SQL, dependencies, normalization, XML, JDBC, JSON and Web programming. Prerequisites: CPTR 113 or DATA 110, MATH 130.

**DATA 242 DATA ANALYTICS - 3 hours**

A survey of quantitative techniques and computing tools used to identify patterns in massively large data sets. Such patterns are used to categorize behavioral trends and customize organizational responses, either toward specific target audiences or on an individualized basis. Applications will include areas such as: on-line behavior, social media usage, purchasing preferences, voting patterns, athletic performance and health outcomes. Prerequisite: One of DATA 210, MATH 115 or PSYC 241.

**DATA 275 PRACTICUM IN DATA SCIENCE - 1 to 3 hours**

An applied experience allowing students to observe the practice of data science and work under the supervision of a data science professional. Students utilize concepts and techniques learned in the classroom, as well as tools and processes specific to the host organization. Students participate in activities that are typical of the profession but do not demand a high level of professional judgment. A presentation to one or more department faculty will complete the course. May be repeated for up to 6 hours of credit. Prerequisites: CPTR 111, DATA 110, 210 and permission of the department chair.

**DATA 475 INTERNSHIP IN DATA SCIENCE - 1-3 hours**

Students work in business, government or other organizations applying data science skills to address organizational problems and create business solutions. Students are supervised by a professional having significant experience in their field as well as by a faculty member. A written report and oral presentation describing the overall project and the contribution made by the student will complete the course. May be repeated for up to 6 hours of credit. Prerequisite(s): DATA 431 (may be taken concurrently) and approval of the department chair.

**ECON 115 ECONOMIC CONCEPTS - 3 hours**

An introduction to basic economic concepts and their role in the analysis of public and private economic decisions. An emphasis will be placed on the application of those concepts to public policy issues, such as those related to the environment, health care, economic development, money and banking and government taxes and expenditures.

**EDUC 111 EXPLORING EDUCATIONAL SYSTEMS - 3 hours**

The first course taken by all education students seeking the baccalaureate degree. Introduces prospective education majors to the education programs at Manchester University, current issues in P-12 education, educational philosophy and challenges facing the teaching profession. Content includes professional development, decision-making, effective teaching, family

involvement, culture of and in schools, professional standards, collaboration and teachers as lifelong learners. A field trip and attendance at a school board meeting are required. LA-ESS.

**EDUC 112 THE EXCEPTIONAL LEARNER - 3 hours**

This course provides a comprehensive overview of the field of special education with a major emphasis on the understanding of individual differences. The historical developments that have affected special education along with current issues and trends and the impact of legislation upon special educational practices, including inclusion, will be reviewed. The course will survey strategies for adapting education programs to educationally different children and youth. The characteristics of disabling conditions and relevant terminology will be defined and the issues of assessment and placement will be discussed. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 120 PROFESSIONAL LEARNING COMMUNITIES - 0.5 hour**

Professional Learning Communities (PLCs) provide undergraduate education majors with a common collaboration time to investigate current social justice education issues. The experience introduces and provides opportunities to practice the principles of Progressive Education. Faculty instructors and mentors introduce and provide opportunities for cohorts of students to read, discuss, collaborate and investigate topics relevant to their professional development. Topics will change based on the interest of students, faculty and mentors.

**EDUC 202 PROFESSIONAL LEARNING COMMUNITIES I - 0.5 hour**

See EDUC 120 for a full description of professional learning communities.

**EDUC 204 PROFESSIONAL LEARNING COMMUNITIES II - 0.5 hour**

See EDUC 120 for a full description of professional learning communities.

**EDUC 203 LEARNING THROUGH MOVEMENT - 3 hours**

Course addresses the implementation of interdisciplinary instruction that includes fundamental concepts and processes of dance, theatre and physical education. It will include methods, resources and assessment strategies for integrating dance, theatre and physical education throughout the elementary curriculum to meet the needs of all learners.

**EDUC 205 CREATIVITY IN THE CLASSROOM - 3 hours**

Course addresses the implementation of interdisciplinary instruction that includes fundamental concepts and basic processes of the fine arts. It will include methods, resources and assessment strategies for integrating the fine arts throughout the elementary curriculum to meet the needs of all learners.

**EDUC 207 INTEGRATING TECHNOLOGY INTO THE CLASSROOM - 3 hours**

This course addresses the fundamental tenets of integrating technology in the k-12 classroom. Topics will include what is technology integration, pros and cons of screen time in school, integration models, learning management systems, ISTE standards for educators and incorporating technology in effective instructional practice. A special emphasis will be given to designing high quality e-Learning curriculum. Through a variety of learning experiences, candidates will collaborate with peers and develop understanding of best practices in

technology integration as well as best practices in instructional methods. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 215 ISSUES IN INFANCY AND EARLY DEVELOPMENT - 3 hours**

This course investigates the key issues that impact young children and their healthy development. Strategies that support young children's self-care, regulation, nutrition and safety are explored. A focus is placed on the importance of brain development, as well as consistent and culturally responsive interactions between early childhood teachers and their students.

**EDUC 216 BUILDING COMMUNITIES IN SCHOOLS - 3 hours**

An exploration of the relationships between communities and schools in diverse settings. The course will examine the influence the community has on the school systems in that environment, paying close attention to poverty, culture and family dynamics.

**EDUC 223 CHILD AND ADOLESCENT DEVELOPMENT - 3 hours**

A study of the physiological, intellectual, sociological and psychological factors influencing the child from the time of conception through adolescence. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 230 EDUCATIONAL PSYCHOLOGY - 3 hours**

Application of theories of learning. Content develops an awareness of the growth and development of learners from early childhood through adolescence. A systematic examination of best practices through action research will be included. Field experience is required. Required for sophomores seeking entry into the Teacher Education Program. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 246 EDUCATIONAL ASSESSMENT - 3 hours**

This course will help preservice teachers to better understand their own implicit theories behind testing, while helping them to identify effective testing practices. This course also acquaints students with current controversies, research methods and applied issues in instruction and assessment. Field experience is required. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 263 LEARNERS WITH MILD DISABILITIES - 3 hours**

An in-depth study of the characteristics and causes of mild disabilities, including psychological, environmental and cultural factors. Prerequisite: Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 247 INCLUSION IN EARLY CHILDHOOD – 3 hours**

This course provides an overview of inclusive practices for the care and education of young children with exceptionalities. This course focuses on developing inclusive, developmentally appropriate practices (DAP) and providing equitable opportunities for all children to develop autonomy, show their skills, develop and learn across all domains and subject areas. Exploration includes categories for special education eligibility, relevant legislation and strategies to promote learning and development required of early childhood care providers and educators. Prerequisite: Enrollment in the Early Childhood online certificate.

**EDUC 306 DEVELOPING CULTURALLY RESPONSIVE EARLY CHILDHOOD SETTINGS - 3 hours**

The focus of this course is the development and utilization of developmentally appropriate guidance strategies for use with young children in early childhood care and classroom settings. This course emphasizes positive discipline philosophy and the critical role of family involvement and building effective and reciprocal home-school relationships and partnerships in child development. Concepts in this course are guided by developmental data on age-appropriate interactions and social-emotional expectations for young children along with legal and current practices. Investigation includes the role of family, effective communication strategies and positive discipline strategies.

**EDUC 302 PROFESSIONAL LEARNING COMMUNITIES III - 0.5 hour**

See EDUC 120 for a full description of professional learning communities.

**EDUC 304 PROFESSIONAL LEARNING COMMUNITIES IV - 0.5 hour**

See EDUC 120 for a full description of professional learning communities.

**EDUC 307 WRITING FOR THE EARLY CHILDHOOD PROFESSIONAL - 3 hours**

This course meets several of the CDA Standards and prepares the early childhood professional to effectively communicate with parents, write important governmental reports, keep accurate records, demonstrate professional writing skills, read and write critically and practice digital literacy skills.

**EDUC 310 PRACTICUM IN ELEMENTARY EDUCATION - 3 hours**

Practical experience in the public-school classroom under the direction of a classroom teacher and University representative. The student will assume approximately one-half of the responsibilities of the classroom teacher. Outside readings related to the level of instruction will complement the daily experience in the classroom. Prerequisite: approval of the department chair.

**EDUC 315 MILD INTERVENTIONS: STRATEGIES FOR INSTRUCTION - 3 hours**

Examination of curriculum, effective teaching methods and materials appropriate to teach learners with mild disabilities. Prerequisites: EDUC, 263. Teaching majors must earn a C or high to meet the teaching program expectations.

**EDUC 341 WORD RECOGNITION: DEVELOPING PRING & LANGUAGE SKILLS - 3 hours**

Supporting the development of strong readers relies on a strong foundation in phonemic awareness, phonics and fluency. This course introduces teaching candidates to scientifically based reading research (SBRR) important in emergent literacy skills such as basic concepts of print and the alphabetic principle, phonics including the importance of decoding and automaticity and reading fluency involving explicit instruction and the importance of accountability when promoting silent reading fluency. Emphasis will be on authentic learning experiences and diversity in children's literature. Teaching majors must earn a C or higher to meet the teaching program expectations. Prerequisite: EDUC 230.

**EDUC 343 DISCIPLINARY LITERACY - 3 hours**

All teachers, regardless of their discipline, must support the development of readers and writers. This course is intended for secondary education and P-12 education majors with an emphasis on engaging students in authentic texts, including primary sources and publications in the discipline, as well as scientifically based reading research (SBRR) strategies. Students enrolled in the course will demonstrate performance of literacy standards through planning developmentally appropriate reading and writing instruction for their disciplines. Prerequisite: EDUC 230. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 350 ASSESSMENT AND IMPLEMENTATION OF MILD INTERVENTIONS - 3 hours**

Informal and formal testing, individual educational programs, classroom management and organization to meet the educational needs of learners. Prerequisites: EDUC, 263. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 354 LANGUAGE COMPREHENSION: ORAL LANGUAGE DEVELOPMENT - 3 hours**

As young readers develop fluency, they rely on strong vocabulary and comprehension skills to interact with a variety of fiction and non-fiction; with practice, they also develop as writers. This course introduces teaching candidates to scientifically based reading research (SBRR) that forms the foundation of skills such as basic concepts of print and the alphabetic principle, phonics including the importance of decoding and automaticity and reading fluency involving explicit instruction and the importance of accountability when promoting silent reading fluency. Emphasis will be on authentic learning experiences and diversity in children's literature. Teaching majors must earn a C or higher to meet the teaching program expectations. Prerequisite(s): EDUC 230, 341.

**EDUC 401 CORRECTIVE READING - 3 hours**

Study of the informal and formal assessment of children's reading disabilities, uses and interpretation of standardized and teacher constructed tests and an emphasis on remedial techniques. Includes tutoring experience in diagnosis and correction. Taken as part of the Elementary Methods Block. Prerequisites: EDUC 341, 354. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 202 PROFESSIONAL LEARNING COMMUNITIES V - 0.5 hour**

See EDUC 120 for a full description of professional learning communities.

**EDUC 403 MATHEMATICS CURRICULUM AND METHODS - 3 hours**

The study of curriculum, methodology, computer applications, materials and assessment appropriate for early childhood and elementary school (preK-6th grades) mathematics programs. Field experience is a required component. Taken as part of the Elementary Methods Block. Prerequisites: MATH 208 and EDUC 340. Teaching majors must earn a C or higher to meet the teaching program expectations.

**EDUC 405 INTEGRATED METHODS OF ELEMENTARY EDUCATION - 4 hours**

This course is designed to provide the elementary education major with planning and instructional strategies necessary for exemplary language arts, social studies and science instruction in the classroom. Attention will be made to those strategies that might be used for

integrated instruction as well as instruction of each area as separate and distinct disciplines.  
Prerequisite: EDUC 341 and 354.

**EDUC 410 THE TEACHER IN TODAY'S SCHOOL - 2 hours**

An examination of critical issues facing teachers in today's schools. Topics are variable but will include classroom management, legal rights and responsibilities of teachers and career service assistance. Taken concurrently with student teaching.

**EDUC 411 THE DIVERSE ADOLESCENT LEARNER - 3 hours**

Understanding the development of the adolescent learner enables the classroom teacher to create an engaging classroom environment that considers all learners. This course will examine the development of adolescents from early adolescents (age 10-14), mid-adolescence (age 15-17) and late adolescence (age 18-24). The course will also consider the unique needs of adolescent learners including exceptionalities, varying socioeconomic status and new speakers of English. Transition to Teaching candidates will consider how to differentiate instruction to meet individual students' needs with special attention given to strategies to adapt learning experiences. PREREQUISITE: Enrollment in the Transition to Teaching program.

**EDUC 413 THEORIES OF MOTIVATION AND ENGAGEMENT - 3 hours**

This course develops an understanding of the major concepts and theories related to the social, emotional, physical, cognitive, linguistic and moral development of adolescent learners. Using this information, Transition to Teaching candidates will consider research-based, innovative instructional methods for motivating and engaging middle and high school students. PREREQUISITE: Enrollment in the Transition to Teaching program.

**EDUC 421 LITERACY OF THE DISCIPLINES - 3 hours**

Understanding unique ways the disciplines approach reading, writing and speaking about their disciplines enables Transition to Teaching candidates to consider how to develop independence in adolescent learners. The course examines scientifically based reading research (SBRR) and its application to the middle and high school classrooms. PREREQUISITE: Enrollment in the Transition to Teaching program.

**EDUC 423 CULTURALLY RESPONSIVE SECONDARY METHODS & ASSESSMENT - 3 hours**

Transition to Teaching candidates will consider the engagement of middle and high school learners through culturally responsive, progressive curriculum, methods and materials. Special attention will be given to methods for developing independence in students through innovative use of pedagogy. Assessment of individual learners as well as ways to make learning visible will be examined. PREREQUISITE: Enrollment in the Transition to Teaching program.

**EDUC 431 DEVELOPING EQUITABLE CLASSROOMS USING INCLUSIVE PRACTICES - 3 hours**

Transition to Teaching candidates will consider how to shift the paradigm of managing a classroom to creating a classroom environment that considers the needs of all members of the learning community. Considering equity through the examination of bias and hidden curriculum, Transition to Teaching candidates will use restorative justice and conflict resolution to develop

learning communities that respect the infinite worth of every individual. PREREQUISITE: Enrollment in the Transition to Teaching program.

### **EDUC 433 TRANSITION TO TEACHING PRACTICUM - 3 hours**

Transition to Teaching candidates will participate in a teaching clinical experience in a middle/junior high, high school or all-grade classroom, depending upon their licensure area. Following a brief observation experience, the Transition to Teaching candidates will assume the responsibilities of the regular classroom teacher under that teachers' direction. The Transition to Teaching Practicum is taken as the culminating experience in the transition to teaching program. Employment with a transition to teaching permit can be used as the placement for the transition to teaching practicum. Submission of the edTPA project is required. Additional fees apply. PREREQUISITE: Enrollment in the Transition to Teaching program.

### **EDUC 430 CULTURALLY RESPONSIVE CLASSROOMS - 3 hours**

Considering the development of the whole human being, this course examines the importance of developing a caring and respectful community of learners in which everyone feels safe, respected, empowered and valued. Teaching candidates will examine inclusive, culturally-sustaining, trauma-informed practices which supports the needs of all students and, in turn, establish an equitable way of managing the classroom. Taken prior to the student teaching semester, supports preservice teachers in creating a framework of successful classroom practices and pedagogy which recognizes, nurtures and supports the infinite worth of every individual within the learning community. This course will cover topics such as Restorative Justice, trauma-sensitive classroom practices, classroom environment, development of a plan to manage a classroom, communication skills needed for working with parents, students and colleagues. Teaching majors must earn a C or higher to meet the teaching program expectations. Prerequisite(s): admission to the program, junior or senior standing.

### **EDUC 440 GENERAL METHODS FOR ADOLESCENT LEARNERS - 3 hours**

The study of curriculum, methods and materials, computer applications and teacher assessment of student learning for grades 5-12. Three-week placement in diverse classroom is expected. Prerequisites: EDUC 230. Teaching majors must earn a C or higher to meet the teaching program expectations.

### **EDUC 465 INTERNSHIP - 3-6 hours**

Students with junior or senior status will be placed with professionals in work environments related to their educational goals. This experience will extend knowledge to application in the actual career. The student will be supervised by a professional employed in the respective environment. May be repeated once in a different work environment for a maximum of six hours of credit. Prerequisite: consent of the department chair.

### **EDUC 471 ENGLISH LEARNERS STUDENT TEACHING - 6 hours**

Full-time teaching experience in the public-school setting under the direct supervision of a teacher or coordinator responsible for differentiating instruction to English learners. Involvement is increased until the candidate assumes the responsibilities of the high ability educator. Must be complemented with a similar experience in EDUC 474 or 475. Fee required. Prerequisites: EDUC 212, 340, 362.

**EDUC 474 ELEMENTARY STUDENT TEACHING - 7 or 13 hours**

Full-time teaching experiences in the public schools. Initial experiences include observing the classroom teacher and working with small groups. These experiences are gradually expanded until the student is in complete charge of the learning experiences of an elementary education. Prerequisites: Methods Block. Fee required.

**EDUC 475 HIGH SCHOOL STUDENT TEACHING - 7 or 13 hours**

Full-time teaching experiences in the public schools. Following a brief observation experience, the student assumes the responsibilities of the regular classroom teacher under that teacher's direction. Students are expected to observe classes other than those of the cooperating teacher. Taken as a part of the professional term in secondary education. Prerequisites: EDUC 440. Fee required.

**EDUC 477 JR HIGH/MIDDLE SCHOOL STUDENT TEACHING - 6 hours**

Full-time teaching experiences in the public schools. Experiences are expanded until the student assumes the responsibilities of the regular classroom teacher. Must be complemented with a similar experience in EDUC 474 or 475. Prerequisites: EDUC 440. Fee required.

**EDUC 478 MILD INTERVENTION STUDENT TEACHING - 6 hours**

Full-time teaching experiences in the public-school special education classroom. Involvement is increased until the student assumes the responsibilities of the special education teacher. Must be complemented with a similar experience in EDUC 474. Prerequisites: Methods Block. Fee required.

**EDUC 479 ALL GRADE STUDENT TEACHING - 13 hours**

Full-time teaching experience in the public schools. Following a brief observation experience, the student assumes the responsibilities of the regular classroom teacher under the teacher's direction. All students will have experiences at two different grade levels. Taken as part of the professional semester. Prerequisites: EDUC 440; Fee required.

**EDUC 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and the vice president and dean for academic affairs must also approve. A set of guidelines is available at the Office of the Registrar.

**EDUC 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**ENG 115 INTRODUCTION TO LITERATURE - 3 hours**

A variety of literary and critical texts are used to introduce central concepts of analytical and interpretive reading. The course examines ideas of literature and the formation of literary canons along with the relationship of literature to criticism and of critical analysis to evaluation. LA-EAH.

**ENG 201 JOURNALISM I: REPORTING - 3 hours**

Fundamentals of gathering, interpreting and writing news, along with an introduction to feature writing and news analysis. Emphasis is placed upon learning to organize a news story and to write clearly and concisely. Attention is given to the conventions of newspaper style, the organization of newspapers and the use of computers in writing and editing. LA-TCE.

**ENG 216 TOPICS IN LITERATURE - 3 hours**

Offers concentrated study of selected authors and issues. Students explore a specialized field of literacy and cultural studies to learn more fully the social, historical and artistic dimensions of literature. Students learn both how culture shapes literature and how literature shapes culture. Topics will vary according to instructor and student interest and will be indicated by different subtitles, such as Jane Austen in Literature and Popular Culture, African American Literature, Classical and Medieval Literature, Twenty-First Century Literature, The Harlem Renaissance and Midwestern Authors. May be taken three times, under different subtitles. LA-FCG, LA-EAH.

**ENG 238 WORLD LITERATURE - 3 hours**

Literature in English and in translation representing both a variety of genres and of cultural traditions.

**ENG 246 COMIC STUDIES, GRAPHIC NOVELS and FILM ADAPTATIONS: THE VISUAL CULTURE OF LITERATURE - 3 hours**

Examines the broader cultural reach of literature within a variety of media: comics, graphic novels and film adaptation. Explores theories of authorship, reception and intertextuality across the “visual” representation of literature in popular culture. Representative approaches and works could include Myth and Marvel; *Ghostworld: Graphic Novel to Film*; *Sherlock Holmes* to BBC *Sherlock*. LA-FCG.

**ENG 250 LITERARY PASSPORT - 3 hours**

An introduction to the literature and culture of a particular non-US country or region. Students will read, discuss and write about literary texts from a variety of genres and investigate how writers use literature to preserve and respond to historical, social, political and/or artistic circumstances. Topics will vary according to instructor and student interest and will be indicated by different subtitles, such as South Asian Literature, Canadian Literature, Irish Literature, German Literature and French Literature. May be taken twice, under different subtitles. LA-FCG.

**ENG 261 WOMEN IN LITERATURE - 3 hours**

A chronological and thematic study of poetry, fiction, drama, essays and journals by women who represent a variety of cultural traditions. Emphasis will be upon works written in English, but translations may be used. LA-FCG, LA-EAH.

**ENG 310 STRUCTURE OF THE ENGLISH LANGUAGE - 3 hours**

Principles of phonology, grammar and usage by which the English language functions. Traditional, structural and generative-transformational models are examined and applied.

**ENG 311 HISTORY OF THE ENGLISH LANGUAGE - 3 hours**

Developments in English phonology, grammar and vocabulary from Indo-European and Germanic beginnings through Old, Middle and Early Modern English to Contemporary English.

Emphasis is placed upon changing pronunciations, development of periphrases and dropping of inflections, growth of vocabulary, emerging standards for written and spoken dialects and recent patterns of variation.

**ENG 317 JOURNALISM EDITING AND ETHICS - 3 hours**

A study of journalism from an editor's perspective, from headlines through photos to journalism case studies. Students will practice both writing and editing and will analyze both written and cinematic case studies, including *The Journalist and the Murderer*, *Shattered Glass* and *The Insider*. EXL Designation. LA-TFR, LA-TCE.

**ENG 321 SHAKESPEARE - 3 hours**

The plays of Shakespeare as literary text and theatrical production. Examination of the historical, cultural and formalistic issues that have created Shakespeare's unparalleled reputation in world literature. Within a context of contemporary literary theory, the plays will be studied from socio-political and theatrical perspectives. Includes opportunities to perform and to experience professional productions. Prerequisite: FYWS.

**ENG 332 AMERICAN LITERATURE I: COLONIAL AND ANTEBELLUM AUTHORS - 3 hours**

Surveys American literature from its beginnings through the Antebellum era. Readings will include the writings of early explorers, Puritans and agrarian idealists, as well as the oral traditions of Native Americans and will move through the American Renaissance, with attention to slave narratives, sentimental fiction and transcendental philosophy. Prospective authors include Columbus, Crèvecoeur, Wheatley, Cooper, Emerson, Fuller, Poe, Stowe, Hawthorne and Thoreau.

**ENG 333 AMERICAN LITERATURE II: POSTBELLUM AUTHORS - 3 hours**

Surveys American literature from the Civil War through Reconstruction and the Gilded Age to the World War I era. Readings will include selections from the picaresque, naturalist and realist traditions as well as writings on Native American, African American and early feminist identities. Prospective authors include Alcott, Melville, Twain, Whitman, Dickinson, James, Šá, Chesnut, Du Bois, Washington, Chopin, Gilman and Wharton.

**ENG 340 BRITISH LITERATURE I: THE MIDDLE AGES TO THE ENLIGHTENMENT - 3 hours**

British literature of the eighth through the eighteenth centuries. Selections from such works as *Beowulf*, *The Canterbury Tales*, *Everyman* and *The Faerie Queene* introduce literary themes and techniques characteristic of the Middle Ages, Renaissance and eighteenth century. Other works likely to be included are those of Langland, Kempe, Malory, More, Marlowe, Sidney and Milton.

**ENG 344 BRITISH LITERATURE II: THE ROMANTICS AND VICTORIANS - 3 hours**

British literature from the late eighteenth century to the end of the 19th century, from responses to the French Revolution to the death of Victoria. Surveys major Romantic and Victorian authors, with attention to the poetry of Wordsworth, Coleridge, Keats and Tennyson; the fiction of Austen, Mary Shelley, the Brontës, Eliot, Dickens and Hardy; and the essays of Mill, Arnold and Ruskin.

**ENG 346 SPORTS NARRATIVES: LITERARY AND CINEMATIC - 3 hours**

This course explores the rich tradition of fiction and artistic nonfiction in book-length sport narratives and film. It will engage the relationship between sports and society from a literary and a cultural perspective, including portrayals of race, gender and class. Selected texts may include works such as David Remnick's *King of the World* (Muhammad Ali), Darcy Frey's *The Last Shot* (Coney Island basketball), Buzz Bissinger's *Friday Night Lights*, George Plimpton's *Paper Lion* and Murray Sperber's *Shake Down the Thunder* (Notre Dame Football) and films such as *Hoop Dreams*; *Rudy*; *I, Tonya*; and *the 30 for 30 series*.

**ENG 350 TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES - 3 hours**

Instruction and practice in the theory, techniques and skills of teaching English to speakers of other languages, observing ESL and foreign language classes, tutoring international students, diagnosing language acquisition problems, planning lessons and curricula, evaluating ESL texts and conducting related research.

**ENG 352 PRACTICUM IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES - 3 hours**

Supervised experience in teaching English to speakers of other languages. Students will apply the theories and techniques of second-language acquisition which were covered in the prerequisite course. Practicum may be done anywhere in the world. Prerequisite: ENG 350.

**ENG 358 SPECTRUM PUBLICATION - 1 hour**

Practical experience in working with the editorial staff of the *Spectrum* arts and literary magazine student publication. May be repeated for two semesters. Prerequisite: One creative writing course or permission of the instructor. Grading is P/NP.

**ENG 363 TOPICS IN CREATIVE WRITING - 3 hours**

An introduction to the writing of short stories, memoir, poetry and plays in a workshop environment. Works by professional writers, as well as those by students, are analyzed and discussed in class. Genres will vary and will be designated by subtitles, such as Prose and Memoir or Poetry and Drama. May be taken twice, under different subtitles. LA-TCE.

**ENG 365 PROFESSIONAL WRITING - 3 hours**

Introduces students to the types and discourse conventions expected of professional writing, including application dossiers, correspondence (both letters and emails), reports, proposals, memos, press releases and presentations. Students will engage in both independent and collaborative writing assignments. This course is designed to help prepare students for the kinds of writing typically encountered in the professional workplace.

**ENG 377 INTERNSHIP IN JOURNALISM - 3 hours**

On-the-job-experience for qualified students in gathering, interpreting, reporting and editing news and feature material. The student works in a professional environment under the supervision of a newspaper or magazine staff. May not be repeated for credit. Prerequisite: B or above in ENG 201 or practical experience in journalism and consent of instructor.

**ENG 477 INTERNSHIP IN WRITING - 3 hours**

On-the-job-experience for qualified students in researching, composing and editing written material. The student works in a professional environment, such as a newspaper, magazine or advertising agency, under the supervision of a staff member. May not be repeated for credit. Prerequisite: B or above in ENG 201; 317; 363 or 364; and consent of instructor.

#### **ENG 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and the college dean. A set of guidelines is available at the Office of the Registrar.

#### **ENG 486 SENIOR THESIS - 1 hour**

This capstone thesis is designed for senior English majors to explore a literary topic or problem engaging with primary and secondary sources. Taken concurrently with a 3-credit English course, this 1-credit class allows seniors to produce an original research essay of 13-17 pages. Students will be given the opportunity to defend their work with faculty from the Department of English.

#### **ENVS 130 INTRODUCTION TO ENVIRONMENTAL STUDIES - 3 hours**

Basic concepts of ecosystem theory, culture and environment, application of the scientific method in examining global processes and problems and proposed solutions to environmental problems. LA-ENS.

#### **ENVS T11 HUMAN ENVIRONMENTAL HEALTH - 3 hours**

This course will examine how environmental contaminants, both natural and synthetic, can affect human health and development. In addition to looking at the fundamental science behind the adverse effects, we will examine the ethical, political and sociological background of environmental health. LA-ENS.

#### **ENVS 201 INTERPRETATION OF NATURAL HISTORY - 3 hours**

Survey of geomorphology, ecoregions, flora, fauna and cultural heritage as they relate to principles of natural history interpretation and fundamentals of site administration and management. Prerequisites: FYWS, COMM 110.

#### **ENVS 215 GEOGRAPHIC INFORMATION SYSTEMS APPLICATIONS - 3 hours**

Application of the ArcGIS software is introduced. Students will develop skills to navigate this software and to capture, display, analyze and manipulate complex spatial geographic data. Prerequisite: FYWS.

#### **ENVS T23 TERATOLOGY: STUDY OF BIRTH DEFECTS - 3 hours**

An introduction to the basic scientific principles of developmental biology within the context of the study of birth defects caused by exposure to microbes, medication and common chemicals. Special emphasis will be placed upon the environmental and socioeconomic factors that contribute to teratogen exposure. Prerequisites: BIOL-106, BIOL-108.

#### **ENVS 278 PRACTICUM IN ENVIRONMENTAL STUDIES - 1-4 hours**

Observation of and participation in the activities of a professional in an applied field that is related to the environment. Examples of appropriate mentors include, but are not limited to,

foresters, environmental lobbyists, research scientists, environmental consultants, environmental chemists and wildlife biologists. May be repeated once for credit. Prerequisite: Appropriate coursework in disciplines; varies with practicum.

**ENVS 380/480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean must also approve. A set of guidelines is available at the Office of the Registrar.

**ENVS 401 ENVIRONMENTAL SCIENCE - 3 hours**

A study of contemporary issues related to human populations and the ecology of survival. Analysis of the human population explosion, rates of population growth and the distribution of population. The relation of human populations and the physical environment with a special concern for the effect of pollution on human health and survival and the demands for raw materials by our industrial activities, both in the developed and the developing segments of the world. An integrative senior level course for environmental studies majors and minors. Prerequisite: ENVS 130.

**ENVS 475 INTERNSHIP IN ENVIRONMENTAL STUDIES - 3-6 hours**

Student interns will function as environmental professionals. Internships involve significantly more independence and decision-making responsibility than do practica. Juniors and seniors majoring in environmental studies only. May not be repeated for credit. Prerequisite: appropriate coursework in disciplines; varies with practicum.

**EXSC 101 INTRODUCTION TO REHABILITATION SCIENCES - 3 hours**

Exploration of various rehabilitation professions within the United States health care system, including educational requirements, professional expectations, practice sites, professional ethics, rehabilitation philosophies and inter-professional education (IPE). Rehabilitation professions career planning with review of current employment opportunities and workforce trends. Introduction to linguistic and cultural diversity and the influence of socio-cultural factors on the role of health care professionals.

**EXSC 107 MEDICAL TERMINOLOGY FOR ALLIED HEALTH - 3 hours (Online)**

Online student paced instruction in the essentials of medical terminology including word roots, suffixes, prefixes, terms of anatomical orientation, commonly used abbreviations and medical specialty nomenclature. This course will highlight medical terminology focused on specific body systems and conversational terminology used in health care professions.

**EXSC 115 PREVENTION AND EMERGENCY CARE - 3 hours**

A survey of strategies for the prevention of injury and illness and emergency management of common injuries. Hands on experience with prophylactic taping, padding and bracing techniques, protective equipment, universal precautions, disease transmission, environmental threats to safety, Cardiopulmonary resuscitation (CPR), automatic external defibrillators and spine boarding assessment and treatment.

**EXSC 230 SPORTS PSYCHOLOGY - 4 hours**

An overview of foundational principles of psychology as applied to sport, exercise and recreational activity for enhanced interactions and performance. An emphasis will be placed on techniques and strategies that maximize skill performance with an understanding that many of the behaviors evident in sport are transferable to other performance endeavors. Topics include overview of the field, motivation, personality factors, self-concept, team development, leadership, psychological skills training, post sport identity and exercise adherence. This course can be taken as an exercise science or psychology designated course for credit. Prerequisite or Corequisite of PSYC 110 is required or permission from instructor.

### **EXSC 205 TEAM PERFORMANCE TRAINING - 3 hours**

Students will develop skills in coordinating organizing and leading group strength and conditioning performance training. Focus on training progressions, sport specificity, leadership and good communication. Students will analyze skills and select appropriate testing for specific team sports and training. Concurrent enrollment in EXSC 250.

### **EXSC 206 INDIVIDUAL AND DUAL PERFORMANCE TRAINING - 3 hours**

Students will develop skills in coordinating organizing and leading individual or dual strength and conditioning performance training. Focus on training progressions, sport specificity, leadership and good communication. Students will focus one on one training with athletes and clients to analyze skills and select appropriate testing. Concurrent enrollment in EXSC 260.

### **EXSC 209 PRINCIPLES OF COACHING - 3 hours**

An overview of basic techniques and procedures involved in coaching at the elementary through secondary level. Administrative, scientific and psychological concepts facing the coach are discussed.

### **EXSC 243 PRINCIPLES OF FITNESS - 3 hours**

A lecture/laboratory course which investigates basic principles of safe and effective exercise prescription for all age levels. Students will identify strengths and weaknesses of existing fitness testing programs and will field test selected programs with appropriate age groups including self-testing. Students design suitable exercise programs based on test results.

### **EXSC 250 PERFORMANCE LABORATORY 1 - 1 hour**

An introductory to practical performance training experience in strength and conditioning as well as teaching. Students will have the opportunity to organize, coordinate and perform group strength and conditioning performance training. Concurrent enrollment in EXSC 205.

### **EXSC 255 ORTHOPEDIC EVALUATION - 3 hours**

Orthopedic assessment of injury and pathology of the upper and lower extremity. Emphasis will be placed on the components of the comprehensive orthopedic clinical evaluation and diagnosis including history, inspection, palpation, functional testing and special evaluation techniques. Proper documentation of clinical findings is also addressed and practiced. Prerequisite: completion of or concurrent enrollment in BIOL 202 and BIOL 202L.

### **EXSC 260 PERFORMANCE LABORATORY 2 - 1 hour**

The second practical experience in performance training and teaching. Students will have the opportunity to organize, coordinate and perform strength and conditioning performance training with one-on-one or dual clients. Concurrent enrollment in EXSC 206.

**EXSC 276 PRACTICUM IN HEALTH/FITNESS/WELLNESS - 1-4 hours**

Observation of and participation in a health, fitness or wellness setting. The focus is on allowing the student to observe and participate in the activities related to the setting. Practical application of previous learning is expected without a high level of professional responsibility. May be repeated for a maximum of four hours. Prerequisite: Prior written approval by department chair.

**EXSC 313 INTERNATIONAL SPORTS MEDICINE - 3 hours**

This international study abroad/away course travels to different countries each academic year and offers fantastic opportunities for students to visit and study alternate models of sports medicine and healthcare. Countries chosen are based on specific regions which have unique medical professionals, health care and sports medicine teams to compare to that of the US. Students will explore the countryside, history and culture of the countries traveled. This course will take students inside the International Model of Health Care and Sports Medicine where they will receive firsthand experience and knowledge at various facilities, clubs, universities and sporting events. The course is designed as an off-campus travel course conducted outside the United States and may be repeated no more than one time to different locations.

**EXSC 325 EXERCISE PHYSIOLOGY - 3 hours**

A course investigating the various physiological adaptations which occur in the human body because of physical activity. The functions of various organs and systems involved in these adaptations will be reviewed. Commonly used physical training techniques and the physiological bases for their use are presented. Prerequisite: BIOL 204 and 204L or consent of instructor.

**EXSC 325L EXERCISE PHYSIOLOGY LABORATORY - 1 hour**

Laboratory experience in collection and analysis of human physiological responses to both acute and chronic exercise. Prerequisite: Completion of or concurrent enrollment in EXSC 325.

**EXSC 339 FUNDAMENTAL TECHNIQUES OF EXERCISE AND FITNESS - 3 hours**

The study of exercise techniques used for assessment and exercise prescription. Students will explore and practice the teaching of resistance and cardiovascular training techniques, current research, exercise trends and motivational techniques. Students will apply the use of kinesiology, anatomy, physiology and exercise prescription for both healthy and special populations in fitness.

**EXSC 345 FUNCTIONAL KINESIOLOGY- 3 hours**

A course that qualitatively investigates the principles of mechanics as they relate to the performance of motor skills. Special emphasis is placed on skill analysis through visual observation, video-taping and musculoskeletal anatomy.

**EXSC 355 ORTHOPEDIC INTERVENTION - 3 hours**

A survey of the therapeutic modalities and rehabilitation techniques commonly employed in orthopedic health care and other rehabilitation settings. Theory, indications and

contraindications for use, practical application of current medical modalities and restoration of flexibility, strength, endurance and functional ability following injury of orthopedic injuries are addressed. Prerequisite or Concurrent Enrollment: BIOL 202 and BIOL 202L.

**EXSC 400 Applied Exercise Science - 1-4 hours**

This hands-on course offers students an immersive experience in applied exercise science. Designed to bridge didactic knowledge with practical application, students will engage in a variety of experiential learning activities, including fieldwork, client training, nutritional communication and management, as well as presentations. Students will collaborate with a credentialed professional to meet the needs of the experience. Students can engage with strength and conditioning, nutrition and clinical rehabilitation areas of focus. Prerequisite: Instructor permission. EXL Designation.

**EXSC 410 ADMINISTRATION OF HEALTH AND PHYSICAL ACTIVITY PROGRAMS - 3 hours**

Management and leadership techniques for diverse careers in health and physical activity programs are presented. Topics include program design and evaluation, fiscal administration, risk management, human resources, public relations, facility design and other relevant issues. Prerequisite: FYWS.

**EXSC 476 INTERNSHIP IN HEALTH/FITNESS/WELLNESS - 1-4 hours**

Work experience around health, fitness or wellness. This experience links classroom instruction to actual career responsibilities. The student is supervised by a professional employed by the specific agency. Open only to juniors and seniors. May be repeated for a maximum of four hours. Prerequisite: approval of department chair.

**FIN 120 WEALTH CREATION AND FINANCIAL STEWARDSHIP - 3 hours**

Students explore the personal financial planning process. Topics covered include the time value of money, investments, taxation, wealth creation, risk management and legacy planning.

**FIN 333 PRINCIPLES OF FINANCE - 3 hours**

Students examine the principles of corporate financial management. Topics include financial management overview, cash flows, taxes, financial statement analysis and forecasting, financial markets and institutions, interest rates, risk and rates of return and bond and stock valuation. Prerequisite: ACCT 200 (Foundations of Accounting).

**FIN 335 CORPORATE FINANCE - 3 hours**

Students continue the examination of the principles of corporate financial management. Topics include cost of capital, capital budgeting, capital structure, dividend policy, hybrid financing and risk management. Prerequisite: FIN 333.

**FIN 340 INVESTMENT MANAGEMENT - 3 hours**

Students examine long- and short-term objectives of investment strategies, focusing on wealth accumulation. Topics include investment in stocks, bonds, mutual funds options and futures. Prerequisite: FIN 333.

**FIN 423 STRATEGIC DECISIONS FOR FINANCE AND ACCOUNTING - 3 hours**

Students will develop a forward focused, holistic financial management approach to achieving a company's strategic goals. Emphasis is placed on developing students' skills as a business advisor. Topics include business structure, strategic planning, capital budgeting, capital structure and risk management.

**FIN 455 EQUITY ANALYSIS AND VALUATION - 3 hours**

Students use contemporary methods to analyze specific industries and securities. Topics include fundamental and technical approaches to security analysis, concepts of risk evaluation and portfolio theory and management. Prerequisite: FIN 335.

**FIN 475 INTERNSHIP - 0-12 hours**

This course option grants academic credit for a supervised professional experience designed to give students experience in their fields of study. Evaluation of the experience is provided by the student, the student's supervisor in the internship and a Manchester University supervising instructor. This course may be repeated for a maximum of 12 hours credit. Prerequisite: approval of the department's Internship Committee. Grading is P/NP.

**FIN 380 or 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**FIN 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussion.

**FYWS 111 FIRST YEAR WRITING SEMINAR - 3 hours**

This class introduces students to college-level writing through a disciplinary or interdisciplinary topic. Students will improve their critical thinking skills by examining a topic through multiple perspectives. This course will build community and aid students in their transition to college. LA-FWS.

**GNST 125 INTRODUCTION TO GENDER STUDIES - 3 hours**

A basic introduction to the field of gender studies. The course will examine gender as a category for analyzing culture and society. LA-FCG.

**GNST 201 INTRODUCTION TO QUEER STUDIES - 3 hours**

An introduction to the interdisciplinary field of queer studies – the study of historically marginalized sexual orientations and gender identities. Topics include the histories of queer identities and cultures, diversity among queer people, queer representations in society and queer politics and activism. Theoretical emphasis is placed on feminism, queer theory and social constructionism. LA-FCG.

**HIST 113 NORTH AMERICAN HISTORY TO 1865 - 3 hours**

The transformation of mainland North America, from the pre-1492 period through the US Civil War, including the evolution of social and political institutions during the colonial era, the

founding and early development of the United States and the economic and cultural aspects of the developing country.

### **HIST 114 UNITED STATES HISTORY SINCE 1865 - 3 hours**

A continuation of HIST-113. The transformations following the Civil War, including the emergence of the United States as a world power, the rise of the industrial economy and political and cultural trends and social conflicts.

### **HIST 121 WORLD HISTORY TO 1500 - 3 hours**

This course examines the emergence and development of political and social institutions in the world from ancient times to 1500, from a comparative perspective. It will examine the various ways in which societies have sought to legitimate political authority, how they have grappled with religious and philosophical questions and how social classes and hierarchies have developed over time. The interconnectedness of world regions will be emphasized by examining the movement of people and the exchange of goods and ideas. LA-FCG.

### **HIST 123 WORLD HISTORY FROM 1500 - 3 hours**

This course examines the development of political and social institutions in the world from 1500 to the present, from a comparative perspective. It will examine the various ways in which societies have sought to legitimate political authority, how they have grappled with religious and philosophical questions and how social classes and hierarchies have developed over time. The interconnectedness of world regions will be emphasized by examining the movement of people and the exchange of goods and ideas. LA-FCG.

### **HIST 210 MODERN CHINA AND EAST ASIA: 1750 TO THE PRESENT - 3 hours**

This course surveys the history of China and East Asia from c. 1750 CE to the present through a focus on the forces, both internal and external, that propelled China to a major revolution in the twentieth century, followed by an examination of the People's Republic of China from the Mao years through to the Deng-Xiaoping era and after. Concurrently, the course broadly surveys the history of modern Japan from the Meiji Restoration in the late nineteenth century to its rise as an imperial power culminating in its aggressive role in World War II and its aftermath. The course thus provides a framework for understanding contemporary East Asia. LA-FCG.

### **HIST 216 US HISTORY FOR ELEMENTARY EDUCATORS - 3 hours**

This course provides a concise yet comprehensive overview of the long trajectory of United States history, from the pre-1492 era to the 21st century. The course will be structured in both chronological and thematic fashion, covering major events as well as core themes, including race, gender, class, migration, religion and violence, that have profoundly influenced the past and present of the United States. Through a variety of learning experiences, students will develop their understanding of the best contemporary understandings of US history, with an eye to developing age-appropriate units and lessons they can teach to their own students.

### **HIST 218 WORLD HISTORY FOR ELEMENTARY EDUCATORS - 3 hours**

This course provides a concise yet comprehensive overview of the long trajectory of World history, from c. 4000 BCE to the 21st century. Using both a chronological and thematic framework, it examines the major events, ideas, issues, trends and processes that have defined and shaped the human past. Through a variety of learning experiences, students will develop

their understanding of the best contemporary understandings of and approaches to the study of World history, with an eye to developing age-appropriate units and lessons they can teach to their own students.

### **HIST 226 IMPERIALISM AND THE MODERN WORLD - 3 hours**

This course examines imperialism and its corollaries of colonialism, empire and nationalism of the nineteenth and twentieth centuries as major shaping forces of the modern world. It also examines the factors that accelerated the process of decolonization in Asia and Africa after 1945 and considers the state of imperialism, colonialism and empire since.

### **HIST 237 RACE AND ETHNICITY IN US HISTORY - 3 hours**

A survey of the experience of various racial and ethnic groups in the colonial, 19th, 20th and 21st century United States. It will offer the opportunity to explore the ways in which US society has reacted to marginalized and oppressed groups and to explore how these groups have seen themselves and shaped their own interaction with broader US society and culture. LA-FCG.

### **HIST 240 ORAL HISTORY TECHNIQUES - 1-3 hours**

A survey of the methodological issues, techniques and applications of oral history. Students will learn the steps necessary to prepare an oral history project, including background research, interviewing techniques and transcription. They also will learn about preservation, cataloging procedures and the legal and ethical issues involved in doing oral history.

### **HIST 242 SOUTH AND SOUTHEAST ASIA: ANCIENT TO 1500 - 3 hours**

This course primarily surveys the history of South Asia from c.1500 BCE to the advent of the Mughal Empire in the mid-1500s CE through a focus on the Indus Valley civilization, Hinduism's role in the evolving socio-political structures, the emergence of centralized empires, early religious reform efforts in the form of Buddhism and Jainism and the advent of Islamic kingdoms in the region. Secondly, the course broadly surveys the history of Southeast Asia from c. 300 BCE to 1500 CE with an emphasis on the early kingdoms in the region and the evolution of the economy and religious beliefs during this period.

### **HIST 252 COMPARATIVE CIVILIZATION - 3 hours**

An examination of the history of various civilizations of the globe through visits, readings and discussions which focus on areas under study. The course is always an off campus offering. May be repeated on different topics.

### **HIST 254 LATIN AMERICAN HISTORY - 3 hours**

This course examines the rise of European power and civilization in Latin America after 1492, the wars for independence and the major developments during the 19th and 20th centuries. It will also cover the contributions of indigenous peoples and those of African descent to Latin American culture. Emphasis will be on major trends and developments in the various regions rather than the details of each of the present countries. LA-FCG.

### **HIST 256 AFRICAN AMERICAN HISTORY - 3 hours**

The black experience has been a defining aspect of North American history for five centuries. This course will examine the contributions of African Americans to the United States beginning in the colonial era. Emphasis will be placed on the political, economic and cultural aspects of

black life, including the Middle Passage, slavery, the Civil War, Reconstruction, Jim Crow, the Civil Rights Movement and recent developments up through the presidency of Barack Obama. LA-FCG.

### **HIST 263 THE MAKING OF INDIA AND PAKISTAN - 3 hours**

This course examines a seminal event of the twentieth century – the partition of the Indian subcontinent at the end of British rule in 1947 into India and Pakistan – an event that rivals the Holocaust in the horrors it unleashed. It engages with the Partition through historians' writings as well as through film and literature. The course also explores the legacies of Partition for both the relationship between India and Pakistan and international politics.

### **HIST 317 BRITISH EMPIRE AND THE MAKING OF THE MODERN WORLD – 3 hours**

As one of the largest empires in history, the British Empire has had a profound impact on the “making of the modern world”. This course examines the history of the British Empire from the mid-eighteenth century to the period of decolonization after World War II through not only the traditional lens of politics and war but also through the lens of race, class, gender, ethnicity etc. and with a focus on British colonialism in Asia and Africa. As such, it also studies the rise of anti-colonial nationalism in the colonies and the impact of Empire on the making of not only the modern world but also on Britain itself.

### **HIST 329 WOMEN IN US HISTORY - 3 hours**

A survey of the experience of various groups of women in the United States during the colonial era, the 19th, 20th and 21st centuries. The nature of family life and the technology and management of the household will be an ongoing theme. Specific topics of relevance also will be pursued, including women's roles in religious life of the colonial period, development of women's rights and suffrage in the 19th and 20th centuries and the impact of women's increasing participation in the paid labor force.

### **HIST 344 HISTORIOGRAPHY AND RESEARCH METHODOLOGY - 3 hours**

This course will focus on the techniques and methods used in the historical profession. In addition to the study of historiography, students also will begin the process of researching and writing a paper based on primary source materials. Prerequisite: junior standing.

### **HIST 353 WOMEN, GENDER and SOCIAL REFORM IN INDIA AND CHINA - 3 hours**

This course examines the theme of women, gender and social reform in India and China from c. 1800 to 1950 CE from a historical perspective. Students will engage with the major events, ideas and processes that have shaped the modern histories of these nations, especially the debate surrounding women's status in India and China. The course complicates assumptions of a general category of 'women' by emphasizing the differing experiences both between women in India and women in China and among women within India and China. It also considers debates and trends within women's history to examine issues related to re-writing the past from a gendered perspective. Prerequisite: Sophomore standing or above.

### **HIST 460 RECENT US HISTORY - 3 hours**

This course examines the social, political, economic and intellectual forces that have shaped United States thoughts and policy since 1960.

**HIST 499 SENIOR THESIS - 1 hour**

Supervised research in primary source materials culminating in a paper, which will satisfy the requirements of the Senior Comprehensive Evaluation. Prerequisite: HIST 344.

**HIST 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**HUM 211 EXPLORATIONS IN THE ARTS - 3 hours**

Offers an interdisciplinary study of selected cultural moments and movements in the arts. Students will explore the creative and cultural intersection of at least two disciplines (art, literature and music). Students will learn how these arts shape culture and how culture shapes these arts. Topics will vary according to instructor and may include The Harlem Renaissance, Surrealism or Outsider/Indie Artists. LA-EAH.

**INTD-100 COLLEGE SUCCESS - 2 hours**

This course is designed to assist students in developing strategies for academic success and in making the transition to college-level classes. Students will gain experience in a variety of study strategies and techniques including time management, note taking, test taking, developing college-level reading and listening skills. Students will participate in supplemental study sessions with peer facilitators and will receive extra support navigating the full range of student support services and resources that Manchester provides. Prerequisite: First-year or sophomore standing or approval of instructor.

**INTD 101 FIRST YEAR SUCCESS SEMINAR - 1 hour**

This course will support students' academic and social adjustment to college. Through engagement with the campus community, students will practice and reflect on the skills, resources and relationships that contribute to personal and professional success.

**INTD 130 CAREER CHOICES AND COMPETENCIES - 2 hours**

This course is designed to introduce students to the concepts of decision making, self-assessment, career exploration and career planning. Helpful for students who are undeclared majors, those changing majors and those exploring career applications of their majors.

**INTD 240 MAKING OF THE MODERN MIND - 3 hours**

This course investigates the wide-spread shift in Europe from a pre-modern (pre-16th century) to a modern world view (as it matured up through the 19th century), with a special focus on the rise of modern science as a way of understanding nature and on the radical shift in how modern humans understood themselves and their relationship to this nature. Course readings will draw from the sciences, philosophy, history and literature; the class will take place in European cities such as London and Paris. TA-TGP.

**INTD 323 INCARCERATED SHAKESPEARE - 3 hours**

This course explores the contemporary relevance and persistence of the plays of William Shakespeare. We will move beyond the literature classroom and into prisons and jails and from the lives of those in Elizabethan England to those in the US today suffering from addiction,

PTSD and discrimination. We will explore how Shakespeare's original centuries-old texts have evolved into contemporary theatrical performances about the Black Lives Matter or #metoo movements and consider why these plays have been a favorite read for incarcerated populations for decades. Students will be able to connect the plays' universal themes to the social and cultural issues of their choice. LA-TBI.

### **INTD 324 FEMINIST THEORY - 3 hours**

Interdisciplinary examination of the theoretical and methodological questions that arise when women are placed at the center of study. Focus is on significant works and perspectives in feminist theory and on their contributions to understanding human experience. LA-TBI.

### **INTD 335 EMOTION IN THE WORKPLACE - 3 hours**

This course explores the different ways emotion is constructed through communication and interaction and how emotional norms are perpetuated and naturalized through employee talk and organizational structures. Students explore and connect the substantive topic of emotion in the workplace by exploring emotion research from a variety of disciplinary perspectives (communication, education, psychology, business, sociology and health sciences). In this course, students engage in meaningful discussions and learn strategies for dealing communicatively with emotion in the workplace. Students learn how employees engage in emotional activity through micro-practices including emotional labor, social support, compassion and empathy. LA-TBI.

### **INTD 340 PATHWAYS TO PURPOSE - 3 hours**

In this course, students examine different approaches to purpose and clarify how it relates to their personal values, work and life priorities. Students will develop an understanding of purpose with respect to various aspects of their lives with specific focus on education, occupation and roles as citizens. Texts from social sciences, humanities and business will be used to explore differing theories pertaining to purpose and its connection to mission, vision and values. LA-TBI, LA -TFR.

### **INTD 343 PHILOSOPHY OF MIND - 3 hours**

What is consciousness? How does it arise? What is the relationship between the mind and the brain? Are we free? Do we have an enduring identity? This course will cover the major topics found in the historical and contemporary debates about the nature of the mind and its relation to the world. Possible topics include reductionism, behavioralism, eliminative materialism, dualism, functionalism, consciousness, qualia, intentionality and zombies. LA-TBI.

### **INTD 350 MIGRANTS AND REFUGEES - 3 hours**

The growing movement of peoples across national boundaries in search of employment, better wages and higher standards of living and away from persecution and violence has transformed the international community. In this course, you will attempt to answer several questions that focus on the understanding of why, how, who, what and where of migration. What is the difference between a refugee, internally displaced person, stateless person and an asylum seeker? Why is there an increase in movement across borders in the past decades? How does migration influence the political, economic and social environment of the sending and receiving state? Why are some persons welcomed and others rejected? What are the security concerns (trafficking, conflict and terrorism) and issues engendered by international migration? What role

do international organizations play in influencing state behavior towards migrants? The readings, presentations and interactive activities will examine these questions and more regarding the challenges of migration flows. LA-TBI.

### **INTD 355 CRITICAL ISSUES IN EDUCATION - 3 hours**

Critical Issues in Education asks students to explore historical, current and potential equity issues and dilemmas facing American school systems, the communities in which they reside and the very structure of the institution of public schools. Through a study of critical issues in conjunction with personal values and dispositions, students will consider their roles, responsibilities and influences as educational professionals and/or community members. A historical context for the roles of schools including the laws and constructs that influence institutional practices will provide a foundation for exploring multiple perspectives to ensure the academic success of all P-12 students, especially those with identified exceptionalities, those with linguistic and those with culturally diverse backgrounds. Specific attention will be given to critical race theory, emotional and social well-being of students, financial inequities based on race and socio-economic status and other educational challenges facing Americans. Teaching majors must earn a C or higher to meet the teaching program expectations. LA-TBI.

### **INTD 322 FASHION AND CULTURAL IDENTITY - 3 hours**

Do clothes make the individual? Where are those clothes made and by whom? This class explores the various representations of clothing in culture, from a tool that organizes society to an expression of individuality; from international runways to social media; from fiction to nonfiction; from textiles to paintings. We will analyze how clothing constructs meaning by confirming, complicating or challenging social conventions. And we will study the rise of consumer culture through both the development of the department store as well as the global expansion of the garment industry alongside innovations in ethical design and making. LA-TBI.

### **INTD 395 HONORS PROPOSAL - 1 hour**

This course provides students eligible for the Honors Program an opportunity to prepare their honors thesis proposal. It is not required but is a guided opportunity to set students up for success with their honors thesis. The honors thesis proposal course focuses on developing a topic, conducting research, considering methodology and then finalizing a proposal to be submitted to a student's Honors Thesis Committee. Prerequisite: Eligibility for the Honors Program and approval from the Honors Program director.

### **INTD 405 LIFE AND DEATH - 3 hours**

Exploration of how knowledge of our finitude inspires us to create, to contemplate, to give life meaning and how we respond to life's uncertainties. Course content will include many areas of the humanities, especially literature, philosophy and music. Assumes basic introduction to the arts, philosophy and literature. LA-TBI.

### **INTD 410 CINEMA FOR SOCIAL CHANGE - 3 hours**

This course explores cinema as a vehicle for social change and conflict. In the class, students acquire a vocabulary for cinematic analysis; screen representative movies in film history and use film as a window to broader ideological, ethical, peace-and-justice issues. While diverse in theme origin and technique, the film screenings share one mark: they embody revolutions in either form or content. This is a film studies course, not a filmmaking course. LA-TBI.

**INTD 425 ENVIRONMENTAL PHILOSOPHY - 3 hours**

A study of 1) competing theories of distributive justice and their implications for various environmental issues (land use, famine relief, population control, pollution abatement, etc.), 2) animal liberation and animal rights, 3) the possibility of a land ethic and 4) the relation between one's religious beliefs and one's attitudes towards nature.

**INTD 427 INTERNATIONAL WOMEN'S RIGHTS - 3 hours**

This course examines the place of women and their rights in the debate on universalism vs. cultural relativism. It analyzes this debate and its consequences for women through a focus on practices such as female genital cutting, sati, honor killings, female infanticide and others. The course will also consider the prospects that feminist intervention in the debate holds for safeguarding women's rights as it attempts to transcend the limitations of both universalism and cultural relativism. LA-TBI.

**INTD 435 BIOLOGY AND SOCIETY - 3 hours**

An examination of the societal impact and responsibilities of the scientific community. Emphasis will be on the changing public awareness of complex situations associated with rapidly emerging biological technologies. Legal, ethical, economic, political and scientific issues will be analyzed through discussions, panels and directed essays.

**INTD 441 GLOBALIZATION - 3 hours**

An exploration of the sources and consequences of globalization. Is globalization a new phenomenon? Is globalization inevitable and irreversible? Who is in charge of globalization? Does globalization benefit everyone? Does globalization promote or undermine democracy, peace and social safety nets? What are the effects of globalization on inequality, social justice and relations between developed and developing countries? These are some of the key issues that will be addressed. LA-TBI.

**INTD 445 THE DEVELOPMENT OF MODERN SCIENTIFIC THOUGHT - 3 hours**

This course examines how the contributions of historic scientists have impacted and continue to impact the development of modern scientific theory. The influences of the environment in which these scientists lived will be examined from the perspective of history, politics, social structure and religion. Students will examine the cultural, religious and ethical context of scientific achievements of these scholars and explore contemporary scientific issues and the impact these issues have on the global scale. LA-TBI.

**INTD 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**INTD 495 HONORS PROJECT - 1-3 hours**

An opportunity for students eligible for the Honors Program to prepare an honors thesis, either for its own sake or as partial fulfillment of the requirements for an honors diploma. The honors thesis addresses a topic in the student's major but also must be interdivisional in scope and

approach. Prerequisite: eligibility for the Honors Program and approval from the Honors Program director. May be repeated for a maximum of six semester hours.

### **MATH 100 BASIC MATHEMATICS - 2 hours**

A review of topics in arithmetic including fractions, decimals, proportions and percents, signed numbers order of operations, approximation and rounding, unit conversion, exponents, small and large numbers and scientific notation.

### **MATH 104 CONTEMPORARY MATH - 2 hours**

This course uses mathematical modeling to solve practical problems relevant to modern society. Topics may include civics, personal finance, healthcare and technology. This course does not count towards any major or minor. This course does not count towards any major or minor. This course does not satisfy any general education requirement.

### **MATH 105 BASIC ALGEBRA - 2 hours**

A review of topics in elementary algebra including inequalities; graphing of equations; problem solving using linear, quadratic and exponential equations; solving equations involving exponents and roots. Prerequisite: MATH 100 or placement.

### **MATH 108 NUMBER SENSE FOR ELEMENTARY TEACHERS - 2 hours**

An in-depth treatment of concepts underlying common topics in the elementary mathematics curriculum including number theory and representation, operations and their properties, functions and algebraic thinking. Use of selected concrete manipulatives and technology is included. Prerequisite: MATH 105 or high placement.

### **MATH 115 ELEMENTARY PROBABILITY AND STATISTICS - 3 hours**

A course focusing on problem-solving and decision-making skills using the tools of probability and statistics. Topics include basic and conditional probabilities, probability trees, expected value, normal distributions, application of randomization to sampling and experimentation, graphical and numerical summaries of data, uses and abuses of statistical data and introduction to confidence intervals, hypothesis testing and regression models. This course may not be taken by students who have previous credit for (or are concurrently enrolled in) DATA 210 Prerequisite: MATH 105 or placement. LA-FQR.

### **MATH 116 ALGEBRA REVIEW FOR STATISTICS - 1 hour**

Students will review algebra topics alongside their statistics class. Topics include evaluating expressions and formulas, graphing linear equations and functions, working with equations of lines and evaluating exponents and roots. Study skills and tips to reduce math anxiety will be included. Students may not enroll in this course if they have credit for MATH 105 – Basic Algebra. Grading is P/NP.

### **MATH 120 PRECALCULUS - 3 hours**

Topics include graphs and functions, polynomials and their zeros, complex numbers, exponential and logarithmic functions, trigonometry (functions, graphs and identities) and applications. Prerequisite: MATH 105 or placement.

### **MATH 121 CALCULUS I - 4 hours**

An introduction to calculus including limits, continuity, derivatives and their applications, curve sketching, integrals and the Fundamental Theorem of Calculus. Trigonometric, exponential and logarithmic functions are included. Graphing calculators will be used. Prerequisite: MATH 120 or placement. LA-FQR.

**MATH 122 CALCULUS II - 4 hours**

Topics include numerical integration, applications of integration, techniques of integration, inverse trigonometric functions, an introduction to differential equations, improper integrals, sequences and series and Taylor's Theorem. A computer-algebra system will be used. Prerequisite: MATH 121.

**MATH 130 DISCRETE MATHEMATICS - 4 hours**

An introduction to discrete methods used in mathematics, data science and computer science. Topics covered are logic, reasoning and proof, relations, sets, combinatorics, arbitrary number bases, number theory, algorithms, recursion, induction and graph theory. Prerequisite: MATH 120.

**MATH 208 MEASUREMENT FOR ELEMENTARY TEACHERS - 2 hours**

An in-depth treatment of concepts underlying common topics in the elementary mathematics curriculum including concepts in data analysis and probability, geometry and measurement. Use of selected concrete manipulatives and technology is included. Prerequisites: MATH 108 and MATH 115, DATA 210 or PSYC 241.

**MATH 211 QUANTITATIVE SKILLS FOR BUSINESS - 3 hours**

A foundational course in quantitative skills for business. This course covers topics including algebra, ratios, rates, percentages, descriptive statistics, hypothesis testing, modeling, correlation and probability. Emphasis will be on understanding data to make decisions and the ways by which businesspeople communicate with numbers. Applications will be to business and finance using concrete, real-world projects. The course will include multiple projects using computer software (spreadsheets and data analysis software). Prerequisite: Math placement Level 3 or MATH 105. LA-ENS.

**MATH 231 MULTIVARIABLE CALCULUS - 4 hours**

Topics include vector analysis in two- and three-dimensional spaces, polar and spherical coordinates, curves in space; multivariable functions and their derivatives, multiple integrals, line integrals and Green's and Stokes' Theorems. Prerequisites: MATH 122, 251.

**MATH 233 SCIENTIFIC COMPUTING - 3 hours**

A study of computational issues and methods used in applied mathematics and scientific computing. Topics include computation errors; interpolation; convergence of numerical methods; approximate integration; numerical solution of ordinary differential equations; and numerical solution to systems of linear and non-linear equations. The course is oriented toward machine computation and involves programming of various solution techniques for problems in science, technology, engineering and mathematics. Prerequisite: MATH 121.

**MATH 245 ORDINARY DIFFERENTIAL EQUATIONS - 3 hours**

Topics include classification of differential equations; methods of solving first order equations, second and higher order linear equations and systems of linear equations; series solutions; and existence theorems. Prerequisite: MATH 122.

**MATH 251 LINEAR ALGEBRA I - 4 hours**

Solution of linear systems, matrices and determinants, eigenvalues and eigenvectors, vector algebra, representation of lines and planes in  $R^n$ , linear transformations and mathematical models using matrix algebra. Prerequisites: MATH 121, 130.

**MATH 330 OPERATIONS RESEARCH MODELS - 3 hours**

Introduction to mathematical modeling processes, allocation models involving linear programming, simplex algorithm, dynamic programming, transportation models, network models, graph theory, Markov chain models, queuing theory and game theory. Prerequisite: MATH 130 or 251.

**MATH 340 LINEAR ALGEBRA II - 3 hours**

Numerical methods for solving linear systems, the four fundamental subspaces and applications orthogonality and approximation, eigenvectors eigenvalues and diagonalization of matrices and applications. Prerequisite: MATH 251.

**MATH 440 SECONDARY MATHEMATICS METHODS - 3 hours**

The study of standards, curriculum, teaching methods and assessment appropriate for middle and secondary school (5-12) mathematics programs. Topics will include appropriate use of mathematical technology, history of mathematics, approaches to problem solving and modes of mathematical understanding. Prerequisites: EDUC 111, EDUC 230, MATH 130, MATH 240. Enrollment in MATH 240 may be concurrent.

**MATH 475 INTERNSHIP IN MATHEMATICS - 1-3 hours**

Students work in business, industry, government or other agencies applying mathematical tools (e.g., probability, statistics, optimization) to real-world problems. Students are supervised by a professional with significant experience in such applications and a faculty member. A written report describing the overall project and the student's contribution will complete the course. Students must formally enroll in this course prior to beginning their work experience. Course may be repeated once for a maximum of four hours credit. Prerequisites: MATH 122, 130; permission of the department.

**MATH 499 SENIOR PROJECT - 1-3 hours**

An in-depth study of some area of mathematics under the guidance of a primary and secondary faculty advisor. Students will write a thesis and give an oral presentation based on the thesis. Students will enroll either once or twice for a total of three hours credit. Prerequisite: permission of the department chair.

**MATH 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussion.

**MODL 241 US LATINO LITERATURE AND CULTURE - 3 hours**

An investigation of US Latino culture through artistic texts. Students will read a variety of literary genres and explore the contributions of US Latinos to art, music, television and film. Along the way, students will consider the challenges for this unique and diverse group of Americans and examine the stereotypes that exist about Latinos in US culture today.

**MODL 354 SECOND-LANGUAGE ACQUISITION - 3 hours**

Course explores how people learn language and what methodologies respond to different linguistic needs and learning styles. Topics include: theories of language learning, diagnosis of language learning problems, assessment techniques, pedagogies appropriate to second language acquisition, relationship of culture to language development. Prerequisite: intermediate proficiency in a second language.

**MODL 375 PRACTICUM IN LANGUAGE AND CULTURE - 3-6 hours**

This course allows students to gain practical experience related to their language studies while they are enrolled in off-campus language-related courses. A maximum of three hours may be used toward a departmental major or minor. May not be repeated for credit. Prerequisite: One 300-level language course.

**MODL 411 INTRODUCTION TO LITERARY TRANSLATION - 3 hours**

A seminar that serves as introduction to the history, theory and practice of literary translation into English. Students will become familiar with various theories of translation and learn to implement them in their own translations. Students will produce a readable translation that reflects the language, meaning and purpose of the original. Students must have knowledge of literary analysis and the ability to read and write well in both the source and target languages. Prerequisites: A minimum of two courses (one in literature) at the 300-level or higher in the source language.

**MODL 475 PRACTICUM IN LANGUAGE PEDAGOGY - 3 hours**

Students with advanced status (junior/senior) in language will gain practical experience in how to plan language curriculum, develop language activities and evaluate learning in a university classroom setting. May not be repeated for credit. Prerequisite: Major or minor in language, ENG/MODL 354.

**MODL 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or topic. Students pursue a supervised, independent inquiry and exchange results through reports and discussions. Course is taught in English, but students complete written work in the language of their major.

**MUS 100 PIANO: NON-MAJORS - 1 hour**

For non-majors who have little or no previous experience in piano. Requirements: selected major and minor scales, one octave, hands together; selected major and minor arpeggios, two octaves, hands alone; triads and their inversions; cadences using the I, IV and V chords; sight-reading; and standard repertoire for adult beginners. May be repeated. Private lesson fee required. LA-TCE.

**MUS 101 APPLIED PIANO: MAJORS - 1 hour**

For music majors and minors who have at least moderate ability in piano. Requirements: all major and minor scales, one octave, hands together, all major and minor arpeggios, two octaves, hands alone; triads and their inversions; harmonization of melodies using the I, IV and V chords; cadences involving primary and secondary triads, secondary dominants and leading tone chords; and representative repertoire from different periods of music. Private lesson fee required. LA-TCE.

**MUS 102 VOICE - 1 hour**

Study of basic concepts of breathing, resonance and diction. Emphasis is on English language repertoire; however, Italian is also explored. Prerequisite: audition into department or permission of instructor. Private lesson fee required. LA-TCE.

**MUS 103 STRING INSTRUMENTS - 1 hour**

Basic principles for tone production and technical development, including scales and arpeggios in two and three octaves. The standard etudes, sonatas and concertos studied to provide a balanced repertoire. Private lesson fee required.

**MUS 104 WIND AND PERCUSSION INSTRUMENTS - 1 hour**

For those students who have the instrumental ability expected of a person entering the special music course. Work in one of the standard music books with supplementary etudes and solos. Emphasis on tone and development through proper use of the breath and embouchure or mallets and sticks and on training in basic musicianship. Prerequisite: Grade three ability.

**MUS 105 ORGAN - 1 hour**

Emphasis on development of manual and pedal technique. Repertoire includes the easier works of Bach and compositions by contemporary composers. Attention given to the study of hymn playing. Prerequisite: demonstrated keyboard facility satisfactory to the instructor. LA-TCE.

**MUS 107 BEGINNING VOICE: NON-MAJORS - 1 hour**

Voice class for non-majors with little or no previous experience as solo singers. Basic singing skills are explored through private and/or class instruction, as deemed appropriate by the instructor. Study includes basic vocal anatomy, vocal exercises and beginning level vocal repertoire. May be repeated once for credit. LA-TCE.

**MUS 108 BEGINNING GUITAR - 1 hour**

Guitar class for non-majors with little or no previous experience with the instrument. Basic skills are explored through a study of scales, musical exercises and beginning-level repertoire. Students must provide their own acoustic guitar. May be repeated once for credit. Private lesson fee required.

**MUS 109 CLASS PIANO I: MAJORS/MINORS - 1 hour**

This class focuses on the development of basic piano technical skills. For music majors whose primary applied area is not keyboard, this course is the first in a three-semester sequence in preparation for the piano proficiency exam. Technical study includes five-note patterns, introduction to musical styles, scales, triads, arpeggios, pedal use, playing by ear, harmonization and transposition of melodies and sight reading.

**MUS 112 MARCHING BAND - 2 hours**

This course is designed to give students the opportunity to participate in a university marching band. Students will prepare athletic band repertoire to perform at home football games and other campus events including marching field show performances. Open to any instrumentalist who meets the audition standard. In order to march, students must participate in band camp (prior to start of semester). May be taken for credit up to four times. Prerequisite: approval of instructor (by audition)

**MUS 113 AURAL SKILLS I - 1 hour**

Development of skill in sight-singing and aural perception. Dictation material includes scales, intervals, triads, cadences, as well as diatonic melodies and simple harmonic patterns.

**MUS 117 SONGWRITING AND PRODUCTION - 1 hour**

This course equips aspiring songwriters and producers with the essential tools and techniques to craft compelling melodies, meaningful lyrics and polished productions. This course will emphasize the creation of original works in popular music styles. This course is designed to be appropriate for beginners as well as experienced musicians and prior musical experience is not required. Foundational audio recording and production techniques will also be introduced. LA-TCE.

**MUS 118 AUDIO PRODUCTION TECHNIQUES I - 3 hours**

This foundational course introduces students to the fundamental principles and practices of audio production across various media. Students will gain hands-on experience with industry standard equipment and software while exploring the creative and technical aspects of sound recording, editing, mixing and live sound reinforcement.

**MUS 120 INTRODUCTION TO MUSIC - 3 hours**

This course is designed to explore music originating from Western European cultures from antiquity to present day. Topics include the ancient origins of music, Gregorian chant, music from the Baroque, Classical, Romantic and 20th Century style periods. The class will also explore modern musical genres.

**MUS 121 COMPUTER APPLICATIONS IN MUSIC - 1 hour**

Study of computer applications in music including music notation software for sequencing, music education and digital recording. Course culminates with a student project in one of these areas.

**MUS 122 JAZZ HISTORY - 3 hours**

This class is designed to introduce students to the history and cultural contexts of jazz music. The course will develop chronologically moving from the early roots of jazz music through contemporary jazz. Jazz styles and genres covered will include ragtime, blues, swing, bebop, modal jazz, free jazz and fusion. The course requires no previous musical experience. L-EAH.

**MUS 123 AMERICAN MUSIC - 3 hours**

Covers American Music from the Colonial period to present day musical trends. Included topics will be early vocal music, an in-depth look at Native American music, Appalachian music and the evolution of rock, pop, jazz and musical theater. This course will examine musical elements

that distinguish “art” from “pop” in the American musical landscape and how American “art music” developed its own nationalistic sound and texture apart from music originating from countries with a longer history of original music in the genre.

### **MUS 124 POPULAR MUSIC AND CULTURE - 3 hours**

In this course, students will explore the interactive relationship between popular music and culture with emphasis on multiple cultural perspectives both within and outside of the United States as well as multiple time periods. Using the frame of popular music, students will increase overall cultural competency and build understanding of different cultures, fostering an ability to relate effectively across cultural differences. Along the way, students will engage with a wide range of popular music styles (and cultures in which they are situated) including jazz, rock n’ roll, American hip-hop, Bollywood music, Luk Thung, K-pop, Palestinian and Israeli hip-hop, Nashville country music and others. LA-FCG.

### **MUS 125 MUSIC THEORY I: TONAL HARMONY - 3 hours**

The study of the diatonic vocabulary and selected compositional techniques of Western composers of the 18th and 19th centuries. Emphasis is placed on voice leading, harmonization and analysis. To be taken concurrently with MUS 113. Prerequisite: MUS 106 or placement.

### **MUS 126 BEAT MAKING AND PRODUCTION - 1 hour**

In this course, students will learn foundations of beat making and loop-based music production and create original works. This course will emphasis creative expression in popular music styles including hip-hop, R&B, pop and electronic dance music. This course is designed to be appropriate for beginners as well as experienced musicians. Prior musical experience is not required for this course. Students will create music within loop-based and Digital Audio Workstation software environments. Foundational audio recording techniques will also be introduced. LA-TCE.

### **MUS 127 MUSIC FUNDAMENTALS AND EAR TRAINING - 2 hours**

Introductory study of the vocabulary of music with emphasis on practical application and creative projects. Topics covered include note reading in all standard clefs, major and minor scales and key signatures, meter, rhythm, intervals, triads and basic Roman numeral chord analysis. Ear training supplements these areas through melodic and rhythmic dictation, chord identification and an introduction to sight-singing using solfeggio. Prior music is helpful but not required. LA-TCE.

### **MUS 128 BEGINNING CLASS PIANO: NON-MAJORS - 1 hour**

For non-majors who have little or no prior piano experience. This class focuses on the development of music reading, basic piano technical and artistic skills and exposure to various styles of music in a group setting. LA-TCE.

### **MUS 130 A CAPPELLA CHOIR - 1 hour**

An ensemble of mixed voices open to students by audition. Standard accompanied and unaccompanied choral repertoire is prepared and performed for tours and other concert programs on and off campus. LA-TCE.

### **MUS 131 CHAMBER SINGERS - 0.5 hour**

Vocal ensemble specializing in madrigals, vocal jazz and chamber choir repertoire. Open to A Cappella Choir members by audition.

**MUS 132 OPERA WORKSHOP - 0.5 hour**

Students will prepare and perform excerpts from various operas roles. The course will culminate with a fully staged and costumed opera scenes performance. May be repeated. Prerequisite: audition.

**MUS 133 SMALL VOCAL ENSEMBLES - 0.5 hour**

Chosen from the more advanced singers at the University. Repertoire is selected based on the various interests of the students enrolled. Regular rehearsals emphasize the growth of auditory and interpretive sensitivity. Prerequisite: consent of instructor.

**MUS 135 MANCHESTER SYMPHONY CHORUS - 0.5 hour**

A mixed vocal ensemble open to University students, faculty, staff and area residents without audition. Standard choral repertoire is explored, including extended works with orchestra.

**MUS 136 CANTABILE - 0.5 hour**

A women's ensemble open to students by audition. Standard treble accompanied and unaccompanied repertoire is prepared and performed for concert programs on and off campus. May be repeated. Prerequisite: audition.

**MUS 140 SYMPHONY ORCHESTRA - 0.5 or 1 hour**

Opportunity for the study and public performance of orchestral literature. Membership selected by auditions open to all students and community musicians. One hour, strings; 0.5 hour, winds and percussion. LA-TCE.

**MUS 141 RECORDING TECHNIQUES - 3 hours**

The study and development of skills in audio recording, editing and mixing. Emphasis is placed on the application of skills through projects to develop a practical understanding of the essential concepts behind recording and audio production. Prerequisite: MUS 110.

**MUS 143 STRING ENSEMBLES - 0.5 hour**

Chosen from the more advanced string students in the University. Regular rehearsals emphasize the growth of auditory and interpretive sensitivity. Performances given at campus concerts and recitals as well as in churches and clubs in the area served by the University.

**MUS 144 WIND AND PERCUSSION ENSEMBLES - 0.5 hour**

Chosen according to the talent and interest present. Regular rehearsals emphasize the growth of auditory and interpretive sensitivity. Performances given at campus concerts and recitals as well as in churches and clubs in the area served by the University.

**MUS 146 SYMPHONIC BAND - 1 hour**

Open to any instrumentalist who meets the audition standard. Entire year utilized for rehearsing concert literature representative of many styles and composers. Local concerts and an annual tour. LA-TCE.

**MUS 147 JAZZ ENSEMBLE - 0.5 hour**

Open to any instrumentalist who meets the audition standard. Rehearsals consist of developing improvisational ability, studying characteristic literature and preparing for performances.

**MUS 148 CLASS PIANO II: MAJORS/MINORS - 1 hour**

A continuation of Class Piano I, this course is the second in a three-semester sequence in preparation for the piano proficiency exam. Technical study includes major and minor scales, major/minor arpeggios, triad and seventh chord inversions, chord progressions, greater depth in harmonization/transposition of melodies and sight reading. Prerequisite: MUS 109.

**MUS 149 ATHLETIC BAND: GOLD AND BLACK ATTACK - 0.5 hour**

Students will prepare repertoire to perform at home basketball games from January Session to the end of the season. May be repeated.

**MUS 200 PIANO: NON-MAJORS - 1 hour**

For non-majors who have at least moderate ability in piano. Requirements: selected major and minor scales, two octaves, hands together; selected major and minor arpeggios, two octaves, hands together; prepared instrumental or song accompaniment; sight-reading; easier repertoire chosen from different periods of music. May be repeated. Prerequisite: MUS 100. Private lesson fee required. LA-TCE.

**MUS 201 APPLIED PIANO: MAJORS - 1 hour**

For music majors and minors. Requirements: greater facility of scales and arpeggios; playing of dominant seventh chords in all positions and keys; cadences involving chromatic harmony; free accompaniment of songs; sight-reading; a variety of more difficult repertoire including such materials as Bach Inventions, classical sonatinas or sonatas and romantic and contemporary compositions. Prerequisite: MUS 101. Private lesson fee required. LA-TCE.

**MUS 202 VOICE - 1 hour**

Intermediate level study, a continuation of MUS 102. French or German song literature is begun and added to English and Italian repertoire. Intended for music majors and minors. Prerequisite: MUS 102. Private lesson fee required. LA-TCE.

**MUS 203 STRING INSTRUMENTS - 1 hour**

Continued emphasis on scales and arpeggios with various bowing styles and progressively more difficult etudes and concertos in the standard repertoire. Prerequisite: MUS 103. Private lesson fee required.

**MUS 204 WIND AND PERCUSSION INSTRUMENTS - 1 hour**

Continuation of MUS 104 with emphasis on further technical development and study of the standard repertoire. Prerequisite: MUS 104. Private lesson fee required.

**MUS 205 ORGAN - 1 hour**

Continued development of technical skills. Repertoire includes chorale preludes from the Orgelbuchlein of Bach and pieces of comparable difficulty by composers from the Romantic and Contemporary Periods. Prerequisite: MUS 105. Music education students studying to meet keyboard requirements must have proficiencies listed in MUS 201A. LA-TCE.

**MUS 206 PIANO PEDAGOGY - 2 hours**

The study of skills and techniques for teaching piano in individual and group settings. Students will explore various methods and literature for teaching piano at the beginning, intermediate and advanced level. Includes a practice teaching component. Prerequisite: MUS 201.

**MUS 207 VOICE: NON-MAJORS - 1 hour**

Intermediate private voice study for non-majors. Repertoire determined by instructor according to ability of student. May be repeated once for credit. Prerequisite: two semesters of MUS 107 or MUS 102. Private lesson fee required. LA-TCE.

**MUS 212 AURAL SKILLS II - 1 hour**

Continued development of sight-singing and aural perception. Emphasis is placed on recognition of harmonic function, non-harmonic tones and seventh chords. To be taken concurrently with MUS 225.

**MUS 213 AURAL SKILLS III - 1 hour**

Advanced work in aural perception and sight singing. Materials covered include chromatic harmony, modulation, two-voiced contrapuntal exercises and four-voiced homophonic exercises. To be taken concurrently with MUS 226. Prerequisite: MUS 212 and MUS 225.

**MUS 225 MUSIC THEORY II: CHROMATIC HARMONY - 3 hours**

Continuation of the study of 18th and 19th century harmony with emphasis on chromatic harmony and selected compositional techniques of Western composers. Emphasis is placed on modulation and expanded chromatic vocabulary, four-part chorale harmonization and analysis of functional and non-functional harmonies. To be taken concurrently with MUS-212. Prerequisite: MUS 125 or advanced placement.

**MUS 226 MUSIC THEORY III: CENTURY/CONTEMPORARY TECHNIQUES - 3 hours**

Study of contemporary compositional techniques through examination of works by 20th and 21st century composers. Emphasis on creative work by the student. To be taken concurrently with MUS-213. Prerequisite: MUS 225.

**MUS 227 KEYBOARD HARMONY - 1 hour**

Analysis and implementation of various harmonization techniques at the piano, including but not limited to harmonizing a single melodic line, transposition, sight-reading, open score-reading and improvisation. For music majors and minors. Prerequisite: MUS 201, MUS 225.

**MUS 230 WORLD MUSICS - 3 hours**

A study of global music traditions and styles with emphasis on non-Western music and cultural perspectives.

**MUS 241 PIANO LITERATURE - 2 hours**

The study of the history of piano keyboard literature with focus on techniques, musicianship, performance practice and aspects of interpretation from the Baroque Era to the present. Prerequisite: MUS 101.

**MUS 242 CHORAL AND VOCAL LITERATURE - 2 hours**

Exploration of choral and vocal solo literature appropriate for theory/composition and choral music education majors. Students will learn principals of teaching and rehearsing choral ensembles in public school and worship music programs. Prerequisite: MUS 202.

**MUS 243 BEGINNING COMPOSITION - 1 hour**

Private study in music composition. Students will compose original compositions based on contemporary models. Emphasis will be placed on techniques of melodic, rhythmic and harmonic organization and development. Prerequisite: MUS 125.

**MUS 244 PERCUSSION LITERATURE AND TECHNIQUES - 2 hours**

Exploration of percussion solo and ensemble literature for composition and instrumental music education majors. Students will learn principals of teaching percussion instruments in public school music programs. Prerequisite: two semesters applied study on primary instrument.

**MUS 246 BAND LITERATURE I: WOODWIND TECHNIQUES - 2 hours**

Exploration of beginning band literature for composition and instrumental music education majors. Students will learn principals of teaching woodwind instruments in public school music programs. Prerequisite: two semesters of 100-level study on primary instrument.

**MUS 248 CLASS PIANO III: MAJORS/MINORS - 1 hour**

A continuation of Class Piano II, this course is the third in a three-semester sequence in preparation for the piano proficiency exam. Technical study includes major/minor scales and arpeggios, with more advanced chord progressions and resolutions, harmonization/transposition of melodies, open score reading, accompanying and sight reading. Prerequisite: MUS 148.

**MUS 254 VOCAL PEDAGOGY - 3 hours**

The study of vocal and respiratory physiology and strategies for teaching healthy tone production. Includes a practice teaching component. Prerequisite: MUS 202.

**MUS 300 PIANO: NON-MAJORS - 1 hour**

For non-majors who are at the intermediate level in piano. Requirements: greater facility of scales and arpeggios; a variety of intermediate repertoire chosen from different periods of music. May be repeated. Prerequisite: MUS 200. Private lesson fee required.

**MUS 301 APPLIED PIANO: MAJORS - 1 hour**

For music majors and minors. Requirements: diminished seventh arpeggios; advanced repertoire, such as preludes and fugues from the Well-Tempered Clavier by Bach, classical sonatas, romantic and impressionist or contemporary compositions. Prerequisite: MUS 201. Private lesson fee required.

**MUS 302 VOICE - 1 hour**

Study of advanced intermediate solo vocal technique and diction, a continuation of MUS 202. Emphasis is on English, Italian, French and German repertoire. Operatic and/or oratorio repertoire is also explored. Intended for music majors and minors. Prerequisite: MUS 202. Private lesson fee required.

**MUS 303 STRING INSTRUMENTS - 1 hour**

Continued technical emphasis in the study of advanced etudes, sonatas and concertos representative of the literature for the instrument. Prerequisite: MUS 203. Private lesson fee required.

**MUS 304 WIND AND PERCUSSION INSTRUMENTS - 1 hour**

Continuation of 204 with more advanced etudes and solos. Prerequisite: MUS 204. Private lesson fee required.

**MUS 305 ORGAN - 1 hour**

Emphasis on the development of repertoire. More difficult works by composers from all periods are selected. Prerequisite: MUS 205.

**MUS 306 COLLABORATIVE PIANO - 1 hour**

For third and fourth-year students who accompany senior recitals, A Cappella Choir or a major musical production presented by the University. May be repeated in different semesters for up to three hours. Prerequisites: MUS 201 or 205 and consent of instructor.

**MUS 307 VOICE: NON-MAJORS - 1 hour**

Advanced intermediate private voice study for non-majors. Repertoire determined by instructor according to ability of student. May be repeated once for credit. Prerequisite: two semesters of MUS 207. Private lesson fee required.

**MUS 311 ELEMENTARY MUSIC METHODS - 4 hours**

A study of the teaching and supervision of music in the elementary school with special emphasis on methods, materials, techniques, skills and literacy in the content area. The relationship of music curriculum to the general elementary curriculum will be explored. Also covered are problems of administration, the history of public-school music, curriculum planning, classroom management and assessment methods.

**MUS 313 ORCHESTRATION - 2 hours**

Examination of the capabilities of band and orchestral instruments; arrangement of music scores for various instrumental ensembles; analysis of representative scores.

**MUS 318 AUDIO PRODUCTION TECHNIQUES II - 2 hours**

This course builds upon the foundations established in Audio Production Techniques I, exploring advanced techniques and methodologies in audio production. Students will refine skills and explore cutting-edge techniques in studio recording, live sound reinforcement and multimedia audio integration, preparing them for professional-level work in various audio environments. Prerequisite: MUS 118.

**MUS 331 MARCHING BAND TECHNIQUES - 2 hours**

Principles of teaching athletic bands in the public schools including Technology-based marching band drill-writing, ISSMA-based adjudication techniques, composing/arranging/editing music for marching and pep bands and administrative elements concerning bands for indoor and outdoor athletic events. Prerequisites: MUS 121 and 125.

**MUS 332 MUSIC HISTORY I - 3 hours**

Study of the history of Western music from ancient Greece through the middle baroque. Composers, trends, forms and innovations are placed in their historical and cultural context. Prerequisite: MUS 225.

**MUS 341 BASIC CONDUCTING - 2 hours**

An investigation of the role and responsibility of the conductor, with experience for the development of conducting skills. Emphasis is on history of conducting, terms, gesture and score study. Prerequisite: MUS 125.

**MUS 343 ADVANCED CONDUCTING - 3 hours**

Continued application of the skills of MUS 341 with advanced gestural and score study skills necessary for conducting large instrumental ensembles. Includes an emphasis upon specific instrumental rehearsal techniques. Prerequisite: MUS 341.

**MUS 344 ORCHESTRA LITERATURE: STRING TECHNIQUES - 2 hours**

Exploration of beginning orchestra literature for composition and instrumental music education majors. Students will learn the principles of teaching string instruments in public school music programs. Prerequisite: 2 semesters applied study on primary instrument.

**MUS 346 BAND LITERATURE II: BRASS TECHNIQUES - 2 hours**

Exploration of beginning band literature for composition and instrumental music education majors. Students will learn principals of teaching brass instruments in public school music programs. Prerequisite MUS 246 and two semesters applied study on primary instrument.

**MUS 347 COUNTERPOINT, FORM and ANALYSIS - 2 hours**

A study of the rules of counterpoint and structural analysis of inventions and fugues. Identification and study of the elements of key musical forms including binary, ternary, rondo and sonata allegro. Prerequisite: MUS 225.

**MUS 353 INTERMEDIATE COMPOSITION - 1 hour**

Private study in music composition. Students will compose original works determined on an individual basis. Prerequisite: MUS 226, 243.

**MUS 355 CHORAL ARRANGING - 2 hours**

An examination of the capabilities of various voices and ensembles. Students will arrange music for various vocal ensembles and analyze representative scores. Prerequisites: MUS 110, 225.

**MUS 362 SECONDARY MUSIC METHODS - 3 hours**

The study of teaching strategies for middle and high school music educators, including methods of assessment and classroom management in accordance with state certification requirements. Includes observation/practicum experiences and participation in the state music educator's conference. Must be taken prior to student teaching. Prerequisite: MUS 125, EDUC 111 and EDUC 237.

**MUS 370 HALF RECITAL - 1 hour**

Applied lesson in student's major concentration emphasizing advanced technical material and literature. Course culminates with a 25–30-minute public performance of literature appropriate for student's major. For music majors and minors. Prerequisite: completion of 200-level applied lessons.

**MUS 378 INTERNSHIP IN AUDIO PRODUCTION – 2 hours**

This hands-on internship provides students with practical experience in a professional recording studio environment and/or live sound setting. Through supervised professional experience, the course aims to prepare students for diverse career paths in the audio industry. Prerequisite: Department chair approval.

**MUS 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**MUS 400 PIANO: NON-MAJORS - 1 hour**

For non-majors who are at least at the advanced intermediate level in piano. Requirements: greater facility of scales and arpeggios; a variety of advanced- intermediate to advanced repertoire chosen from different periods of music. May be repeated. Prerequisite: MUS 300. Private lesson fee required.

**MUS 401 APPLIED PIANO: MAJORS - 1 hour**

For music majors and minors. Requirements: advanced technical material and literature; graduation recital. Prerequisite: MUS 301. Private lesson fee required.

**MUS 402 VOICE - 1 hour**

Study of advanced vocal technique, a continuation of MUS 302. Senior recital repertoire is explored, representative of various languages and genres deemed appropriate by the instructor. Intended for music majors and minors. Prerequisite: two semesters of 300-level voice study for majors (may include MUS 370). Private lesson fee required.

**MUS 403 STRING INSTRUMENTS - 1 hour**

Further development of acquired techniques to complete the undergraduate requirements in literature for the instrument. Includes a graduation recital. Prerequisite: MUS 303. Private lesson fee required.

**MUS 404 WIND AND PERCUSSION INSTRUMENTS - 1 hour**

Continued study of etudes and representative concertos. Graduation recital required. Prerequisite: MUS 304. Private lesson fee required.

**MUS 405 ORGAN - 1 hour**

Devoted to expanding the student's repertoire and preparing a graduation recital. Prerequisite: MUS 305.

**MUS 407 VOICE: NON-MAJORS - 1 hour**

Advanced private voice study for non-majors. Repertoire determined by instructor according to ability of student. May be repeated once for credit. Prerequisite: two semesters of MUS 307 (May include MUS 370). Private lesson fee required.

**MUS 430 ADVANCED COMPOSITION - 1 hour**

Private study in music composition. Students will compose original works determined on an individual basis in preparation for a senior recital. Prerequisite: MUS 353.

**MUS 432 MUSIC HISTORY II - 3 hours**

Study of the history of Western music from the late baroque through the early 20th Century. Composers, trends, forms and innovations are placed in their historical and cultural context. Pre-requisite: MUS 225.

**MUS 472 FULL RECITAL - 2 hours**

Applied lessons in student's major concentration, emphasizing advanced material and literature. Course culminates with a 45–50-minute public performance of literature appropriate for student's major. For music majors and minors. Prerequisite: completion of 300-level applied lessons or MUS 370.

**MUS 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**NASC 103 PHYSICAL SCIENCE - 3 hours**

A survey of elements of physical science with a focus on the important role of energy in our society. Topics include elementary aspects of astronomy, Newtonian mechanics, energy conservation, electricity and magnetism and modern physics. Laboratory activities are a required part of this course. This course is NOT intended for students majoring in mathematics or the natural sciences.

**NASC 202 EXPLORING STEM CAREERS I - 1 hour**

students will explore and articulate their personal values, ethics and strengths. They will gain exposure to career paths that relate to those values and strengths, as well as consider the implications of following these paths on their financial goals. By researching potential career paths in STEM fields, interviewing STEM professionals and visiting local employers, they will reflect on what it means to do meaningful work in STEM fields that improves the human condition. Open to all majors. LA-TAE.

**NASC 209 PHYSICAL GEOLOGY - 3 hours**

A study of the earth and the changes that it undergoes. Topics include minerals, rocks, weathering, volcanism, glaciation, mountain building and earthquakes discussed in the context of the theory of plate tectonics. The course has a laboratory component and may include one required field trip. Lab fee.

**NASC 210 EXPLORATION OF NATURAL SCIENCE - 3 hours**

This course will use an integrated approach to explore topics in the fields of biology, geoscience, chemistry and physics. Students will engage critical thinking skills in a project-based learning environment to develop a broad base of scientific literacy, collaborating to apply their knowledge to solve authentic, real-world problems. Students will discover how living things interact with each other and their environment to obtain energy and building blocks for growth, classify features of the earth and the processes that shape its landscapes and describe how motion, energy and forces affect the way things work. LA-ENS.

#### **NASC 302 EXPLORING STEM Careers II - 1 hour**

Students will study a single STEM career path of their choosing in depth through interviewing professionals in that field, shadowing professionals and/or completing a practical experience in the field. They will analyze the skills, attributes and preparation required and evaluate how those aspects align with their personal goals and values.

#### **NASC 310 MEDICAL PRACTICUM - 3 hours**

A short-term experience in global health involving health care professionals providing health care opportunity for students to experience the culture of a rural, less developed area of the world and to learn the needs and challenges in health care delivery systems.

#### **NASC 315 GLOBAL DISEASE - 3 hours**

This course will examine the major communicable and noncommunicable human diseases within the context of the global burden of human disease. In addition, it will cover causes origins and nature of communicable (infectious) diseases, which are transmissible via direct contact with by person-to-person, water or food, animals or vectors. Special consideration will be given to Neglected Tropical Diseases. The course will also cover causes origins and nature of non-communicable diseases, which are of non-infectious origin. Finally, it will analyze the prevalence of given disease/risk factors as well as the relative harm each cause, in terms of both morbidity and mortality.

#### **NASC 375 HEALTH SCIENCES PRACTICUM - 2-3 hours**

A course designed to provide qualified students on-the-job experience in a professional setting. Students will be placed in a selected clinic or office, under the supervision of a licensed professional and will observe a full complement of diagnostic and therapeutic regimens, familiarize themselves with the theory and practice of the selected discipline and, when possible, participate in the program. Prerequisite: consent of instructor.

#### **NASC 450 SENIOR SEMINAR - 1 hour**

This course is designed to provide a capstone experience to students in the Natural Sciences. The course will have students each select a problem related to both improving the human condition related to their major and career goal, that synthesizes information from the natural sciences. In addressing their chosen problem, students will also work on developing professionalism in their chosen career field, financial awareness and civic engagement. Prerequisite: Junior standing. LA-TPR.

#### **NASC 475 INTERNSHIP IN HEALTH SCIENCES - 3 hours**

Students with junior or senior status function as applied professionals in a setting related to health science in order to understand the real-world application of health science concepts and

to develop critical thinking, technical skills and professionalism. Students are supervised by both a professional with significant experience in such applications and a faculty member. A written report describing the overall project and the students' contribution will complete the course. Students must formally enroll in this course prior to beginning their work experience.

#### **NASC 380 and 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and the college dean must also approve. A set of guidelines is available at the Office of the Registrar.

#### **NURS 125 INTRODUCTION TO NURSING - 3 hours**

This entry-level course introduces students to the art and science of nursing as a profession. The concepts covered in this course include nursing as a profession, providing patient-centered care, advocating for safety and being an important member of the healthcare team. The course content includes history and trends in nursing, medical terminology, the nursing process, clinical reasoning, communication, ethical/legal issues and health information technology. Students will also be provided with an introduction and practice to the American Psychological Association writing style.

#### **NURS 200 NURSING CALCULATIONS - 2 hours**

This course introduces the student to the mathematical concepts related to medication administration and medical terminology to provide a framework of reference for subsequent nursing content. Medication abbreviations, measurements, conversions and dosages are discussed. Legal and ethical issues surrounding the nurse's role related to these concepts are incorporated. Prerequisites: NURS 125, MATH 115. NURS 210 must be taken at the same time as this course.

#### **NURS 210 PATHOPHYSIOLOGY FOR NURSING - 3 hours**

This course focuses on common disease conditions affecting human beings across the lifespan. Interplay of environmental, biological, behavioral and pharmacological determinants to the disease process are examined. Emphasis is on homeostasis of body systems resulting in optimal health. Enrollment is restricted to nursing majors. Prerequisite(s): BIOL 202, 202L, 204, 204L and NURS 125. Required Corequisite is BIOL 219/L.

#### **NURS 216 HEALTH ASSESSMENT FOR NURSING - 4 hours**

Evidence-based components of a routine well adult health assessment utilizing various methods are demonstrated and practiced to perform a complete history and physical examination. Distinguishing normal from abnormal conditions is emphasized. Cultural considerations, therapeutic communication and promotion of a healthy lifestyle are emphasized. The students must complete 42 hours of hands-on practice lab time to successfully complete this course. Enrollment is restricted to nursing majors. Prerequisite: NURS 125.

#### **NURS 220 FUNDAMENTALS OF NURSING - 5 hours**

Fundamental nursing concepts, skills and techniques of safe nursing practice. Application of concepts, including the nursing process, will be applied to nursing care for the beginning nurse clinician. Emphasis on evidence-based practice, development of nursing judgment (clinical

reasoning), documentation, standard precautions, concept mapping, patient education, health adaptation and therapeutic communication. Basic drug therapy concepts are introduced. Enrollment is restricted to nursing majors. Prerequisite(s): NURS 125.

### **NURS 300 MATERNAL NEWBORN - 4 Hours**

This course is designed to apply the nursing process to health promotion, wellness and maintenance of women and families during pregnancy and care during the childbearing period and throughout the lifespan. Emphasis is placed on nursing care throughout pregnancy, labor and delivery and postpartum. Nursing care of clients and concepts of family, spiritual, cultural adaptation, nutrition, genetics and education are integrated. Prerequisites: NURS 305, 320. LA-FCG.

### **NURS 305 PHARMACOLOGY FOR NURSING - 3 hours**

This course examines the pharmacological principles of pharmacodynamics, pharmacokinetics, drug interactions, common side effects and misuse of medications. Pharmacotherapeutic agents that are used in the treatment of illness and the promotion, maintenance and restoration of wellness in diverse individuals across the lifespan will be discussed. Emphasis is on concepts of safe administration and monitoring the effects of pharmacotherapeutic agents. Enrollment is restricted to nursing majors. Prerequisite: NURS 200.

### **NURS 320 ADULT HEALTH I - 6 hours**

Application of concepts related to the care of the adult in the acute care setting with commonly occurring medical-surgical problems. Emphasis of this course is on the use of the nursing process and application of core nursing competencies in providing and coordinating safe, quality and patient-centered care. Prerequisite(s): NURS 125, 210, 200, 220.

### **NURS 325 ADULT HEALTH II - 6 hours**

Expands on concepts from previous coursework. Uses the nursing process, clinical judgement and leadership principles to care for adult patients experiencing complex medical-surgical conditions along the health-illness continuum. Incorporates evidence-based practice, professional standards, quality improvement and legal and ethical responsibilities of the professional nurse caring for high acuity patients. Application of knowledge and skill competencies occur in a variety of clinical settings. Enrollment restricted to nursing majors. Prerequisite(s): NURS 305, 320.

### **NURS 330 MENTAL HEALTH & WELLNESS - 4 hours**

Develop knowledge of psychiatric/mental health issues, including psychosocial concepts; cultural, ethical and legal influences; and wellness of individuals and family groups. Application of the nursing process with emphasis on critical thinking, therapeutic nursing interventions and effective communication and interpersonal skills as they relate to persons with psychiatric mental health conditions. Opportunities in select care environments to gain skill and refine therapeutic communication techniques with patients and family members promoting therapeutic interpersonal relationships. Prerequisite(s): NURS 210, 200, 220; PSYC 224.

### **NURS 400 PEDIATRIC NURSING - 4 Hours**

This course is designed to allow the student to care for and evaluate infants, adolescents and their families. Throughout the curriculum, a focus is incorporated on adapting nursing care as it

relates to the patient's growth and development, concepts of family, spirituality and culture. The course will integrate practice standards related to pediatrics, pharmacology, nutrition, genetics, current treatment modalities, education, legal implications of the care of children and the nursing process. Prerequisites: NURS 210, 216, 220 and PSYC 224.

#### **NURS 405 RESEARCH FOR EVIDENCE-BASED PRACTICE - 3 hours**

Students will develop an understanding of the research process and scholarship for evidence-based practice. A spirit of inquiry will be fostered through interpretation, analysis and critique of research literature. Students will engage in the exploration of current evidence-based practice and application of scientific methodologies related to specific challenges in healthcare. Translation of information presented through scientific literature to current practitioners and patients. Ethical considerations and methods of protection of human subjects will be discussed. Prerequisite: PSYC 110. LA-ENS.

#### **NURS 410 NURSING IN THE COMMUNITY - 4 hours**

Applies theoretical and empirical knowledge in using the nursing process in urban and rural community settings to promote, maintain and restore health. Emphasis on health education, health promotion and illness prevention as strategies for meeting the health needs of population aggregates. Integrates trans-cultural nursing concepts, rural and home health care delivery. Diverse roles of the community and public health nurse are examined and a community assessment is completed using research and data processing skills. Enrollment is restricted to nursing majors. Prerequisite(s): NURS 210, 200, 220.

#### **NURS 430 NURSING CARE OF CRITICALLY ILL - 4 hours**

Comprehensive essential knowledge and skills to perform effectively and efficiently in the critical care discipline, so as to ensure the delivery of safe, holistic and quality care to patients. Students gain clinical competence by assimilating foundational nursing knowledge with core critical care concepts. The focus is on providing safe, competent care of critically ill patients and their families. Prerequisite(s): NURS 305, 325.

#### **NURS 440 PREPARATION FOR PROFESSIONAL NURSING - 3 hours**

This course will prepare students for entry into professional practice through the review of concepts required for licensure examination and strategies for identification of, applying for and interviewing for nursing positions and graduate education. Preparation for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) will be a major focus. Enrollment is restricted to nursing majors. Prerequisite: NURS 325. Corequisite: NURS 430.

#### **NURS 450 CAPSTONE LEADERSHIP IN NURSING PRACTICE - 7 hours**

This course provides the student with the opportunity to synthesize all information gained from their previous courses and incorporate it into the role of a professional nursing in a clinical setting. This experience assists the student in making the transition from the academic setting to the professional work setting. Emphasis is placed on clinical decision-making skills using the nursing process, clinical judgment model, principles of care giving, leadership and management concepts, time management, delegation, conflict resolution, refining communication skills, change concepts, advocacy and evidence-based practice integration. Prerequisites: NURS-325, 405. LA-TBI.

**NUTR 101 NUTRITION SCREENING LAB - 1 hour**

This lab taught independently from a lecture will cover privacy laws, liability concerns and appropriate clinician demeanor. Students will be introduced to the clinical setting and gain real life experience meeting with clients and taking anthropomorphic measurements. Students will practice using a variety of assessment tools used in clinical settings and the fitness industry.

**NUTR 102 NUTRITION COMMUNICATION - 3 hours**

An introduction for professionals who may communicate with individual clients and the public about nutrition topics. This course will introduce the principles of behavior change and motivational interviewing. The limitations of professional scopes of practice will be defined and appropriate public domain resourcing will be taught. Additionally, students will learn techniques of science communication to lay audiences, explore nutrition in social media and news outlets and learn to critically evaluate nutrition in the news.

**NUTR 103 GLOBAL FOOD AND NUTRITION - 3 hours**

An exploration of diverse food cultures and nutrition among communities locally and globally. Students will experience hands on cooking and tasting of foods from various regions. Additionally, students will learn about food insecurity, justice and systems that influence and are influenced by climate change. LA-FCG.

**NUTR 210 INTRODUCTION TO HUMAN NUTRITION - 3 hours**

An introduction to human nutrition and metabolism. This course will equip students to understand how nutrients are absorbed and transported throughout the body to support optimal health throughout the life cycle. Course topics will introduce weight control, performance nutrition, eating disorders and common issues in nutrition, the professional role of dietitians and scope of practice boundaries.

**NUTR 211 HUMAN LIFE CYCLE NUTRITION - 3 hours**

An introduction to human life cycle nutrition. This course will equip students to understand how nutrients support optimal health throughout the life cycle. Course topics will discuss optimal dietary patterns/nutrient intakes for both fetus/infant and mother during pregnancy and lactation, childhood, adolescence, adult phases and successful aging based on appropriate nutrition. Course content will focus heavily on disease prevention through optimal nutrition.

**NUTR 220 FOOD SCIENCE - 3 hours**

This course teaches the science of the best cooking methods to preserve nutrition, optimize health and flavor. Course material offers foundational lifestyle health practices that support personal wellbeing. Food safety regulations and government regulatory agencies will be introduced. Hazardous analysis critical control points will be taught and upon course completion, students will be prepared to sit for ServeSafe certification exam required for employment in the food industry and RDN's. Corequisite: NUTR 220L.

**NUTR 220L FOOD SCIENCE LAB - 1 hour**

This course offers hands on applied experiences of the best cooking methods to preserve nutrients and optimize health. Students will cook and taste foods prepared during lab. Application of food safety and government regulations will be demonstrated and experienced. Corequisite: NUTR 220.

**NUTR 230 SPORTS NUTRITION - 3 hours**

An introduction to feeding athletes to optimize physical performance, support long term sport participation while promoting lifelong health habits with an emphasis on a whole food diet. Students will learn specific nutrient requirements for athletes and nutrient intake strategies before, during and after training and competition as athletes must consider when they eat in relation to athletic events, duration of events, as well as the way food is delivered. Students will learn how nutrition professionals must plan for athlete-specific eating requirements. Supplements, ergogenic aids and avoiding banned substances will be discussed. Students will apply lecture material to case studies athletes throughout the semester.

**NUTR 315 INTERNATIONAL FOODS AND NUTRITION - 3 hours**

Students will travel internationally and explore the countryside, history and culture focusing on the food environment, social norms, ingredients, population nutritional status, government food and nutrition policies and the impact of climate change in international locations visited and make comparisons to these same aspects of the U.S. food and nutrition environment.

**NUTR 320 MEAL PREP & DIET PLANNING - 3 hours**

Students will apply nutrition guidelines to plan healthy, well-balanced meals based on personal requirements and for healthy populations using public domain resources equipping students of various disciplines to guide others. Course material will focus on ingredient and nutrient diversity and meal planning on a limited budget with minimal equipment. Students will learn eating strategies for lifelong wellness. Topics will include eating for heart health, fueling athletes, weight management and sustainable eating. Students will cook and taste foods prepared during some lectures that will occur in the nutrition and food science lab. Food safety will be a focus throughout.

**NUTR 330 MICRONUTRIENTS AND METABOLISM - 3 hours**

This course delves into micronutrient consumption, digestion, absorption, distribution and cellular metabolism in humans. Students will gain an in-depth understanding of the role of micronutrients in body function in health and disease. The course will include micronutrient rich diets and applying knowledge to personal lifestyle health practices. Emphasis will be placed on whole food nutrition and will also examine micronutrient supplement safety.  
Prerequisites: NUTR 210.

**NUTR 340 MACRONUTRIENTS AND METABOLISM - 3 hours**

This course delves into macronutrient consumption, digestion, absorption, distribution and cellular metabolism in humans. Students will gain an in-depth understanding of the role of macronutrients in body function in health and disease. The course will include differentially balanced macronutrient diets and applying knowledge to personal lifestyle health practices.  
Prerequisites: NUTR 210.

**PEAC 110 INTRODUCTION TO PEACE STUDIES - 3 hours**

An introduction to the interdisciplinary field of peace studies. This course explores the causes and effects of violence and conflict and examines the possibilities for the nonviolent transformation of interpersonal, intergroup and international conflict. LA-FCG.

**PEAC 112 CONCERNING POVERTY - 3 hours**

This interdisciplinary course examines poverty, its consequences and individual and collective responses to address these problems. Course materials explore poverty in a broad range of contexts, from within Wabash County to global disparities. Readings and course activities establish the relationship between poverty and peace studies; examine definitions of poverty and methodologies for its measurement; explore significant differences related to social location or context; describe correlated conditions; and analyze diverse philosophical, theological and political responses.

**PEAC 120 CURRENT ISSUES IN PEACE AND JUSTICE - 2-3 hours**

Study and application of conflict theory to current problems of peace and justice. The topics and materials for this course will change each term and the course, therefore, may be repeated. A student may enroll twice for credit, thereafter without credit.

**PEAC 218 MEDIATING CONFLICT - 3 hours**

Study and practice of the psychological and sociological components and technical skills inherent to mediating interpersonal and intergroup conflict. LA-FCG.

**PEAC 235 NONVIOLENT SOCIAL CHANGE - 3 hours**

This course focuses on the moral legitimacy and strategy of nonviolent movements. We examine the spectrum of methods that can be categorized as nonviolent responses to injustice.

**PEAC 250 PEACEMAKING IN PRACTICE ABROAD - 3 hours**

An examination of social justice issues, models of peace building, transitional justice and reconciliation in a context outside the United States. Specific attention is given to the significance of transnational factors in a conflict and the potential of global partnerships to address injustice. This study will include a survey of the historical, social and cultural context; principal peacemakers; and examples of collective action to promote justice and reduce violence. Coursework involves a combination of site visits, sessions with practitioners, readings and discussions. This course may involve community service projects. The course is designed as an off-campus travel course conducted outside the United States and may be repeated to different locations. LA-FCG, EXL Designation.

**PEAC 275 PRACTICUM IN PEACE STUDIES - 1-6 hours**

Student participation in off-campus projects that are related to the major. Students, in consultation with teaching faculty in the program, plan readings, reports and/or other means of evaluation.

**PEAC 320 GLOBAL COFLICT RESOLUTION - 3 hours**

An advanced and analytical study of conflict processes at social and global levels. In this class, students will learn how conflicts evolve across various contexts. Students will also study cases and methods used in addressing conflicts constructively. LA-FCG.

**PEAC 330 MILITARISM, WAR AND PEACE - 3 hours**

This class features an extensive analysis of our society's relationship with militarism and war. This class helps students examine causes and nature of war and the impact of wars on us. This class helps A special emphasis is on the structure of militarism and its prevalent connections

with individuals, society and modern warfare. This class also articulates historical and current attempts at peace in the shadow of war.

**PEAC 333 PEACE ISSUES - 3 hours**

Summary study of moral, political and religious perspectives on such problems as violent and nonviolent social and political change, racial justice, human rights, the population explosion, militarism and pacifism. Historical analysis and philosophical insight on major problems which threaten peace and the development of civilization.

**PEAC 475 INTERNSHIP IN PEACE AND CONFLICT STUDIES - 3-9 hours**

Work performed in service for a public or private organization concerned with peace and/or justice issues. Open to junior and senior students who demonstrate academic and personal qualifications appropriate to the position. Prerequisite: consent of instructor.

**PEAC 385 or 485 SEMINAR IN PEACE STUDIES - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**PHYS 111 COLLEGE PHYSICS I - 4 hours**

Primarily for students with no high school physics background, this is an algebra-/trigonometry-based course. The main topics include kinematics, Newtonian mechanics, energy and fluids. Instruction is by lecture, demonstration, discussion, problem solving and laboratory experiences. Includes three lecture periods and a two-hour laboratory per week. This course is not intended for majors in chemistry. Course is first of a two semester sequence although it may be taken as a stand-alone course. Corequisite: PHYS 111L, PHYS 111R. Prerequisite: MATH 105 or higher.

**PHIL 201 INTRODUCTION TO PHILOSOPHY - 3 hours**

An introduction to the philosophical tasks of (a) reflective thinking about life and the universe as a totality; (b) critical examination of presuppositions, words and concepts; (c) examination of ways in which we gain knowledge; (d) the quest for criteria which determine our value judgments of the good and the beautiful. LA-TFR.

**PHIL 205 A MEANINGFUL LIFE - 3 hours**

What do we live for? What gives us purpose and meaning? Who decides – and how – which lives are most meaningful (or most important)? How are our own answers to these questions culturally conditioned? This course seeks to address these questions by examining a variety of philosophical, religious and cultural traditions. Students will explore the writings of historical and contemporary figures who puzzle over the meaningful life and will draw on these ideas to articulate their own answers to these big questions of meaning and purpose. LA-TFR.

**PHIL 206 THE HUMAN PERSON - 3 hours**

What is a human being? What does it mean to exist? What is our relationship to others, to ourselves, to God? What is this being that can conceive of and long for eternity, while being bound within the limits of temporality and space? This course will explore topics like the relationship between faith and reason, mortality, the afterlife, a sense of self, the sources and limits of knowledge, the pursuit of goodness, truth, beauty and meaning. LA-TFR.

**PHIL 215 ETHICAL DECISION MAKING - 3 hours**

A study of ethical principles and their application to practical decision making in such areas as sex, criminal justice, economics and euthanasia. LA-TFR.

**PHIL 219 BUSINESS ETHICS - 3 hours**

A study of ethical principles and theories in the context of business and the economy. LA-TFR.

**PHIL 221 MEDICAL AND RESEARCH ETHICS - 3 hours**

This course is an overview of the development and practice of medical ethics. We will cover scandals of the past century as well as the foundational ethical principles those scandals led to that now govern the discipline. This course will cover the major philosophical and religious ethical systems, medical and research issues like different models of the doctor/patient relationship, including from paternalism to informed consent, the tensions between doing pure science and serving one's patients, from double-blind trials to compassionate use of experimental medicine and the tensions between values of autonomy, medical expertise and religious and cultural sensitivity, among others. LA-TFR.

**PHIL 230 LOGIC - 3 hours**

A study of various deductive logics (categorical, propositional and predicate), inductive logics and common informal fallacies. The aim of this study is to improve abilities: (1) to identify arguments from other kinds of discourse and separate what is relevant to an argument from what is not, (2) to evaluate arguments in a reasoned and constructive way and (3) to construct your own arguments, such that they are clearly stated and free of fallacies. LA-FQR.

**PHIL 327 INDIGENOUS THINKING - 3 hours**

This course explores philosophical themes of metaphysics, epistemology and value theory from the perspectives of Indigenous American and other tribal traditions. Students will consider the approach that Native peoples have taken to questions of reality, knowledge, ethics and justice. LA-FCG.

**PHIL 330 PHILOSOPHY OF RELIGION - 3 hours**

A philosophic approach to the problems of religion with emphasis on ways of knowing, religious language, the theistic hypotheses, basic conceptions of God, the nature and destiny of humanity and the problems of freedom and evil.

**PHIL 444 PHILOSOPHY OF CIVILIZATION - 3 hours**

The ideas of philosophers, historians and political analysts as to how society may best be ordered, what causes the development and breakdown of civilization and the highest ideals on which human life may be built. The nature of historical analysis and the role of the individual, both as thinker and actor in historical development. Prerequisite: FYWS.

**PHYS 111L COLLEGE PHYSICS I LAB - 0 hours**

Laboratory to accompany PHYS 111. Prerequisites: PHYS 111 concurrent enrollment.

**PHYS 111R COLLEGE PHYSICS I RECITATION - 1 hour**

Supplemental instruction to accompany College Physics I Lecture and Lab. This course will focus on problem solving related to lecture content. Co-requisite: PHYS 111

**PHYS 112 COLLEGE PHYSICS II - 4 hours**

This course is a continuation of PHYS 111. The main topics include fluids, electricity and magnetism, optical physics and some aspects of modern physics. Instruction is by lecture, Form revised 09/27/2021 demonstration, discussion, problem solving and laboratory experiences. Includes three lecture periods and a two-hour laboratory per week. This course is not intended for majors in chemistry. This course is the second of a two-semester sequence. Corequisite: PHYS 112L, Prerequisite: PHYS 111.

**PHYS 112L COLLEGE PHYSICS II LAB - 0 hours**

Laboratory to accompany PHYS 112. Prerequisites: PHYS 112 concurrent enrollment.

**PHYS 210 GENERAL PHYSICS I - 4 hours**

This course is the first of a two-semester sequence in calculus-based physics. Topics include an introduction to derivatives, integrals and vectors, motion in one and two dimensions, rotational motion, energy, gravitation and sound. This course is intended for chemistry, mathematics and other science majors. Includes three class meetings and a two-hour laboratory per week. Corequisite: PHYS 210L. Prerequisites: MATH 121. Enrollment in MATH 121 may be concurrent.

**PHYS 210L GENERAL PHYSICS I LAB - 0 hours**

Laboratory to accompany PHYS 210. Prerequisites: PHYS 210 concurrent enrollment.

**PHYS 220 GENERAL PHYSICS II - 4 hours**

This course is the second of a two-semester sequence in calculus-based physics. Topics include electrostatics, basic LCR circuits, magnetism, optics, electromagnetic waves and modern physics. This course is intended for chemistry, mathematics and other science majors. Includes three class meetings and a two-hour laboratory per week. Prerequisites: MATH 122; PHYS 210. Enrollment in MATH 122 may be concurrent.

**PHYS 220L GENERAL PHYSICS II LAB - 0 hours**

Laboratory to accompany PHYS 220. Prerequisites: PHYS 220 concurrent enrollment.

**PHYS 380 or 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**PHYS 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**PHYS 499 RESEARCH - 1-4 hours**

Independent research under the supervision of a faculty member or other designee.  
Prerequisite: PHYS 220, MATH 122 and permission of instructor.

**POSC 122 STATE AND LOCAL POLITICS - 3 hours**

An introductory study of state and local government, emphasizing contemporary structures and processes and their influence on public policy.

**POSC 123 AMERICAN POLITICS - 3 hours**

An introductory study of national, state and local government, emphasizing contemporary structures and processes and their influence on public policy. LA-ESS.

**POSC 150 INTERNATIONAL RELATIONS - 3 hours**

An introductory survey of theories of state behavior and analysis of political and related forces that operate in the international system, emphasizing historical and contemporary conflicts. Recommended to be taken concurrently with POSC 370 Model United Nations. LA-ESS.

**POSC 201 POLITICAL CONCEPTS AND IDEOLOGIES - 3 hours**

A discussion of important concepts (such as liberty, equality and democracy) set in the context of contemporary issues and modern ideologies (such as liberalism, conservatism and socialism). LA-ESS

**POSC 225 PUBLIC POLICY - 3 hours**

An overview of the policy-making process, the methods and theories of policy analysis and contemporary policy issues and controversies. Students will work in groups to propose, design and produce a policy proposal and present it to a policymaking body. LA-ESS, EXL Designation.

**POSC 234 DEMOCRACY AND DICTATORSHIP - 3 hours**

Comparative analysis of political regimes and economic systems, emphasizing distinctive political cultures, institutions, practices organizations and decision-making processes. LA-ESS.

**POSC 253 ENVIRONMENTAL POLITICS - 3 hours**

An examination of how political forces shape environmental choices and how political processes are used to address and manage environmental problems. The interplay of local, national and international environmental problems and policies will be examined.

**POSC 345 SUPREME COURT AND THE CONSTITUTION - 3 hours**

In this course we will begin by reading and examining the Constitution as a legal document and discuss how it is read and interpreted by the Court. In the second part of the course, we examine the Court as an institution and discuss a variety of factors that affect its functioning. In the final part of the course, we discuss major historical and contemporary cases heard by the Court.

**POSC 370 MODEL UNITED NATIONS - 1-2 hours**

Supervised preparation for and participation in Model United Nations sessions. May be repeated to a maximum of four hours. Taken concurrently with POSC 371. Prerequisite: permission of instructor.

**POSC 371 UNITED NATIONS - 3 hours**

A study of international organizations. Emphasis upon the United Nations and its peacemaking, peacekeeping and peace-enforcing roles, as well as its contributions to world order. Taken concurrently with POSC 370 Model UN. LA-FCG.

**POSC 372 MOCK TRIAL - 2 hours**

Supervised preparation for and participation in intercollegiate mock trial tournaments. May be repeated to a maximum of four hours. Prerequisite: permission of instructor.

**POSC 475 INTERNSHIP - 3-12 hours**

Long-term or extensive participation in formal internships with governmental or non-governmental organizations. No more than three hours may be used to meet requirements in the major. Prerequisite: permission of the instructor and department chair.

**POSC 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**PSYC 110 INTRODUCTION TO PSYCHOLOGY - 4 hours**

An introduction to the scientific study of behavior and mental life which includes an overview of the biological, social and cultural influences on behavior. In addition to three hours of lecture meetings per week, all students will participate in an online lab experience which provides experiences to apply course content to practical problems and investigate psychological research. LA-ESS.

**PSYC 230 SPORTS PSYCHOLOGY - 4 hours**

An overview of foundational principles of psychology as applied to sport, exercise and recreational activity for enhanced interactions and performance. An emphasis will be placed on techniques and strategies that maximize skill performance with an understanding that many of the behaviors evident in sport are transferable to other performance endeavors. Topics include overview of the field, motivation, personality factors, self-concept, team development, leadership, psychological skills training, post sport identity and exercise adherence. This course can be taken as an exercise science or psychology designated course for credit.

**PSYC 201 SOCIAL PSYCHOLOGY - 3 hours**

The scientific study of how people think about, influence and relate to one another within and across cultures. Topics include the interaction of culture and gender, conflict and peacemaking, social beliefs and judgments, conformity, persuasion, prejudice, aggression and attraction as they vary. All students will participate in applied research or other practical experience. When offered on campus, concurrent enrollment in PSYC 201L is required. LA-FCG

**PSYC 201L SOCIAL PSYCHOLOGY LAB - 1 hour**

Students will participate in applied and field-based research. When PSYC 201 is offered on campus, concurrent enrollment in PSYC 201L is required.

**PSYC 224 DEVELOPMENTAL PSYCHOLOGY - 4 hours**

In this course we study and apply theory and research in developmental psychology across the lifespan. Emphasis is placed on the interaction of physical, cognitive and social aspects of development from conception to old age, death and dying. Included in the course is an online lab component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 225 BEHAVIOR DISORDERS - 4 hours**

The scientific study of the causes (etiology), symptoms (diagnosis) and treatment of various forms of psychopathology. Topics include a review of anxiety, mood disorders, psychosis, personality disorders and childhood disorders. All students will participate in a laboratory experience which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 227 ORGANIZATIONAL PSYCHOLOGY - 4 hours**

This course focuses on psychological research centered on how organizations are structured and factors that help employees to thrive in these settings. In this course students will examine research and theory related to motivation and engagement, stress and well-being, fairness and diversity, leadership and working in teams. Included in the course is an online lab component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 235 COGNITIVE PSYCHOLOGY - 4 hours**

An introduction to topics in cognitive psychology including attention, perception, neurocognition, memory, knowledge, reasoning, decision making, problem solving, language and imagery. Laboratory projects and experiments provide hands-on experience with course topics. Included in the course is an online laboratory component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 241 STATISTICS AND RESEARCH DESIGN I - 4 hours**

This course is designed to introduce students majoring in psychology to common statistical analysis skills rooted in the interpretation of psychological research. This course is the first in a sequence of three statistics and research design courses and is intended to lay a strong foundation for critical statistical analytical skills required in more advanced coursework in psychology. Topics will include a review of descriptive methods, hypothesis testing, correlation and regression, analysis of variance and an introduction to statistical analysis software. Included in this course is an online lab component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite(s): PSYC 110, MATH 105 or placement. LA-FQR.

#### **PSYC 250 COGNITIVE NEUROSCIENCE - 4 hours**

This course examines the biological foundations of mental processes. Specifically, we will explore how neurons, brain structure and neural function (the biological foundation of the brain) enable cognitive processes such as attention, memory, language, decision making and thought. Included in this course is an online lab component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 305 EVOLUTIONARY PSYCHOLOGY - 4 hours**

A study of human nature based on understanding the evolved, psychological adaptations that allowed our ancestors to survive and reproduce. This course will include developing an understanding for the process of evolution by natural selection and thinking about human behavior as a consequence of that process. This course involves thinking about human nature from a biological perspective and culture as an expression of human nature. Included in the course is an online lab component which provides experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 341 STATISTICS AND RESEARCH DESIGN II - 4 hours**

A beginning study of experimental and non-experimental research methods in contemporary psychology. Students study the basic methods of measurement, hypothesis formation, data collection, data analysis and interpretation. Included online laboratory projects provide experiences to apply course content to practical problems, investigate psychological research and develop skills in using statistics software. Prerequisite: FYWS, PSYC 110; 241 or DATA 210.

#### **PSYC 345 PSYCHOLOGICAL TESTS AND MEASUREMENTS - 4 hours**

An introduction to the theory and practice of psychological measurement. Topics include theory and practice of test construction, validation and interpretation. Included online laboratory experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 110.

#### **PSYC 346 STATISTICS & RESEARCH: APPLIED PSYCHOLOGY - 4 hours**

Students will be introduced to a variety of statistical and research methods used in Industrial-Organizational Psychology, psychological testing or survey development. Students will learn statistical methods used in the development of assessment measures, reliability coefficients, validity coefficients and factor analysis. Specific attention will be given to data input, data transformation and analysis using SPSS. In addition, students will learn how to accurately interpret and explain research. All students will be expected to present their research at a research conference. This course prepares students for graduate school research. Included online laboratory experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 341. EXL Designation.

#### **PSYC 347 STATISTICS & RESEARCH: COGNITIVE PSYCHOLOGY - 4 hours**

Students will be introduced to a variety of statistics and methods used in cognition research. The class closely mimics the graduate school experience in cognitive psychology, including programming, scheduling participants, conducting experiments and learning lab management skills. Included online laboratory experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 341.

#### **PSYC 349 STATISTICS & RESEARCH: DEVELOPMENTAL PSYCHOLOGY - 4 hours**

Students will be introduced to a variety of statistical and research methods used in Developmental Psychology. Students will learn advanced SPSS skills and hone advanced statistical skills in using tests such as ANOVA, factorial design, multiple regression, correlation and chi square. Students will conduct research, analyze data and present findings at research conferences. This course prepares students for graduate school research. Included lab

experiences to apply course content to practical problems and investigate psychological research. Prerequisite: PSYC 341.

**PSYC 352 CULTURE AND PSYCHOLOGY - 3 hours**

The study of how culture influences human development, motivation, thinking, abnormal behavior and social interaction. It includes an in-depth comparison of US culture with one other non-US culture. LA-FCG.

**PSYC 360 NEUROPSYCHOLOGY - 4 hours**

An introduction to the biology of behavior. Topics include a review of the function of the nervous system, brain and behavior. Online laboratory experiences included to provide experiences to apply course content to practical problems and investigate psychological research. Prerequisites: 12 semester hours in psychology.

**PSYC 366 COUNSELING THEORY AND PRACTICE - 4 hours**

A survey of the major counseling theories. Includes online lab experiences to apply course content to practical problems and investigate psychological research. Prerequisites: PSYC 110, 224, 225.

**PSYC 376 PERSONNEL PSYCHOLOGY - 4 hours**

This course focuses on research and theory related to employee selection, training and performance appraisal and feedback. Attention will be given to the evaluation of employee selection methods and the lawful, ethical and practical application of methods such as interviews, ability tests and personality inventories. This course will also cover employee training needs analysis, program design and evaluation. In addition, students will learn about theory and research related to performance appraisal and feedback. Included are online lab experiences to apply course content to practical problems and investigate psychological research. Prerequisites: PSYC 110, 227.

**PSYC 444 SENIOR SEMINAR - 4 hours**

A capstone course for psychology majors that includes a review of major historical and contemporary issues in psychology. Topics include a laboratory component designed to help prepare students for the Senior Comprehensive Evaluation in psychology and develop materials for graduate study and future careers. Included online lab experiences to apply course content to practical problems and investigate psychological research. Prerequisite: Senior standing.

**PSYC 460 DIRECTED PSYCHOLOGICAL RESEARCH - 1-4 hours**

Guided research in psychology is carried out under the direction of a faculty mentor. Students will develop a research question, collect and analyze data and communicate results. This course may be repeated for a total of four hours. Prerequisite: PSYC 341.

**PSYC 476 FIELD PLACEMENT IN PSYCHOLOGY - 1-12 hours**

Supervised field placement in a clinic, hospital, school, agency or laboratory. Three semester hours may be used to meet major requirements. Prerequisites: PSYC 110 and consent of instructor.

**PSYC 380 or 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**PSYC 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**REL 106 BECOMING WHO YOU ARE - 3 hours**

“Who are you?” --“What are you?”--“Who will you become?”--“Who are you for others?” This Humanities Exploration course is a response to these profound philosophical, spiritual and ethical questions. Students will explore psychological case studies and learn to identify the various ways we situate ourselves relative to what other people desire. The course also pursues these questions through a study of the life and teachings of Jesus of Nazareth and his earliest scribal imitators. It introduces an ancient writing practice that invited imitators of Jesus to write as if they were one of his peers. Students will develop this narrative practice as they write, articulate and explore who they really are.

**REL 113 THE BIBLE AND PHILOSOPHICAL THOUGHT - 3 hours**

Though philosophy and religion communicate in different keys, both disciplines emphasize that wisdom requires a person to cultivate wonder, contrition and humility. The course draws on the Bible and philosophical texts to explore the mystery of existence (ontology), what can be known (epistemology), philosophy of mind, personal identity, free will and determinism, reason and logic and the question of God. LA-TFR.

**REL 120 INTRODUCTION TO RELIGIOUS STUDIES - 3 hours**

An introduction to the academic study of religion, exploring the ways Christianity and other religious traditions confront some of the largest questions and dilemmas of human existence. LA-TFR.

**REL 121 SACRED TRADITIONS - 3 hours**

This course will introduce the philosophy and the academic study of religion by observing the broad range of ways human beings experience and think about the sacred. We will examine the historical origins, philosophical traditions and contemporary trends of the major religious traditions, noting their fundamental doctrines and beliefs as well as their rituals and practices. LA-TFR.

**REL 205 RELIGIONS AND WAR - 3 hours**

An examination of the role of religion as a factor influencing social and political conflict. Theoretical principles are applied to contemporary cases in which religion functions as a cause and/or mediating force in occurrences of war.

**REL 210 JUDAISM, CHRISTIANITY AND ISLAM - 3 hours**

Study of the origins, development and interaction of Judaism, Christianity and Islam, including contemporary relationships among these faiths. LA-TFR.

**REL 222 RELIGIONS OF EAST ASIA - 3 hours**

This course introduces the religious traditions of East Asia, most notably Buddhism, Confucianism, Daoism and Shinto. We will pay attention to the development and change within these traditions as they have interacted with and reacted to specific local contexts as well as the forces of globalization. LA-FCG.

**REL 223 RELIGIONS OF INDIA - 3 hours**

Religion permeates almost all areas of life in India. The subcontinent is the birthplace of four major religious traditions and home to practitioners of almost all the world's religions. This course will introduce the ancient roots and contemporary forms of the religions and philosophies native to India; the major traditions, such as Islam, that have been transplanted there; and the ways these religions and philosophies have influenced cultures around the world. LA-FCG.

**REL 244 THE RELIGIONS OF ABRAHAM - 3 hours**

This course introduces students to the practices, beliefs and histories of Judaism, Christianity and Islam. It focuses particularly on the moments when the boundaries defining these religious traditions were permeable. It explores instances where Jews and Christians were not separate religions. It also recovers an era when Christians and Muslims prayed together without distinction. It then traces the ways these religious brothers became others. Students will learn how to articulate the beliefs and practices of one religion through the language of another religious tradition. They will apply this skill to contemporary interreligious dialogue. LA-FCG.

**REL 247 JESUS IN MIDDLE EASTERN PERSPECTIVE - 3 hours**

The life and teachings of Jesus when viewed from the vantage of ancient and contemporary Middle Eastern and Mediterranean cultural perspectives exhibit a remarkable contrast to North American values. Students will learn about Middle Eastern and Mediterranean cultural values through the study of the life of Jesus of Nazareth and the subsequent reflections on his significance in Byzantium, Arabia and Persia. Students will compare the reciprocal values of peasant culture with the market-oriented assumptions of contemporary North American political economy. They will also query the presuppositions operating in the honor and shame conventions that permeate ancient and contemporary Middle Eastern society. This course invites participants to listen to Jesus' parables and teachings anew with the fresh perspective of ancient society and Muslim majority East Mediterranean nations. LA-TFR.

**REL 325 FEMINIST AND WOMANIST THEOLOGIES - 3 hours**

An exploration of the critique and vision brought to contemporary theology by women's perspectives represented in texts by feminist and womanist theologians and in women's fiction and essays. Prerequisite: one course in religion.

**REL 435 CONTEMPORARY CHRISTIAN THOUGHT - 3 hours**

A study of Christian theology from 1968 to the present, including movements such as liberation theologies, feminist/womanist theologies, process theology, eco-theology, etc.

**REL 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**REL 385 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**SOC 101 INTRODUCTION TO SOCIOLOGY - 3 hours**

Sociology as a way of knowing and a body of knowledge. Special attention to socialization, inequality in American society and the institutions of family, religion, politics and economy. LA-ESS.

**SOC 102 HUMAN CONFLICT - 3 hours**

An exploration of models for the analysis of human conflict within persons, between persons and between ethnic and cultural groups. The origins of the social sciences and how the social scientist seeks knowledge, is introduced. Recommended for those students interested in an integrated approach to psychology, sociology and anthropology. LA-ESS.

**SOC 220 SOCIAL GERONTOLOGY - 3 hours**

An introductory course in the field of aging. Study areas include perspectives on aging, social roles, family, retirement, living environments, minority and cross-cultural experiences, political and economic implications of aging. Also included is a study of the social institutional response to the needs and problems of older adults in the form of policies, programs and services. Prerequisite: SOC 101.

**SOC 222 SOCIAL RESEARCH METHODS - 3 hours**

The methodological framework for planning and implementing qualitative and quantitative social research, including the process of developing research designs, the selection of samples, the construction and use of research instruments and methods of analyzing and interpreting data. Ethical issues and the relevance of empirical research for building knowledge and evaluating service delivery in helping professions are considered. Students are encouraged to satisfy the Core requirement in mathematics before enrolling in the course. Prerequisite: SOC 101.

**SOC 228 RACIAL, ETHNIC and GENDER INEQUALITY - 3 hours**

A sociological approach to the dynamics of racial, ethnic and gender group relations using relevant theories, concepts and empirical studies. Patterns of differential power and intergroup conflict in U.S. society will be examined using examples from several groups. LA-FCG.

**SOC 240 SOCIOLOGICAL THEORY - 3 hours**

Survey of sociological theories from the classical founders (Marx, Durkheim, Weber and Simmel) to modern schools of thought (such as functionalism, conflict theory, symbolic interactionism, dramaturgy, ethnomethodology, interpretive theory, feminist theory and postmodernism). Emphasis on enduring theoretical contributions as well as their application to contemporary social issues. Prerequisite: SOC 101.

**SOC 262 SOCIOLOGY OF LAW - 3 hours**

This course is a sociological analysis of the legal order of the United States which views law as a living, evolving organism that both shapes social structure and is shaped by it. Includes some examination of contrasting definitions of law and legal systems across time and cultures. Surveys theoretical and empirical perspectives on the dynamics of the current US legal structure: actors, functions, processes and outcomes. Law as a mechanism for social control and an impetus for social change. Includes the role of law in reinforcing and changing social class and social inequality. Prerequisite: SOC 101.

### **SOC 275 PRACTICUM IN SOCIOLOGY - 1-3 hours**

Observation and participation in any of a wide range of human experiences and social systems. May be repeated for a total of six credit hours, three credit hours of which may be used to meet requirements in the sociology major or minor. Prerequisite: consent of the instructor.

### **SOC 305 SELF AND SOCIETY - 3 hours**

Social psychology from a sociological perspective, examining the interaction between individual lives and social structure: How humans are created by their social order and how humans create social orders. Major topics include socialization and the development of the self, language and the social construction of reality and the social construction of gender. Prerequisite: PSYC 110 or SOC/SOWK 102 or SOC 101.

### **SOC 313 CULTURAL ECOLOGY - 3 hours**

This course explores theoretical and methodological issues in the study of human culture and social activity in relation to ecological systems and the environment. Through both classic studies as well as contemporary research, emphasis is placed on the various dimensions of social organization and activity and on the role of cultural, religious and political institutions in shaping ecological relationships as well as economic behavior. This course also examines the human-nature interactions and conceptions of nature found in various cultures that are a result of methods of survival and making a living.

### **SOC 322 QUALITATIVE RESEARCH METHODS - 3 hours**

This course is designed to give students a strong foundation in qualitative methodology in the social sciences. Topics included for discussion and application will include types of qualitative methods, when to use qualitative methods, reflexivity, approaching field sites ethically and analysis of qualitative data. Students will utilize qualitative data analysis software (e.g., NVivo) to solve problems and interpret results both individually and in groups. Prerequisites: SOC 101, SOC/SOWK 222.

### **SOC 333 SEXUALITY AND GENDER IN SOCIETY - 3 hours**

Human sexuality as social interaction and a social-cultural construction. Topics include sexuality in historical-cultural context, psychosexual development and socialization, love and sex, sexual attitudes and behaviors, contraception, sexual coercion and commercial sex, with special emphases on sexual identity, sexual orientation and gender. A focus on empirical knowledge with attention to ethical and affective concerns. Prerequisite: SOC 101.

### **SOC 335 SOCIOLOGY OF FAMILY - 3 hours**

Primary emphasis on development and maintenance of intimate relationships in the United States; theoretical and empirical materials on family life cycle, dating, sexual behavior,

readiness for intimate partnership, sexual behavior, social change and emerging family styles. Prerequisite: SOC 101.

**SOC 345 CLASS, STATUS AND POWER - 3 hours**

Classical and modern theories of class structure and mobility used to analyze the forms and conditions of social inequality, primarily in U.S. society. Relationships of class position to behavior in family, religion, politics and education are included. Prerequisite: SOC 101.

**SOC 355 HEALTH, MEDICAL CARE AND SOCIETY - 3 hours**

An examination of health, illness and medical care from a sociological perspective. Topics include social epidemiology, the social psychology of illness, the recruitment and socialization of health professionals, patient/physician relationships and the organization of health and medical care. Policy considerations are emphasized and the concerns of women, minorities and the disadvantaged receive special attention. Prerequisites: SOC 101 or permission of instructor; junior standing or above. LA-TBI.

**SOC 351 COMMUNITY AND ENVIRONMENTAL SOCIOLOGY - 3 hours**

A study of the ways in which humans interact with the environment. Topics include analysis of social, cultural, political and economic structures to understand how environmental problems arise, the kinds of people (class, race, gender, etc.) that bear the heaviest burden of environmental degradation and appropriate human responses to environmental issues. Special attention will be given to the idea that environmental problems are human problems: human created and human resolved. Prerequisite: SOC 101 or ENVS 130 or consent of the instructor. LA-TBI.

**SOC 372 SOCIOLOGICAL RESEARCH PRACTICUM - 1-3 hours**

Experience in the process of using existing research findings for a better understanding of community problems, client needs, service programs, etc. The student is assigned to a setting where a realistic application of research knowledge is done under the direction of both a setting supervisor and the University instructor. Concurrent with or following SOC 222.

**SOC 380 or 480 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

**SOC 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**SOC 440 SENIOR SEMINAR - 3 hours**

A capstone course for sociology majors to integrate the diverse elements of their coursework into a coherent and mature conception of sociology as an approach to inquiry and to life. Prerequisites: FYWS, SOC 101, 222, 240.

**SOWK 102 HUMAN CONFLICT - 3 hours**

See SOC 102. LA-ESS.

**SOWK 110 INTRODUCTION TO SOCIAL WORK: SERVICE, EMPOWERMENT and JUSTICE – 3 hours**

Introduction to the helping professions, with particular emphasis on the nature of generalist social work. Content includes professional values and ethics, social problems and inequities, populations-at-risk and social service delivery philosophies and settings. Social work perspectives, including systems models, strengths perspective, social and economic justice, person-in-environment and evidence-based practice are highlighted. LA- ESS.

**SOWK 220 SOCIAL GERONTOLOGY**

See SOC 220.

**SOWK 222 SOCIAL RESEARCH METHODS**

See SOC 222.

**SOWK 228 RACIAL, ETHNIC and GENDER INEQUALITY**

See SOC 228.

**SOWK 274 SOCIAL WORK PRACTICE I: BECOMING A SKILLED HELPER - 3 hours**

Introduces a variety of generalist social work intervention approaches through written work, volunteer service and experiential learning. Students learn how to apply social work knowledge, skills and values, to micro, mezzo and macro practice situations. Attention given to self-awareness, communication, the helping relationship, use of theory, phases of problem solving, ecosystems and strengths perspectives, diversity, advocacy, case management, recordkeeping, team functioning, peacemaking, self-care and evaluating effectiveness. Prerequisite: SOWK 110.

**SOWK 275 PRACTICUM IN HUMAN SERVICES - 1-3 hours**

Observation and participation in a human services organization. Focus on exposing students to social service delivery systems and potential roles in human services. May be repeated for a total of six hours. Prerequisite: consent of department chair.

**SOWK 334 HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT - 4 hours**

Examination of human development over the life span as the individual participates in families, groups organizations and communities. Empirically supported theories and knowledge are used to understand reciprocal relationships among human biological, psychological, spiritual, social and cultural systems. Appreciation of diversity is fostered, including understanding the consequences of oppression for “at- risk” populations. Students apply an interdisciplinary knowledge base to the generalist social work assessment process. Includes extended field trip to study racism and urban social work. Fees required. Prerequisites: BIOL 204, PEAC 112, POSC 121, 122, 140 or 233, PSYC 110, SOC 101.

**SOWK 350 POLICY AND PRACTICE ISSUES IN SOCIAL WELFARE - 3 hours**

A group study of issues and programs in a selected field of social welfare such as child welfare, rural or industrial social services, drugs and social behavior or international social welfare.

Focus of study and location vary according to faculty resources and student interest. Aspects of need definition, policy goals, program design and service delivery are addressed. May be repeated on different topics with permission.

**SOWK 355 HEALTH, MEDICAL CARE AND SOCIETY - 3 hours**

See SOC 355. LA-TBI.

**SOWK 366 SOCIAL WELFARE POLICY - 3 hours**

The evolution of social welfare policy in the United States and its interrelationship with the evolution of the social work profession. Particular emphasis on the impact of values and power on policy development and implementation in public and private programs; social allocation and integrated service delivery; social planning and other mezzo- and macro-level intervention strategies; analysis of policies and programs with potential to promote social and economic justice and advocacy skills required for effective policy practice. Prerequisites: SOC 101 or SOWK 110, PEAC 112, POSC 121, 122, 140 or 233.

**SOWK 375 SOCIAL WORK PRACTICE II: INDIVIDUALS, FAMILIES, & GROUPS - 3 hours**

Integration of social work knowledge, values and skills for entry-level generalist practice with diverse individuals, families and groups. Application of current research and theoretical perspectives to engagement, assessment, intervention and evaluation processes. Emphasis on advanced critical thinking, empowerment, peacemaking and students' emerging professional identities. Includes retreat and service-learning project. Prerequisites: Admission to the Social Work Program and the senior social work practice block.

**SOWK 384 SOCIAL WORK PRACTICE III: ORGANIZATIONS AND COMMUNITIES - 3 hours**

The third course in the social work generalist practice sequence, this course prepares students for effective macro practice within complex governmental, political organizational and community social service settings. Macro practice includes agency administration, program planning, policy analysis, community organization and community development. Emphasis is placed upon generalist social work practice with or on behalf of, oppressed populations to promote community empowerment and social and economic justice. Prerequisites: SOC 101, SOWK 110, PEAC 112, POSC 121, 122, 140 or 233.

**SOWK 475 FIELD INSTRUCTION - 4 or 6 hours**

Observation and participation in a social service setting under supervision of a qualified practitioner. Students carry limited administrative and case load responsibilities congruent with entry-level generalist social work practice and program mission. Total of 10 semester hours (completed consecutively) are required for the major. Prerequisites: Admission to the Social Work Program and the senior social work practice block and completion of SOWK 110, 222, 228, 274, 334, 366, 375, 384.

**SOWK 476 FIELD INSTRUCTION SEMINAR - 4 hours**

Weekly group and individual supervision from faculty for analysis and evaluation of field instruction experience. Students complete integrative written projects and presentations on topics related to generalist social work. Includes off-campus retreat. Fees required. Concurrent enrollment with SOWK 475.

**SOWK 477 SOCIAL WORK PRACTICE IV: SYNTHESIZING A PROFESSIONAL IDENTITY - 3 hours**

Integration of the theoretical social work practice models and principles conceptualized during earlier social work courses and tested in generalist practice roles during field instruction. Development within each student of a coherent personal practice model based on practice values, validated knowledge and practice skills. Course requires individualized learning objectives developed during retreat that ends field instruction and begins this seminar. Prerequisites: SOWK 475, 476.

**SOWK 385 or 485 SEMINAR - 1-4 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**SPAN 111 CONVERSATIONAL SPANISH - 3 hours**

This course develops practical oral communication skills in Spanish. Designed for students who have little to no prior knowledge of the language, students will learn through immersive activities (i.e., task-based language teaching) which may be focused on specific contexts, that build cultural competency and develop proficiency in everyday conversation, including through greetings, introductions, sharing basic personal information and other common interactions. By the end of the course, students will be able to communicate orally in Spanish at a novice-mid level. LA-FCG.

**SPAN 112 MEMORY AND CULTURE - 3 hours**

Exploration of cultural perspectives in the Spanish-speaking world related to memorable experiences and events. Students develop Spanish language skills to be able to communicate about cultural and personal experiences and to express recollections of these experiences. Course is oriented toward task-based activities to communicate ideas about identity, convictions and culture. LA-FCG.

**SPAN 116 SPANISH FOR EDUCATORS - 3 hours**

This course equips educators and professionals with the Spanish language skills and competencies necessary for effective communication in educational settings. Through task based activities, students will learn to interact with Spanish-speaking students, parents and colleagues on topics such as classroom management, student performance, outreach and administrative tasks. The course emphasizes practical language use and completion of real-world tasks in Spanish including giving instructions, discussing student needs and written communication (for example messages or emails) in Spanish. By the end of the course, students will be able to confidently use Spanish in a classroom setting at a novice-mid level.

**SPAN 201 COMMUNICATION AND CULTURE - 3 hours**

Exploration of cultural currents and effective communication of ideas to broaden and solidify language and intercultural skills. Course features conversation oriented toward cultural competence, study of brief literary works, film and other texts and language laboratory work geared toward improved proficiency. Class is conducted primarily in Spanish. Prerequisite: Placement via examination in Spanish.

**SPAN 201L COMMUNICATION AND CULTURE LAB - 0 hours**

Laboratory to accompany SPAN 201.

**SPAN 202 CULTURES AND CONTROVERSIES - 3 hours**

Development of skills in the expression of convictions regarding cultural controversies in areas such as science, technology, media, politics, social culture, etc. in order to strengthen language and intercultural skills. The class emphasizes effective communication in Spanish to articulate ideas and beliefs about identity, current events and cultural values. Class is conducted primarily in Spanish. Prerequisite: Placement via examination in Spanish.

**SPAN 202L CULTURES AND CONTROVERSIES LAB - 0 hours**

Laboratory to accompany SPAN 202.

**SPAN 203 PROFESSIONAL SPANISH - 3 hours**

A study of the Spanish language as it is used in both personal and professional contexts. Course aims to facilitate acquisition of more sophisticated vocabulary related to the professional world, increased grammatical accuracy, sentence- to paragraph-level discourse and a deeper understanding of Spanish-speaking cultures particularly in the areas of health care, criminal justice, business, education and other professional contexts.

**SPAN 230 LIVING THE SPANISH LANGUAGE - 3 hours**

This intensive course introduces students to a wider understanding of language, culture and history in Spanish-speaking countries. All classes, excursions, talks and other activities will be conducted in Spanish. Much of the time will be devoted to activities that help the students to understand, broaden and value cultural manifestations and historical development. Credit for this course will apply toward the Spanish major or minor. Summer.

**SPAN 301 ORAL COMMUNICATION - 3 hours**

Intensive practice in spoken expression via discussion of written texts, art, films and contemporary issues. Course work is oriented toward improvement of students' oral proficiency through presentation, class-wide discussion and individualized assessment. Course taught in Spanish.

**SPAN 301L ORAL COMMUNICATION LAB - 0 hours**

Laboratory to accompany SPAN 301.

**SPAN 302 IDEAS AND CULTURE - 3 hours**

Practice of oral and written communication in formal and informal settings using the Spanish language. Students will discuss and analyze several cultural topics using authentic Spanish-language sources for class discussions, research, debate and oral presentations. Course taught in Spanish.

**SPAN 302L IDEAS AND CULTURE LAB - 0 hours**

Laboratory to accompany SPAN 302.

**SPAN 321 HISTORY AND LINGUISTICS OF SPANISH - 3 hours**

A history of the Spanish language, its phonetics, phonology, morphology and syntax. The course also focuses on regional variations as well as the Spanish spoken in the United States. This class is taught in Spanish. Prerequisite: SPAN 302.

**SPAN 325 APPLIED SPANISH - 3 hours**

An intensive Spanish language course that prepares students to identify and discuss global issues in areas such as business and medical ethics, healthcare, economics, negotiation, finance, education, energy, politics, criminal justice and/or other current topics that are vital for intercultural competence in professional settings. Content and themes are tailored according to enrolled students' career objectives and include specialized, individualized vocabulary according to students' vocational interests.

**SPAN 330 CULTURES AND CIVILIZATIONS IN SPAIN - 3 hours**

This course provides an in-depth consideration of the culture, history, art, film and architecture of Spain. The course is taught entirely in Spanish.

**SPAN 333 INTENSIVE STUDIES IN SPANISH - 3 hours**

A combination of research and onsite exposure to language and culture. The course is designed for students seeking Spanish credit for participating in an off-campus travel course. Enrollment in this course replaces the student's enrollment in the non-language course. All work is done in Spanish. Prerequisite: permission of the travel course professor and permission of the Department of Modern Languages.

**SPAN 340 HISPANIC-AMERICAN CULTURE AND CIVILIZATION - 3 hours**

This advanced course provides an in-depth consideration of colonial societies and cultures of Spanish-speaking countries in America. This course is taught entirely in Spanish.

**SPAN 385 SEMINAR - 3 hours**

An in-depth consideration of a significant scholarly problem or issue. Students pursue a supervised, independent inquiry on an aspect of the topic and exchange results through reports and discussions.

**SPAN 403 SURVEY OF LATIN AMERICAN LITERATURE - 3 hours**

A chronological study of the poetry, drama and fiction of Latin America from the Discovery (1492) to the boom of the 60s and 70s. Activities include lectures oral reports, class discussions and a term paper.

**SPAN 380 SPECIAL PROBLEMS - 1-4 hours**

A student who has demonstrated ability to work independently may propose a course and pursue it with a qualified and willing professor. The department chair and college dean also must approve. A set of guidelines is available at the Office of the Registrar.

## **Graduate Courses**

### **ACCT 509 ADVANCED AUDITING - 3 hours**

Students advance their understanding of audit theory and practice through hands on application of auditing procedures such as planning and accepting engagements, evaluating internal controls, obtaining evidence to form conclusions and preparing communications to satisfy engagement objectives. Prerequisite: ACCT 409.

### **ACCT 515 ACCOUNTING RESEARCH - 3 hours**

Students conduct research and develop advanced critical thinking skills through analysis and reporting of research findings. Students will research issues in technical accounting, tax and audit topics.

### **ACCT 523 DATA ANALYTICS - 3 hours**

Students will develop skills in gathering large amounts of financial and nonfinancial data, converting that data into useful information and formulating conclusions for decision-making. Students will practice various data analysis techniques and analyze information in financial accounting, auditing and other accounting areas.

### **ACCT 531 ADVANCED TAXATION - 4 hours**

Students explore advanced taxation topics, principally in the area of corporate taxation. Topics include property transactions, like-kind exchanges and taxation of corporations, S corporations and partnerships. Prerequisite: ACCT 331.

### **ACCT 536 GOVT & NONPROFIT ACCT - 3 hours**

Students learn the basic principles and procedures of financial accounting for state and local governments and nonprofit organizations.

### **ACCT 551 ADVANCED ACCOUNTING - 3 hours**

Students explore complex issues in financial accounting. Topics include accounting for partnerships, consolidations and business combinations, foreign currency transactions and translations, segment and interim reporting.

### **ATTR 502 CLINICAL PRACTICE I - 5 hours**

First, in a series of four required clinical practice courses. Classroom components will provide additional clinical opportunities in the form of simulation and are designed to deepen students' experience with critical thinking and reflection on their role in the healthcare team. Students will apply clinical skills concurrently taught in the curriculum to an actual patient base during supervised clinical experiences. Students are guided by a preceptor who will provide graded autonomy based on the student's previous experience and will evaluate the student's skills and abilities over the course of their clinical experiences.

### **ATTR 506 CLINICAL PRACTICE II - 5 hours**

Second, in a series of four required clinical practice courses. Classroom components will provide additional clinical opportunities in the form of simulation and are designed to deepen students' experience with critical thinking and reflection on their role in the healthcare team. This course emphasizes patient-centered care, interprofessional practice, communication, decision-

making and using evidence to guide clinical decisions regarding musculoskeletal evaluation and assessment. Students will apply clinical skills previously taught in the curriculum to an actual patient base during supervised clinical experiences. Students are guided by a preceptor who will provide graded autonomy based on the student's previous experience and will evaluate the student's skills and abilities over the course of their clinical experiences.

**ATTR 512 CLINICAL SKILLS I - 2 hours**

First in a series of four courses that focus on establishing proficiency of skills introduced in concurrent program courses. Students will engage in classroom activities to practice their use of equipment used to manage urgent and emergent conditions as well as, selecting, fabricating and customizing taping, splinting, protective padding and casting.

**ATTR 521 IMMEDIATE AND EMERGENCY CARE - 2 hours**

This course prepares students with the knowledge and skills needed to evaluate and manage patients with urgent conditions, including triaging conditions that are life threatening or otherwise emergent. Topics included (but are not limited to) the following conditions: cardiac, respiratory and cervical spine compromise, environmental conditions, traumatic brain injury, fractures and dislocations, exertional sickling, rhabdomyolysis, hyponatremia, diabetes, drug overdose, wounds, testicular injury and other musculoskeletal injuries.

**ATTR 522 CLINICAL SKILLS II - 2 hours**

Second in a series of four courses that focus on establishing proficiency of skills introduced in concurrent program courses. Students will engage in classroom activities to practice their skills related to assessing patients with musculoskeletal conditions using the International Classification of Functioning, Disability and Health.

**ATTR 526 MUSCULOSKELETAL ASSESSMENT I - 3 hours**

This course will focus on the knowledge, skills and abilities required to assess patients with musculoskeletal conditions of the upper extremity, head and neck regions.

**ATTR 531 INJURY CLASSIFICATION & MANAGEMENT - 2 hours**

Introduction to the prevention, recognition, evaluation and management of common musculoskeletal injuries and conditions. Class activities center on preparing students with foundational knowledge to prepare them for their first clinical experience.

**ATTR 536 MUSCULOSKELETAL ASSESSMENT II - 3 hours**

This course will focus on the knowledge, skills and abilities required to assess patients with musculoskeletal conditions of the lower extremity, spine and pelvic regions.

**ATTR 563 PHARMACY PRINCIPLES FOR ATHLETIC TRAINERS - 2 hours**

This course is designed to provide students with a basic understanding of pharmacology emphasizing drug law, routes of administration, basic pharmacokinetics and the specific pharmacology and therapeutics of drugs commonly used in physical medicine. Students will also engage in interprofessional education, learning from other health profession students and teaching them pharmacy-related athletic training principles.

**ATTR 592 INDEPENDENT STUDY - 1-3 hours**

This elective course is designed to allow students to pursue research interests and become familiar with techniques used in research of discovery, integration, application and/or scholarship of teaching and learning. In collaboration with a faculty research mentor, each student will select an appropriate research problem and work towards its solution. Enrollment in this course may be repeated one time for a maximum of 6 credits.

#### **ATTR 603 SUMMER CLINICAL PRACTICE - 4 hours**

A precursor to the third required clinical practice course. In this level of clinical experience in athletic training, students can practice and apply designated clinical techniques. Students are under the supervision of an approved preceptor who will evaluate the student's clinical skills and abilities in an athletic training practice setting.

#### **ATTR 612 CLINICAL SKILLS III - 2 hours**

Third, a series of four courses that focus on establishing proficiency of skills introduced in concurrent program courses. Students will engage in classroom activities to practice their skills related to designing, implementing and evaluating care plans for patients with pre-op, post-op and nonoperative conditions.

#### **ATTR 616 CLINICAL PRACTICE III - 6 hours**

Third, in a series of four required clinical practice courses. This course emphasizes patient-centered care, interprofessional practice, communication, decision-making and using evidence to guide clinical decisions regarding non-orthopedic evaluation and assessment as well as designing, implementing and evaluating treatment plans. Students will apply clinical skills previously taught in the curriculum to an actual patient base during supervised clinical experiences. Students are guided by a preceptor who will provide graded autonomy based on the student's previous experience and will evaluate the student's skills and abilities over the course of their clinical experiences. Classroom components will provide additional clinical opportunities in the form of simulation and are designed to deepen students' experience with critical thinking and reflection on their role in the healthcare team.

#### **ATTR 622 THERAPEUTIC INTERVENTIONS I - 3 hours**

This course focuses on selecting and incorporating interventions for pre-op, post-op, nonsurgical conditions to develop a plan of care. Interventions included in this course include but are not limited to patients with therapeutic ultrasound, diathermy, soft tissue techniques, electrical muscle stimulation and other therapeutic, modalities commonly used by athletic trainers.

#### **ATTR 632 THERAPEUTIC INTERVENTIONS II - 3 hours**

This course focuses on selecting and incorporating interventions for pre-op, post-op and nonsurgical conditions to develop a plan of care. Interventions included in this course include but are not limited to therapeutic and corrective exercise, joint mobilization and manipulation, movement training, motor control/proprioceptive activities, task-specific functional training, cardiovascular training and home care management.

#### **ATTR 633 MEDICAL ASPECTS - 3 hours**

This course is focused on non-orthopedic conditions of the human body most seen, evaluated, treated and referred by athletic trainers. Students have the opportunity to practice and apply designated clinical techniques in the classroom.

**ATTR 643 HEALTHCARE ADMINISTRATION - 2 hours**

This course will focus on health care administration topics for the athletic trainer. Topics include liability, risk management, athletic training facility design, policy, procedures, operation, budgeting and personnel management.

**ATTR 652 CLINICAL PRACTICE IV - 6 hours**

Fourth, in a series of four required clinical practice courses. This course emphasizes patient-centered care, interprofessional practice, communication, decision-making and using evidence to guide clinical decisions regarding the totality of athletic training practice. Students will apply clinical skills previously taught in the curriculum to an actual patient base during supervised clinical experiences. Students are guided by a preceptor who will provide graded autonomy based on the student's previous experience and will evaluate the student's skills and abilities over the course of their clinical experiences. Classroom components will provide additional clinical opportunities in the form of simulation and are designed to deepen students' experience with critical thinking and reflection on their role in the healthcare team.

**ATTR 655 PREPARATION FOR PROFESSIONAL PRACTICE - 1 hour**

This course emphasizes transition to practice and preparing the student to practice autonomously. The course is designed to help students prepare for the BOC certification exam as well as their transition to autonomous practice as an athletic trainer. Topics discussed will integrate previous coursework but will be determined based on student needs assessment and trends in athletic training practice.

**ATTR 662 CLINICAL SKILLS IV - 2 hours**

Fourth in a series of four courses that focus on establishing proficiency of skills introduced in concurrent program courses. Students will engage in classroom activities to practice their skills related to cultural competence, leadership and behavioral medicine.

**ATTR 672 ATHLETIC TRAINING SEMINAR - 2 hours**

Students will learn how the increasing diversity of the United States brings opportunities and challenges for health care providers, health care systems and policy makers to create and deliver culturally competent services. Current topics in athletic training will also be presented in this class.

**ATTR 682 BEHAVIORAL MEDICINE - 2 hours**

Presents the skills needed to recognize, manage and refer patients with a variety of psychological and mental health concerns which could affect the patient and the rehabilitation process. This course will teach how to help the patient adhere to their treatment plan which could include referrals, counseling and/or pharmacological therapy.

**FIN 523 STRATEGIC DECISIONS FIN & ACCT - 3 hours**

Successful executives balance accounting and financial goals and results with the demands of other organizational dimensions. This evaluation requires the consideration of institutional risks

and opportunities. Students examine advanced accounting methods that assist an organization with planning and control and helps students identify varying institutional risks and identify and evaluating alternative responses to them.

### **MBA 510 MANAGERIAL ECONOMICS - 3.00 hours**

Through this course, a grounding in basic economic theory and analysis is established and linked to business planning and problem-solving. Using quantitative methods, modeling and critical thinking, students determine optimal courses of action for an organization. Students are guided to discuss choices which must be made within an economic framework and investigate economic questions where the actions of individual decision makers play a key role in determining outcomes for the organization's stakeholders.

### **MBA 523 DATA ANALYTICS - 3 hours**

Introduction to predictive modeling techniques such as logistic regression, decision trees, nearest neighbors and clustering analysis. Applications in areas such as health care, consumer preference and fraud detection. Includes overview of model-building methodology and ethical considerations in applying predictive analytics models.

### **MBA 530 SALES & MARKETING FOR EXECs - 3 hours**

To successfully lead an organization, the scope of marketing must be understood as it stands to improve financial results, social acceptance and customer loyalty. MBA students will study the make-up and trends of B2C, D2C and B2B marketing. The alignment of sales within marketing will be examined and strategic decision-making based on sales forecasts and a marketing plan. Additionally, in a data-driven, AI environment, MBA students will study market measurement, digital tactics and analytical decision-making.

### **MBA 540 NEGOTIATION & CONFLICT RES - 3 hours**

Conflict is an inherent part of the human condition. It has the potential to be highly destructive for individuals, communities and the globe and it can be the means to healthy relationships, creative problem solving and necessary organizational and social change. This course engages students in an exploration of the role of conflict in our lives, developing the student's ability to analyze the causes of social conflict, understand the dynamics that make it destructive or productive and to utilize theories and tools to manage, resolve and transform conflicts.

### **MBA 541 MANAGING A DIVERSE WORKFORCE - 3 hours**

Students examine the aspects of human resource management. Topics include workforce performance assessment and development, compensation and benefits, managing human resources, acquiring and retaining talent organizational culture, diversity and inclusion, leadership and strategic human resource management.

### **MBA 542 MANAGING HEALTHCARE SYSTEMS - 3 hours**

This course covers factors that impact both the micro and macro environments of healthcare systems and provides strategies to manage new projects such as starting outpatient clinics and managing clinic locations, peers and providers.

### **MBA 544 STRATEGIC FINANCIAL MGMT - 3 hours**

Successful executives balance accounting and finance results and goals with demands of other organizational dimensions. A foundation of accounting and finance principles will be established. From this foundation, MBA students will analyze the development of accounting and finance goals given trade-offs and consequences to the organization's management and stakeholders.

**MBA 545 REIMBURSEMENTS AND FINANCIAL OPERATIONS - 3 hours**

Students are introduced to operational topics of health systems such as budgeting and financial management for non for profit and for-profit healthcare organizations and explore managerial strategies for working with third party payors and financial partners.

**MBA 550 ORGANIZATIONAL BEHAVIOR - 3 hours**

Students explore the complex and dynamic organizational society in which the professional manager operates. Topics include the roles and behavior of the individual, teams, & leaders in organizational culture, job and organizational design and organizational change.

**MBA 554 STRATEGIC MANAGEMENT - 3 hours**

Strategic Management capitalizes on the basic functions of management to devise a road map for the organization's future. Students will embark on strategy formulation and choose a set of actions that lead to achievement of the organization's objectives. Then, students develop an implementation plan drawing on capital and human resources and, finally, learn evaluation and control processes to ensure intended results are attained. Through the systematic approach of the strategic management process, an organization's performance is optimized and benefits to stakeholders enhanced.

**MBA 555 PRINCIPLED LEADERSHIP - 3 hours**

The path to effective business and community leadership comes from groundwork in leadership study, an ability to translate leadership knowledge into behavior and the self-awareness to impart respect and dignity for others. In this course students grow as leaders by enhancing critical and strategic thinking, dynamic communication skills and perceptual acuity to analyze situations and respond with emotional intelligence. Students will learn to deepen relationships and build public trust and legitimacy through leadership skills.

**MBA 556 ADVANCED STRATEGIC MANAGEMENT - 3 hours**

Advanced Strategic Management evolves from the static study of the strategic management phases to an understanding of its continuous, dynamic nature within an organization and its industry. Students face the necessity of positioning for purposeful, long-term viability while managing day-to-day issues and constraints. Students also understand the challenges of communicating the vision, resistance to change and balancing organizational demands. As the capstone course for the MBA Management track, students will integrate knowledge and skills derived from the program's courses and set their course as future successful leaders of society's organizations. Prerequisite course: MBA 554.

**NUTN 505 LIFECYCLE NUTRITION & DISEASE - 3 hours**

Discusses the changing nutritional requirements throughout the lifecycle and the impact nutrition has on health and disease states. Topics include pregnancy, lactation, infant, toddler,

adolescent, adult, older adult nutrition and disordered eating. Personal nutrition beliefs are examined and cultural norms explored.

**NUTN 510 NUTRITION ASSESSMENT - 3 hours**

Discusses techniques to select and utilize validated nutrition screening and assessment tools to evaluate nutritional status and develop nutrition interventions. Topics include dietary intake assessment, body composition, patient interview, nutrition focused physical exam and assessment, medications, laboratory and diagnostic tests and nutrition diagnoses. Students will practice assessments in simulations and with partners.

**NUTN 515 NUTRITION INFORMATICS - 3 hours**

An introduction to standards, processes and technology used to manage nutrition data necessary to provide efficient, high quality nutrition care. Topics discussed include electronic health records, consumer health and nutrition applications, telehealth, nutrition databases, recipe analysis and conversion, learning management systems, identify credible resources and privacy and confidentiality of health information.

**NUTN 520 COMMUNITY NUTRITION - 3 hours**

Discusses current issues related to community and global nutrition. Topics include epidemiology as it relates to diet and health, malnutrition, sustainability, food waste, sourcing and access to food, agriculture, cultural competence and nutrition education.

**NUTN 521 HUMAN GENETICS - 4 hours**

In this course, students will gain an in-depth understanding of how genes influence human traits, diseases and behaviors, including how non-genetic factors interact with genetic factors to produce observable phenotypes. Human inheritance patterns, genome organization, linkage and medical applications of genetics in the diagnosis, treatment and prevention of disease will be explored. Techniques used in the field of human genetics will be integrated with principles and concepts presented in didactic sessions.

**NUTN 525 FOOD SYSTEMS MANAGEMENT - 3 hours**

Discusses skills for leadership, management and sanitation in food and nutrition systems. Topics include change management, conflict resolution, foodservice software, food quality and safety, food spoilage, menu development and menu cycling, safe workplace, supply chain, sustainability, staffing, inventory and cost control.

**NUTN 533 BIOSTATISTICS - 3 hours**

Discusses the use of statistical methods to process public health and genetic data. An emphasis on interpretation and concepts in areas such as population genetics, genome-wide association studies and systems biology will be undertaken.

**NUTN 535 MNT - 1-3 hours**

Discusses the role of nutrient metabolism as it relates to nutritional status and development or progression of diseases. Students learn utilization of the Nutrition Care Process to determine appropriate nutrition diagnoses and interventions. Virtual case studies and simulations are utilized providing clinical experiences. Topics cover various nutrition related conditions including

but not limited to overweight, obesity, gastrointestinal tract disorders, endocrine disorders, diabetes, liver and pancreatic disorders. Prerequisites: NUTN 505, 510.

#### **NUTN 540 NUTRITION COUNSELING & ETHICS - 2 hours**

Discusses counseling techniques and behavior change therapies utilized in individual and group settings to promote health and disease prevention. Students learn skills to identify contraindications, indications, risks, benefits and limitations of the techniques and therapies. Cultural diversity of foods, eating patterns, food trends, correlation between mental health and nutrition, disordered eating, values and beliefs are explored. The Code of Ethics for nutrition and dietetics professionals serves as the foundation for this course. During the semester, students spend one day per week at a clinical site shadowing to gain familiarity with all aspects of dietetics practice in various clinical settings. Prerequisites: NUTN 505, 510, 515.

#### **NUTN 576 SUPERVISED EXPERIENTIAL LEARNING SEMINAR – 1 hour**

The Supervised Experiential Learning Seminar course will provide web-based modules and assignments to prepare the student to enter the supervised experiential learning (SEL) rotations in the summer semester. Seminar and didactic discussion topics to be covered include Orientation to the SEL Student Handbook and CORE ELMS, student requirements for participation in SEL, identification of optimal SEL sites, professionalism in communication and conduct. All SEL Sites must be identified and in the affiliation agreement process at the conclusion of this course.

#### **NUTN 580 INDEPENDENT STUDY: RESEARCH – 1-3 hours - Elective**

Independent study provides students the opportunity to explore a particular topic or develop a project under the guidance of an instructor. Enrollment in this course may be repeated one time. Prerequisites: Permission from the instructor.

#### **NUTN 610 SUPERVISED EXPERIENTIAL LEARNING COMMUNITY - 2 hours**

Application of concepts and skills to ethically and sensitively provide nutrition programs to individuals and groups across the life cycle. Students gain experience managing client caseloads, billing and organizational management. SEL sites include WIC, food pantry, health department, Headstart, correctional facilities and community organizations. Prerequisites: NUTN 520, 535, 540.

#### **NUTN 615 NUTRIGENOMICS LAB - 1 hour - Elective**

This on campus laboratory course introduces modern analytical techniques commonly used for DNA, RNA and protein collection, isolation, preparation and analysis. Students will have the opportunity to actively engage in laboratory processes associated with nutrigenomics. The course is one-week in length and students will work for approximately 40 hours that week. Summer only. Prerequisites: NUTN 521.

#### **NUTN 620 SUPERVISED EXPERIENTIAL LEARNING BUSINESS - 2 hours**

Application of concepts and skills to ethically and sensitively provide nutrition programs to individuals and groups across the life cycle. Students gain experience managing client caseloads, billing and organizational management. SEL sites include private nutrition practices, corporate wellness, sports nutrition or other approved businesses. Prerequisites: NUTN 520, 535, 540.

**NUTN 630 SUPERVISED EXPERIENTIAL LEARNING FOODSERVICE MANAGEMENT - 4 hours**

Application of skills learned related to inventory, receiving, preparation, service, point of sale, staffing ordering, quality control, sanitation and leadership as they relate to food systems. SEL sites include Clinical foodservice, school foodservice, long-term care foodservice or University foodservice. Students will complete a portfolio documenting competency. Prerequisites: NUTN 525.

**NUTN 635 MNT 2 & NGx - 3 hours**

Foundations from MNT 1 are expanded to use the Nutrition Care Process when a variety of common pathophysiological conditions are present and include nutritional genomics. Virtual case studies and simulations are used to learn best practices for nutrition intervention, management and diet and supplement order writing. Topics include heart diseases, renal disorders, oncology, neurology, psychiatric disorders, critical care, rheumatic diseases and pulmonary diseases. Prerequisites: NUTN 535.

**NUTN 640 SUPERVISED EXPERIENTIAL LEARNING SUSTAINABILITY - 2 hours**

Application of skills learned related to agriculture and sustainability as they relate to food systems. SEL sites include sustainable or regenerative farms, farmer's markets and farm to table/school organizations. Students will complete a portfolio documenting competency. Prerequisites: NUTN 525.

**NUTN 645 NUTRITION & OMICS - 2 hours**

Discusses the interaction of nutrition with emerging studies of the omics of human health. Topics include genomics, epigenomics, metabolomics, proteomics, transcriptomics, microbiomics and interactions between nutrients, pharmaceuticals and genes. Prerequisites: NUTN 521, 535.

**NUTN 650 SUPERVISED EXPERIENTIAL LEARNING CLINICAL LONG-TERM CARE - 2 hours**

Application of the Nutrition Care Process to provide MNT in a variety extended care settings. SEL sites may include but at not limited to long-term care residents, rehab and skilled nursing. Students will complete a portfolio of cases documenting evidence-based application of current research and competency. Prerequisites: NUTN 635.

**NUTN 660 SUPERVISED EXPERIENTIAL LEARNING CLINICAL - 4 hours**

Application of the Nutrition Care Process to provide MNT in a variety of clinical settings across the life cycle. SEL sites may include but at not limited to general medicine, gastrointestinal/bariatric, outpatient, cardiology, oncology, ICU, NICU and management. Students will complete a portfolio of cases documenting evidence-based application of current research and competency. Prerequisites: NUTN 635.

**NUTN 670 RESEARCH METHODS - 3 hours**

Builds on concepts learned in Nutrition Informatics and Biostatistics. Discusses methods to conduct, analyze and publish nutrition related research in an ethical and unbiased manner.

Topics include scientific method, critical thinking, study design, evaluation of literature, statistical analysis and practical applications of research. Prerequisites: NUTN 533.

**NUTN 672 CAPSTONE PROJECT - 3 hours**

Capstone reinforces knowledge and skills attained throughout the curriculum to transition to become practice-ready entry-level dietitians. This course builds upon projects from previous courses. Students will demonstrate advancement in their skills and mastery of nutrition and nutrigenomics concepts by completing a capstone project culminating their academic experience. Prerequisites: NUTN 670.

**PGX 462 RESEARCH AND INNOVATIVE PRACTICE SEMINAR - 1 hour**

Current topics, innovative practice and current research in pharmacy, pharmaceutical sciences and related scientific disciplines will be presented. Invited speakers from within and outside the Manchester community will provide a formal seminar, exposing students to research methodologies, potential student research projects and networking opportunities. Online students will participate by watching recorded seminars on their own time.

**PGX 482 INDEPENDENT RESEARCH - 1–3 hours**

This elective course is designed to allow students to pursue research interests and become familiar with techniques used in research of discovery, integration, application and/or scholarship of teaching and learning. In collaboration with a faculty research mentor, each student will select an appropriate research problem and work towards its solution. Enrollment in this course may be repeated one time for a maximum of 6 credits. Prerequisite: Permission

**PGX 501 INTRODUCTION TO PHARMACOGENOMICS - 2 hours**

A presentation of the evolution of pharmacogenetics/pharmacogenomics, the human genome and modern applications of DNA information related to drugs. There will also be focused attention to necessary calculations for research and an introduction to pharmacokinetics.

**PGX 503 PHARMACOLOGY - 3 hours**

This course focuses on physiology, pathophysiology and the cellular and molecular mechanisms of drug action. Specifically, the cardiovascular and nervous systems will be discussed, as well as infectious diseases, oncology and any related drugs.

**PGX 512 ADVANCED PHARMACOKINETICS - 2 hours**

Discusses the mathematical and conceptual study of the time course of drug absorption, distribution, metabolism and excretion.

**PGX 513 ADVANCED MOLECULAR BIOLOGY - 2 hours**

Concepts will be related to analytical methodology. Current approaches to DNA manipulation and mutation analysis, protein assays, quantitative analysis of gene expression, sequencing, immunostaining, microscopy and image analysis will be discussed.

**PGX 515 RESEARCH RESPONSIBILITIES AND ETHICS - 1 hour**

Research and practice in genomics give rise to numerous ethical issues and challenges. This interactive online course is designed to promote a deeper understanding of the ethical, legal and social implications of research and practice in pharmacogenomics.

**PGX 517 PHARMACOGENOMICS LABORATORY 1 - 1 hour**

Pharmacists are relying more on pharmacogenomic data to inform therapeutic decision making. An understanding and appreciation for how this data is generated will allow the students and future pharmacists to be more equipped to handle pharmacogenomic patient problems. This laboratory course introduces modern analytical techniques commonly used for DNA, RNA and protein collection, isolation, preparation and analysis. Students will have the opportunity to actively engage in laboratory processes associated with pharmacogenomics.

**PGX 522 HUMAN GENETICS - 3 hours**

In this course, students will gain an in-depth understanding of how genes influence human traits, diseases and behaviors, including how non-genetic factors interact with genetic factors to produce observable phenotypes. Human inheritance patterns, genome organization, linkage and medical applications of genetics in the diagnosis, treatment and prevention of disease will be explored. Techniques used in the field of human genetics will be integrated with principles and concepts presented in didactic sessions.

**PGX 526 APPLIED PHARMACOGENOMICS I - 3 hours**

Discusses academic and clinical scientific literature related to single nucleotide polymorphisms, gene and protein expression along with other genetic or epigenetic variations and their potential impact on clinical medicine and related clinical outcomes. The translation of genetic variations to drug selection, dosing regimens, adverse effects and regimen optimization will be discussed.

**PGX 527 PHARMACOGENOMICS LABORATORY II - 2 hours**

In this research project-based laboratory course, students will learn to apply molecular biology techniques to answer scientific questions. Students will learn and apply principles of basic cell culture, RNA and protein purification and quantification as well as RNA interference and gene silencing.

**PGX 532 BIOINFORMATICS - 3 hours**

The general objective of this course is to teach how computational techniques can help with solving biological problems. Students will learn to efficiently use multiple genomics and bioinformatics tools, which are freely available, for the analysis of DNA, RNA and protein sequences.

**PGX 533 DATA ANALYSIS/BIostatISTICS - 3 hours**

Discusses the use of statistical methods to process public health and genetic data. An emphasis on interpretation and concepts in areas such as population genetics, genome-wide association studies and systems biology will be undertaken.

**PGX 537 PHARMACOGENOMICS LABORATORY 3 - 2 hours**

This laboratory course expands upon modern analytical techniques commonly used for DNA, RNA and protein collection, isolation, preparation, visualization and analysis.

**PGX 538 THE GENE-DRUG PIPELINE - 3 hours**

A continuation of Applied Pharmacogenomics and will continue to focus on single nucleotide polymorphisms and other genetic variation and their potential impact on clinical medicine and

related clinical outcomes. The translation of genetic variations to drug selection, dosing regimens, adverse effects and regimen optimization will be discussed.

**PGX 547 PHARMACOGENOMICS IN NEUROLOGIC AND CARDIOVASCULAR DISORDERS - 3 hours**

A two-course sequence focused on the application of pharmacogenomics in practice settings. The course will be formative, write-ups and discussions of patient cases.

**PGX 557 PHARMACOGENOMICS IN ONCOLOGY - 2 hours**

A two-course sequence focused on the application of pharmacogenomics in practice settings. The course will be formative, write-ups and discussions of patient cases.

**PGX 592 PHARMACOGENOMICS LAB - 1 hour**

This on campus laboratory course introduces modern analytical techniques commonly used for DNA, RNA and protein collection, isolation, preparation and analysis. Students will have the opportunity to actively engage in laboratory processes associated with pharmacogenomics. The course is one-week in length and students will work for 40 hours during the week. Special note: This course includes an additional laboratory fee.

## **Professional Courses**

### **DPT 710 CLINICAL FOUNDATIONS I - 4 hours**

This course assists in developing the learner physical therapist's knowledge, skills and professional behaviors for safe and effective practice required in diverse clinical settings. This course utilizes a combination of lectures, laboratory, videos, small group and case-based learning, with reinforcement and practice of learned skills using the standardized patient (SP) to enhance learning, the course emphasizes the development of foundational competencies in screening, examination, evaluation and diagnosis of patients/clients. Coursework includes communication, the medical chart review, a subjective interview, documentation, billing and an introduction to the International Classification of Functioning, Disability and Health (ICF) framework to inform clinical decision-making in physical therapist practice, alongside the Biopsychosocial model for comprehensive patient assessment. Emphasis will be placed on understanding pain mechanisms, clinical reasoning and evidence-based practice to inform therapeutic interventions. Learners will be immersed in the patient/client management model used throughout the curriculum, foundational review of systems, basic examination skills, safe management of the environment, infection control, patient positioning, transfers, mobility and gait training, fitting for assistive devices and proper body mechanics. Prerequisite: Enrolled into the Doctor of Physical Therapy Program.

### **DPT 712 CLINICAL MOVEMENT SCIENCE - 3 hours**

This course provides the learner physical therapist with the foundational knowledge of functional human musculoskeletal anatomy and the assessment of normal and selected abnormal human movement patterns. Instructions include virtual gross anatomy dissection, functional anatomy, applied kinesiology, basic imaging, functional, active and passive range of motion, functional muscle testing and ergonomics. Learners then build on these foundational sciences with the application and integration of developmental kinesiology and regional interdependence theories with an appreciation for various contributing factors to structured movement analysis as well as static and dynamic movements. This course utilizes lectures, videos, case scenarios and lab sessions that promote the development of strong observation and analysis of human movement and function. The application of movement analysis is framed by the International Classification of Functioning, Disability and Health (ICF) model to inform clinical decision-making in physical therapist practice. Prerequisite: Enrolled into the Doctor of Physical Therapy Program.

### **DPT 714 CLINICAL NEUROSCIENCE - 3 hours**

This course provides the learner physical therapist with the foundational knowledge of the human neurological system and the clinical relevance of motor control and motor learning. This course emphasizes the neuroanatomical structures and neurophysiological functions of the motor and sensory systems that regulate movement. Normal peripheral and central nervous system function, pathophysiology, histology, embryology and neuroimaging of various neurological disorders commonly found in physical therapy contemporary practice will provide foundational knowledge as a precursor to the neuromuscular practice courses. The application of screening tools for the neurological system and related concepts will be emphasized from the clinical perspective, including but not limited to dermatomes, myotomes, reflex testing, cranial nerve testing, assessment of spinal/neural tracts and muscle tone assessment. This course utilizes lectures, videos, case scenarios and lab sessions to promote the development of knowledge and skills to address neuroanatomy, neuroplasticity, neural control of movement and

functional force development and neuromuscular activation in health and disease. The application of neurodynamic movement and function is framed by the International Classification of Functioning, Disability and Health (ICF) model to inform clinical decision-making in physical therapist practice. Prerequisite: Enrolled into the Doctor of Physical Therapy Program.

### **DPT 716 CLINICAL PHYSIOLOGY I - 3 hours**

This course provides the learner physical therapist with foundational knowledge and application of human physiology, anatomy and histology of the cardiovascular, pulmonary, musculoskeletal, neuromuscular, gastrointestinal, endocrine and renal systems. The function of each system is presented, with specific emphasis on significant changes across the lifespan, impacts incurred from exercise/activity, environments and disease. A foundational overview of health promotion, wellness and fitness related to injury prevention, special populations and public health will also be addressed. The application of screening tools for health/fitness and related concepts will be emphasized, including but not limited to heart rates, respiratory rate, blood pressure, oxygen saturation, anthropometric measurements and body composition measurements/calculations. This course utilizes lectures, videos, case scenarios and lab sessions to explore the various domains and influencers of health while identifying appropriate health and fitness screening/testing procedures, vitals assessment, risk stratification and applicability of care at the individual and community levels. Learners will be introduced to pharmacodynamics and pharmacokinetics in preparation for pharmacology education in term two. The application of health, fitness and wellness concepts is framed by the International Classification of Functioning, Disability and Health (ICF) to inform clinical decision-making in physical therapist practice. Prerequisite: Enrolled into the Doctor of Physical Therapy Program.

### **DPT 720 CLINICAL FOUNDATIONS II - 3 hours**

This course progresses fundamental physical therapy knowledge, skills and clinical reasoning required for various clinical settings within the patient/client management framework. Patient positioning and draping, room setup and infection control are reviewed in the context of the introduction to pain neuroscience and the use of therapeutic modalities and physical agents. Underlying principles and clinical applications of selected physical agents and modalities and the best evidence of these modalities for the physical and physiological effects are provided. Emphasis is on clinical decision-making for the appropriate intervention based on the desired treatment effects. This course utilizes lectures, videos, case scenarios and laboratory sessions to explore the various domains and influencers of physical modalities to optimize the application of health, fitness and wellness concepts while being framed by the International Classification of Functioning, Disability and Health (ICF) to inform clinical decision-making in physical therapist practice. Prerequisite: Successful completion of Year 1, Term 1 courses.

### **DPT 722 MUSCULOSKELETAL PRACTICE I - 4 hours**

This course builds upon previous program material on anatomy, movement analysis and examination skills and knowledge. The course incorporates the most common musculoskeletal system pathology, dysfunctions and surgical rehabilitation found in contemporary physical therapy practice in clinical settings. This course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize the application of knowledge and skills related to regional palpation orthopedic examination including special tests and outcome measures, development of the plan of care through the evaluation of examination findings and pharmacology associated with the musculoskeletal system all framed within the patient/client management model.

Additionally, the course covers the application of evidence-based therapeutic intervention methods such as joint mobilization/manipulation, soft tissue mobilization and therapeutic exercise, focusing on clinical decision-making through applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 1 courses.

#### **DPT 724 NEUROMUSCULAR PRACTICE I - 4 hours**

This course builds upon previous program material on neuroanatomy, neuropathology, movement analysis and examination skills and knowledge. This course provides the learner physical therapist with the knowledge and skills for assessing and managing individuals with neurologic health conditions in all health settings, emphasizing central and peripheral disorders on how they affect impairments in body structure/function, activity limitations and participation restrictions. This course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize examination, evaluation, diagnosis, prognosis and intervention, the application and integration of motor control/learning, theoretical constructs, evidence-based practice and pharmacology associated with the neuromuscular system, all framed within the patient/client management model. Additionally, the course will focus on clinical decision-making through applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 1 courses.

#### **DPT 726 CLINICAL PHYSIOLOGY II - 3 hours**

This course builds upon the foundational concepts introduced in the first term, diving deeper into concepts of health promotion, wellness, nutrition and fitness. This course provides the learner physical therapist with a better understanding of how various body systems-cardiovascular, pulmonary, neurological and muscular-interact and respond to different levels of physical activity and training principles. The course places a strong emphasis on the Biopsychosocial approach to intervention, focusing on pain modification, therapeutic exercise and the design, dose and delivery of treatment. It also highlights the importance of clinical reasoning and evidence-based practice. Additionally, learners will explore advanced principles of pharmacodynamics and pharmacokinetics to further their understanding of therapeutic practices. This course utilizes lectures, videos, case scenarios and laboratory sessions to explore the various domains and influencers of health to optimize the application of health, fitness and wellness concepts while being framed by the International Classification of Functioning, Disability and Health (ICF) to inform clinical decision-making in physical therapist practice. Prerequisite: Successful completion of Year 1, Term 1 courses.

#### **DPT 728 INTEGRATED CLINICAL EXPERIENCE I - 2 hours**

This course progresses fundamental physical therapy knowledge, skills and clinical reasoning required for various clinical settings within the patient/client management framework and promotes the development of professional behaviors of the physical therapist. Coursework prepares the learner to manage professional, legal and ethical responsibilities of the physical therapy practice in delivering health care services, such as applying core values, the Physical Therapy Practice Act and the APTA Code of Ethics. The learner physical therapist will apply and practice patient management techniques in a supervised clinical setting. Prerequisite: Successful completion of Year 1, Term 1 courses.

#### **DPT 731 LIFESPAN PRACTICE I - 4 hours**

This course studies normal human development and preventative and holistic healthcare across the lifespan. This course utilizes lectures, videos, case scenarios and laboratory sessions to increase learner physical therapist's knowledge and skills across the lifespan, focusing intensely on geriatric populations. For the geriatric population, the focus is on the physiologic changes and the sociological and economic consequences of aging. Significant time is dedicated to the natural aging process and how complicating factors such as chronic disease, malnutrition and other factors significantly impact the aging adult. Emphasis is placed on lifestyle's positive and negative effects on preventing or accelerating decline and the physical therapist's role in this process. Topics range from but are not limited to elder abuse, degenerative processes, metabolic changes, nutrition, osteoporosis, endocrine dysfunction, fall risk, physical therapy care across multiple healthcare settings, healthcare payor considerations, end-of-life, hospice and palliative care. Additionally, the course will focus on clinical decision-making through applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 2 courses.

### **DPT 732 MUSCULOSKELETAL PRACTICE II - 3 hours**

This course builds upon previous program material. It incorporates the less common musculoskeletal system pathology, dysfunctions and surgical rehabilitation found in contemporary physical therapy practice in clinical settings. This course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize the application of knowledge and skills related to regional palpation orthopedic examination including special tests and outcome measures, development of the plan of care through the evaluation of examination findings and pharmacology associated with the musculoskeletal system all framed within the patient/client management model. Additionally, the course advances the application of evidence-based therapeutic intervention methods such as joint mobilization/manipulation, soft tissue mobilization and therapeutic exercise, focusing on clinical decision-making through applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 2 courses.

### **DPT 734 NEUROMUSCULAR PRACTICE II - 3 hours**

This course builds upon previous program material and introduces additional conditions and neurological system assessments (functional MRI, nerve conduction velocity testing, electromyography, etc.). It incorporates the less common neurological system pathology, dysfunctions and rehabilitation found in contemporary physical therapy practice in clinical settings. This course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize examination, evaluation, diagnosis, prognosis and intervention, the application and integration of motor control/learning, theoretical constructs, evidence-based practice and pharmacology associated with the neuromuscular system, all framed within the patient/client management model. The course will focus on clinical decision-making through applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 2 courses.

### **DPT 736 CARDIOPULMONARY PRACTICE - 3 hours**

This course builds upon previous program material on the anatomy and physiologic function of the cardiopulmonary systems. This course assists the learner physical therapist in developing advanced knowledge and applying assessment skills for screening, examination, evaluation and the management of patients with cardiovascular, metabolic and pulmonary dysfunction. This

course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize examination, evaluation, diagnosis, prognosis and intervention, as well as evidence-based practice, pharmacology associated with Cardiopulmonary systems and clinical reasoning to address impairments and functional limitations within the patient/client management model and framework of the International Classification of Function (ICF) model. The course also includes lectures and simulation sessions that promote progression towards entry-level practice knowledge and skills for the acute care hospital setting. Prerequisite: Successful completion of Year 1, Term 2 courses.

### **DPT 739 CLINICAL APPLICATION OF RESEARCH & STATISTICS - 1 hour**

This course provides an introduction to clinical research and evidence-based practice. This course utilizes lectures, videos, case scenarios, article searches and projects to increase the learner physical therapist's knowledge and skills in how to search, interpret and critically evaluate medical literature and apply it to individual patient care. They will be familiarized with the most common research methodologies, statistical approaches and medical databases used in healthcare. Learners will be able to formulate clinical questions, find peer-reviewed research to answer these questions and critically appraise the evidence they find. The course covers the basics of research design, issues of validity and reliability, the diagnostic utility of clinical tests and conducting a literature review, empowering learners to be informed consumers of scientific literature. The focus on statistics and applied research methods will allow the learner to have an understanding of basic statistical tests, assumptions and usages in clinical research. Prerequisite: Successful completion of Year 1, Term 2 courses.

### **DPT 747 PROFESSIONAL COMPETENCIES I - 0 hours**

This course Integrates and applies knowledge gained from previous courses and is the culmination of the learner physical therapist's first year of didactic training. This course utilizes independent study, clinical cases and a practical lab examination with standardized patients to assess the learner physical therapist's readiness to enter full-time clinical education. The course comprehensively reviews body systems, pathophysiological mechanisms, examination procedures and management strategies consistent with evidence-based practice and clinical guidelines for musculoskeletal, neuromuscular and cardiopulmonary systems assuring preparation to successfully enter Long Term Clinical Education (LTCE). Additionally, learners will demonstrate successful completion of the exit examination based on the Federation of State Boards of Physical Therapy (FSBPT) Content Outline. Prerequisite: Successful completion of Year 1, Term 3 courses.

### **DPT 748 CLINICAL EDUCATION I - 8 hours**

This course prepares the learner physical rotations. Coursework will include interprofessional education, Interprofessional Education Collaborative (IPEC) core competencies, legal issues, abuse, cultural competency, reimbursement and billing practices. Coursework includes motivational interview techniques, PT-PTA Team, patient considerations such as developing the therapeutic alliance, honoring and addressing diversity, patient learning styles, patient rights, education, health behavior models and the reinforcement of application of the patient/client management model. The course includes interprofessional communication and collaboration using TeamSTEPPS or tools such as IPAS and SBAR, etc. Learners will enter a structured eight-week internship addressing a non-inpatient general patient population allowing the learner physical therapist to apply and refine their examination, evaluation and intervention skills during

a mentored clinical internship. Learners will utilize professionalism and interpersonal communication with patients/clients, family and healthcare staff. The course emphasizes evidence-based practice within the patient/client management model and clinical reasoning skills. Learners are expected to demonstrate professionalism and collaborative care and progress their knowledge and skills toward Advanced Beginner competency as a clinician as rated on a standardized rating instrument. Prerequisite: Successful completion of Year 1, Term 3 courses and Professional Competencies I (comprehensive written exam and practical).

#### **DPT 749 PSYCHOLOGICAL ASPECTS OF HEALTH and NUTRITION - 4 hours**

This course assists the learner physical therapist in further developing clinical reasoning combined with mindful practices and an appreciation of the impact these have on the patient/client. The course introduces population health, health promotion, prevention, health equity and wellness. It explores the impact of environmental and social determinants of health factors, health disparities/equity, spirituality, motivational interviewing, pain neuroscience education, stages of readiness to change, palliative care and end-of-life issues. Care of patients with chronic disease conditions with a biopsychosocial-spiritual care approach that is both adversity and trauma-informed care is explored. Best practice techniques are used to address the multi-dimensional and multi-disciplinary nature of treating patients, with an emphasis on those with chronic conditions, chronic pain and those facing public health issues. Additionally, this course incorporates cultural competence and cultural humility in the practice of compassionate care, patient health behavior models, conflict resolution and the ability to serve as advocates for both the patient and the profession. Pharmacology, specifically opioids and drugs of abuse are also discussed. This course utilizes lectures, videos, case scenarios, article searches, projects and laboratory sessions to increase the learner physical therapist's knowledge and skills in working in the areas of chronic pain, health promotion and care coordination for individuals discussed in this course. The course will focus on clinical decision-making by applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 3 courses.

#### **DPT 751 LIFESPAN PRACTICE II - 4 hours**

This course studies normal human development and preventative and holistic healthcare across the lifespan. This course utilizes lectures, videos, case scenarios and laboratory sessions to increase learner physical therapist's knowledge and skills across the lifespan, focusing intensely on pediatric populations. For the pediatric population, the focus is on the management of children across various settings with musculoskeletal, neurological and/or cardiopulmonary impairments through the application of patient/client management physical therapy practice, including screening, examination, evaluation, diagnosis, prognosis, plan of care, intervention and outcomes related to the patient. Topics include developmental delay and disability, family-centered care, education-based interventions, advocacy and assistive technologies. The course will focus on clinical decision-making by applying the International Classification of Function (ICF) model framework. Prerequisite: Successful completion of Year 1, Term 4 courses, Professional Competencies I (comprehensive written exam and practical) and Clinical Education I.

#### **DPT 753 INTEGUMENTARY PRACTICE - 3 hours**

This course studies the role of physical therapists in managing patients requiring integumentary and lymphatic system disorders. It focuses on enhancing the learner's expertise in diagnosing

and treating a range of conditions affecting the skin and lymphatic systems. This course utilizes lectures, videos, case scenarios and laboratory sessions, learners will develop a thorough understanding of integumentary system pathology, including tissue anatomy, wound healing processes and factors that can impede healing. Key topics include various wound types-such as arterial and venous insufficiency ulcers, pressure ulcers, neuropathic ulcers, lymphedema and burns-as well as the comprehensive management of these conditions. The course emphasizes a structured approach to patient management, including examination, evaluation, diagnosis, prognosis and the implementation of effective interventions. Special attention is given to the integration of these practices within the patient/client management model and the International Classification of Functioning, Disability and Health (ICF) framework. This approach ensures that learners are well-prepared to address the diverse needs of patients with integumentary and lymphatic system issues and to achieve optimal treatment outcomes. Prerequisite: Successful completion of Year 1, Term 4 courses, Professional Competencies I (comprehensive written exam and practical) and Clinical Education I.

### **DPT 755 PROSTHETICS AND ORTHOTIC PRACTICE - 4 hours**

This course studies the role of physical therapists in managing patients requiring prosthetic and orthotic devices. It provides an in-depth understanding of the physiology, pathophysiology and biomechanics involved in prosthetic and orthotic usage, along with considerations for safety and effective application in physical therapy practice. This course utilizes lectures, videos, case scenarios and laboratory sessions to emphasize the application of knowledge and skills related to the knowledge and skills in addressing mobility impairments that necessitate prosthetic and orthotic interventions. The course covers the comprehensive aspects of patient management, including the assessment, prescription and fitting of prosthetics orthotics and sock management for individuals with amputations or other conditions requiring these devices. The course will address the nuances of managing specialty populations, ensuring that learners are equipped to handle a diverse range of clinical scenarios involving prosthetics and orthotics. The aim is to enhance the physical therapist's capability to optimize functional outcomes and improve the quality of life for patients with complex needs. Emphasis will be placed on integrating these practices within the patient/client management model and utilizing the International Classification of Functioning, Disability and Health (ICF) framework to guide clinical decision-making. Prerequisite: Successful completion of Year 1, Term 4 courses, Professional Competencies I (comprehensive written exam and practical) and Clinical Education I.

### **DPT 758 INTEGRATED CLINICAL EXPERIENCE 2 - 2 hours**

This course progresses previous physical therapy knowledge, skills and clinical reasoning required for various clinical settings within the patient/client management framework and promotes the development of professional behaviors of the physical therapist. Coursework prepares the learner to manage the complexities of leadership in physical therapy, focusing on the development of leadership philosophy and strategies for managing clinical casework. The learner physical therapist will explore additional topics such as delegation and oversight, ensuring they can effectively lead and collaborate within a clinical team. The course also addresses the management of resources, including optimizing staff and equipment used to enhance patient care. Through a combination of lectures and supervised clinical experiences, learners will apply and refine patient management techniques, while also practicing essential professional behaviors. Emphasis will be placed on effective communication with interdisciplinary teams, strategic delegation and resource management, all framed within the

patient/client management model and the International Classification of Functioning, Disability and Health (ICF) framework. The learner physical therapist will apply and practice patient management techniques in a supervised clinical setting. Prerequisite: Successful completion of Year 1, Term 4 courses, Professional Competencies I (comprehensive written exam and practical) and Clinical Education I.

#### **DPT 761 COMPLEX PATIENT PRACTICE - 4 hours**

This course builds upon previous systems-based content for management strategies for medically complex patients. This course utilizes complex multi-system case studies to promote clinical reasoning to address community-based, outpatient and inpatient management for patients with primary multi-system diseases or comorbidities involvement. The lecture and laboratory course promotes the learner physical therapist to examine and provide treatment principles in the management of advanced diseases such as cardiovascular, pulmonary, metabolic, oncological, lymphatic, integumentary and rheumatologic disorders, along with their interactions within the patient/client management model and the International Functional Classification of Disability and Health (ICF) model. Prerequisite: Successful completion of Year 2, Term 5 courses.

#### **DPT 763 ACUTE CARE PRACTICE - 4 hours**

This course delves into the management of patients in acute care settings, focusing on the critical and often complex needs of individuals with severe or life-threatening conditions. The course integrates lecture and laboratory sessions to enhance the learner physical therapist's ability to handle a wide range of acute medical issues, including cardiovascular, pulmonary, neurological and multisystem disorders. The learner will develop expertise in acute care interventions through the application of patient/client management strategies such as assessment, diagnosis, prognosis and the formulation of an effective plan of care. Topics include the stabilization and management of critically ill patients, the integration of therapeutic interventions within the acute care environment and the adaptation of treatment approaches to address rapid changes in patient status. Emphasis will be placed on effective clinical reasoning, evidence-based practices and the use of the International Classification of Functioning, Disability and Health (ICF) framework to guide clinical decision-making. Learners will also explore advanced concepts related to interdisciplinary collaboration, patient safety and discharge planning. Prerequisite: Successful completion of Year 2, Term 5 courses.

#### **DPT 765 SPECIALTY PRACTICE - 4 hours**

This course studies the physical therapist's role in managing special populations. This course emphasizes the physiology, pathophysiology and histology of the neurological, integumentary, lymphatic and reproductive/genital urinary systems. The learner physical therapist will advance their knowledge and skills to address pathology and dysfunction of the electrophysiology, obstetrics, pelvic health and cancer diagnosis. The course will utilize lectures, videos, case studies and laboratory sessions to address these special populations. Lecture and laboratory sessions will educate learners on cancer screening, medical interventions, the role of physical therapy in cancer survivors' physical activity, pain control, sleep hygiene and exercise. Assessment and treatment of pelvic health conditions and care of the obstetric patient will also be addressed. Topics include pregnancy and exercise, post-partum issues, pelvic dysfunction such as urinary incontinence, constipation and pelvic floor pain. Emerging practice areas such as wellness and occupational health, chronic metabolic and immunologic diseases, along

cognitive and emotional disorders will be covered. The management of specialty practice populations is framed within the patient/client management model and the International Classification of Function (ICF) framework. Prerequisite: Successful completion of Year 2, Term 5 courses.

#### **DPT 777 PROFESSIONAL COMPETENCIES II - 0 hours**

This course integrates and applies knowledge gained from previous courses and clinical experience. This course utilized independent study and complex cases to assess the learner physical therapist's readiness to enter their final Long Term Clinical Education (LTCE) experiences. The course comprehensively reviews expanded knowledge and skills in examination procedures and management strategies consistent with evidence-based practice and clinical guidelines across the lifespan. Additionally, applied concepts of primary care practice, specialty practice and interprofessional collaborative practice are addressed. Prerequisite: Success completion of Year2, Term 6 courses

#### **DPT 778 CLINICAL EDUCATION II - 8 hours**

This structured eight-week internship builds upon the knowledge and skills obtained during the first clinical experience to advance evidence-based patient management and clinical reasoning skills and exhibit characteristics of an adult learner and medical professional. Learners are expected to demonstrate advanced professionalism and progress toward intermediate competency as a clinician as rate3d on a standardized rating instrument. Prerequisite: Successful completion of Year 2, Term 6 courses and Professional Competencies II (comprehensive written exam and practical)

#### **DPT 779 PRACTICE MANAGEMENT & ADMINISTRATION - 4 hours**

This course focuses on the application of regulatory, administrative and management requirements for physical therapy practice. It covers third-party payment and billing, personnel issues, fiscal responsibility and patient advocacy. Students use readings, lectures, case scenarios and problem-solving to assess their knowledge and apply technology to clinical practice.

#### **DPT 787 PROFESSIONAL COMPETENCIES III - 0 hours**

This course integrates and applies knowledge from previous courses and clinical experiences. This course includes independent studying and projects setting the learner up for life after graduation. These learning activities will prepare learners for clinical practice as life-long learners and educators in the physical therapy profession. The course emphasizes preparation for national and state(s) licensure and employment post-graduation. The learner will take two practice examinations in which the learners will need to demonstrate successful completion of the exit examination based on the Federation of State Boards of Physical Therapy (FSBPT) Content Outline. Prerequisite: successful completion of Year 2, Term 7 courses, Professional Competencies II (comprehensive written exam and practical), and Clinical Education II

#### **DPT 788 CLINICAL EDUCATION III - 14 hours**

This structured fourteen-week internship progresses learners to entry-level patient management skills during the mentored clinical internship. Learners refine interpersonal communication and professional skills with patients/clients, family and healthcare staff. Learners develop advanced evidence-based patient management and clinical reasoning skills. Learners are expected to demonstrate entry-level competency as a clinician as rated on a standardized rating instrument

by the conclusion of the internship. Prerequisite: successful completion of Year 2, Term 7 courses, Professional Competencies II (comprehensive written exam and practical), and Clinical Education II

**PHRM 310 PHARMACEUTICAL BIOCHEMISTRY - 5 hours**

This course will cover essential topics in medicinal and biochemistry, including structure-function of biomolecules, enzymology, metabolism, molecular biology, receptor physiology and fundamentals of drug design and action.

**PHRM 318 IMMUNOLOGY - 2 hours**

This course focuses on immunity and the body's self-defense mechanisms during host-microbe, host-immune factor and immune-microbe interactions. The course will consider both innate and adaptive immunity and include the structure and function of key receptors including

immunoglobulins, T cell receptors and innate pattern recognition receptors. The mechanisms of antibody formation and molecular aspects of cellular immunity, including T and B cell interactions and lymphocyte memory formation, will be emphasized and connections to pharmaceutical biochemistry will be highlighted.

### **PHRM 319 PATHOPHYSIOLOGY - 3 hours**

This course focuses on the pathophysiology of the human musculoskeletal, cardiovascular, nervous, endocrine and renal systems and how these systems are altered by various physiologic challenges. Emphasis is on the integrated mechanistic understanding of the molecular, structural and functional alterations in cells, tissues and organ systems in human disease. This course covers major topics in pathophysiology including etiology, pathogenesis, adaptation and common clinical signs and symptoms of disease.

### **PHRM 322 DRUG INFORMATION - 2 hours**

Drug Information is designed to provide students with a foundation for an evidence-based approach to pharmacy practice in all settings. Students will gain familiarity with the types of drug literature and their uses, regulations of drug development and promotion and a variety of drug information specialty practices. Students will be expected to demonstrate critical thinking and commitment to lifelong learning. By the end of the course, students should be able to identify and use appropriate drug information resources to systematically respond to basic requests for drug information from patients and healthcare professionals.

### **PHRM 325 NONPRESCRIPTION THERAPEUTICS - 3 hours**

The focus of this course is the pharmacotherapeutic use of over the counter (OTC) medications, including dietary supplements. The course will introduce the student to issues surrounding the self-care decision making process. Special emphasis will be placed on how pharmacists may assist patients in safely and effectively self-treating common medical problems and to recognize when self-care is inappropriate. Home diagnostic tests, glucometers and smoking cessation counseling/products are also discussed. PHRM 324 will be paralleled by activities in PHRM 331 and PHRM 370 in which students gain interviewing and problem-solving skills as they apply concepts learned in Nonprescription Therapeutics classes.

### **PHRM 330 PHARMACY PRACTICE LAB I - 1 hour**

The courses in the Pharmacy Practice Lab series are designed to provide students with the opportunity to engage in a variety of pharmacy practice skill sets. Each lab course will include a variety of activities simulating professional practice scenarios through the use of peer-teaching, faculty-student interactions, demonstrations, student interactions with standardized patients and pharmacy-specific and inter-professional frameworks. Students will be expected to demonstrate critical thinking skills and develop lifelong learning techniques through these courses.

### **PHRM 331 PHARMACY PRACTICE LAB II - 1 hour**

The courses in the Pharmacy Practice Lab series are designed to provide students with the opportunity to engage in a variety of pharmacy practice skill sets. Each lab course will include a variety of activities simulating professional practice scenarios through the use of peer-teaching, faculty-student interactions, demonstrations, student interactions with standardized patients and

pharmacy-specific and inter-professional frameworks. Students will be expected to demonstrate critical thinking skills and develop lifelong learning techniques through these courses.

#### **PHRM 334 PHARMACEUTICS I - 2.5 hours**

The Pharmaceutics course series is designed to teach essential concepts of physical pharmacy, pharmaceutics and dosage form design, including compounding and evaluation of both sterile and non-sterile dosage forms. The student will gain background knowledge and skills necessary to apply biopharmaceutical principles to the selection and evaluation of dosage forms for use in patients.

#### **PHRM 335 PHARMACEUTICS II - 2 hours**

The Pharmaceutics course series is designed to teach essential concepts of physical pharmacy, pharmaceutics and dosage form design, including compounding and evaluation of both sterile and non-sterile dosage forms. The student will gain background knowledge and skills necessary to apply biopharmaceutical principles to the selection and evaluation of dosage forms for use in patients. Prerequisite: PHRM 334.

#### **PHRM 336 PHARMACEUTICAL CALCULATIONS I - 2 hours**

This course explores the various methods used to perform pharmaceutical calculations required for safe medication use. Accurately performing pharmaceutical calculations is a critical component in providing patient care in every pharmacy practice environment. The development of pharmaceutical calculations skills plays a significant role in building a competent pharmacist.

#### **PHRM 337 PHARMACOKINETICS/PHARMACOGENOMICS - 2 hours**

This course focuses on the mathematical and conceptual study of the time course of drug absorption, distribution, metabolism and excretion. The course also presents the evolution of pharmacogenetics/pharmacogenomics, the human genome and modern applications of DNA information related to drugs. Prerequisite: PHRM 310.

#### **PHRM 340 PATIENT-CENTERED CARE - 5 hours**

This course will help prepare students for their roles and responsibilities as pharmacists in the areas of listening to, informing and involving patients in their care, communicating effectively with other healthcare professionals and advocating on behalf of patients and for the pharmacy profession. Students will be introduced to the Pharmacists' Patient Care Process, which is essential to contemporary practice of pharmacy. Focus will be placed on cultural sensitivity and pharmacy law and ethics to ensure a high standard of patient care. This course will start to shape student attitudes about pharmacy practice as they begin to chart a course for their pharmacy education and future career.

#### **PHRM 370 IPPE I - 3 hours**

This introductory community pharmacy practice experience (IPPE I) course will help the student develop basic knowledge, professional identity and self-confidence in the area of community pharmacy. Under the supervision and guidance of pharmacy professionals, the student will gain familiarity with all aspects of pharmacy practice in the community setting. The student is expected to build on knowledge and skills gained during the first professional year of college, achieving standard competencies for the practice of pharmacy in the community setting.

**PHRM 382 INDEPENDENT STUDY - 1-3 hours - elective**

This course is designed to provide students with additional preparation for the successful completion of coursework. Content will focus on core course information and may be individualized for student needs. Students may be required to enroll in this course as part of a progression requirement or class remediation plan. Prerequisite: Permission.

**PHRM 402 INTERPROFESSIONAL EDUCATION (IPE) I - 0.5 hours**

The courses within the Interprofessional Education (IPE) sequence will enable students to work collaboratively and learn with, from and about other healthcare professions and how to work as a team to improve patient care. Professions the student can expect to interact with include but are not limited to the following: athletic training, nurse practitioner, medicine, nursing, occupational therapy, physical therapy, physician assistant and speech-language-pathology. Events include, but are not limited to, live or virtual synchronous and asynchronous activities, on-line modules and simulations. Activities may also include pre-work. The goal of the IPE sequence is to gain competence in the IPEC domains: Roles/Responsibilities, Teams/Teamwork, Values/Ethics and Interprofessional Communication in a stepwise approach: Exposure, Immersion and Integration. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

**PHRM 403 INTERPROFESSIONAL EDUCATION (IPE) II - 0.5 hours**

The courses within the Interprofessional Education (IPE) sequence will enable students to work collaboratively and learn with, from and about other healthcare professions and how to work as a team to improve patient care. Professions the student can expect to interact with include but are not limited to the following: athletic training, nurse practitioner, medicine, nursing, occupational therapy, physical therapy, physician assistant and speech-language-pathology. Events include, but are not limited to, live or virtual synchronous and asynchronous activities, on-line modules and simulations. Activities may also include pre-work. The goal of the IPE sequence is to gain competence in the IPEC domains: Roles/Responsibilities, Teams/Teamwork, Values/Ethics and Interprofessional Communication in a stepwise approach: Exposure, Immersion and Integration Prerequisite: Successful completion of PHRM 402 Interprofessional Education (IPE) I with grade of Pass.

**PHRM 411 INTEGRATED PHARMACOTHERAPY I - 4 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

**PHRM 412 INTEGRATED PHARMACOTHERAPY II - 5 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics,

special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

### **PHRM 413 INTEGRATED PHARMACOTHERAPY III - 5 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better, PHRM 411, 412.

### **PHRM 414 INTEGRATED PHARMACOTHERAPY IV - 3 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances. This course provides this content for pediatric and non-immune-mediated gastrointestinal conditions. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better, PHRM 411, 412.

### **PHRM 420 DRUG LITERATURE EVALUATION - 2 hours**

Drug Literature Evaluation builds on the foundational evidence-based medicine practice skills developed in Drug Information. Students will gain familiarity with medication use management strategies, multiple types of pharmacy-related study design and the process of evaluating the clinical usefulness of a medication. Students will be expected to demonstrate superior critical thinking; synthesize information from multiple resources; and write clearly, concisely and professionally. By the end of the course, students should be able to comprehend, assess and evaluate relevant primary literature and determine its potential impact on clinical practice. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

### **PHRM 421 CASE CONFERENCE I - 1 hour**

Case Conference is a 4-course series of classes that students will progress through during their P2 to P3 year. The purpose of the case conference series is to allow students to progress in their critical thinking and clinical knowledge as they reinforce and apply what they have learned in the classroom to patient cases to facilitate the transition to become APPE-ready. Students will be able to successfully identify and resolve medication-related problems and develop comprehensive patient-centered plans to optimize drug therapy in order to achieve positive outcomes utilizing the Pharmacists' Patient Care Process (PPCP). Patient cases will be a mixture of topics learned in the classroom to reinforce concepts taught in the IPT courses along

with disease states that are not covered to exercise skills of self-directed learning. Case Conference I will have an emphasis on instruction for patient documentation, evaluating patient cases and problem prioritization. Students will receive foundational knowledge during this course that will allow them to be successful in future case conference and integrated pharmacotherapy courses. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

#### **PHRM 422 CASE CONFERENCE II - 1 hour**

Case Conference is a 4-course series of classes that students will progress through during their P2 to P3 year. The purpose of the case conference series is to allow students to progress in their critical thinking and clinical knowledge as they reinforce and apply what they have learned in the classroom to patient cases to facilitate the transition to become APPE-ready. Students will be able to successfully identify and resolve medication-related problems and develop comprehensive patient-centered plans to optimize drug therapy in order to achieve positive outcomes utilizing the Pharmacists' Patient Care Process (PPCP). Patient cases will be a mixture of topics learned in the classroom to reinforce concepts taught in the IPT courses along with disease states that are not covered to exercise skills of self-directed learning. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better; PHRM 421.

#### **PHRM 430 PHARMACY PRACTICE LAB III - 1 hour**

The courses in the Pharmacy Practice Lab series are designed to provide students with the opportunity to engage in a variety of pharmacy practice skill sets. Each lab course will include a variety of activities simulating professional practice scenarios through the use of peer-teaching, faculty-student interactions, demonstrations, student interactions with standardized patients and pharmacy-specific and inter-professional frameworks. Students will be expected to demonstrate critical thinking skills and develop lifelong learning techniques through these courses. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

#### **PHRM 434 PHARMACY PRACTICE LAB IV - 0.5 hour**

The courses in the Pharmacy Practice Lab series are designed to provide students with the opportunity to engage in a variety of pharmacy practice skill sets. Each lab course will include a variety of activities simulating professional practice scenarios through the use of peer-teaching, faculty-student interactions, demonstrations, student interactions with standardized patients and pharmacy-specific and inter-professional frameworks. Students will be expected to demonstrate critical thinking skills and develop lifelong learning techniques through these courses. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better, PHRM 421.

#### **PHRM 442 HEALTHCARE SYSTEMS & PATIENT SAFETY - 4 hours**

Healthcare systems & patient safety is designed to provide students with the foundational knowledge of the U.S. healthcare system and the skills to administer safe pharmaceutical care. Building on the comprehensive overview of the pharmacy profession in previous courses, this course will cover care delivery models, health insurance, medication distribution and healthcare safety, accessibility and quality. Discussions of the medication use system, error analysis, prevention and risk communication will allow students to understand and advocate for safe medication practices. Students will gain familiarity with informatics and technologies that can be used to reduce risk and prevent medication errors. By the end of the course, students will have

a sufficient understanding of the U.S. healthcare system and the ways to minimize risk and enhance patient safety to provide optimal patient-centered care.

#### **PHRM 443 PHARMACY IN PUBLIC HEALTH - 3 hours**

Pharmacists are an integral part of the health care system. Their vital role in the health of the population requires pharmacists to have an awareness of public health issues and their root causes, the ability to identify how the profession can contribute to public health and the knowledge of where to find information about a variety of public health issues. Pharmacists who understand public health will develop the ability to serve in proactive roles to protect the health of their patients. This course is an organized introduction to the vast field of public health and aims to spark students' imagination on meaningful ways of contributing to public health through the art and science of the profession of pharmacy.

#### **PHRM 462 RESEARCH AND INNOVATIVE PRACTICE SEMINAR - 1 hour**

Current topics, innovative practice and current research in pharmacy, pharmaceutical sciences and related scientific disciplines will be presented. Invited speakers from within and outside the Manchester community will provide a formal seminar, exposing students to research methodologies, potential student research projects and networking opportunities. This course may be repeated up to 3 times.

#### **PHRM 463 RESEARCH TECHNIQUES IN PHARMACEUTICAL SCIENCES - 1 hour**

This course will provide an introduction to the laboratory techniques used in contemporary pharmaceutical sciences research. Students will learn the theory behind the most common laboratory experiments, including mammalian tissue culture, Western blotting, isolation and purification of nucleic acids, quantitative polymerase chain reaction and others. These techniques will then be applied in the laboratory setting.

#### **PHRM 464 STRATEGIES FOR SUCCESS - 1 hour**

Students will develop skills and techniques to enhance learning and retention in the Doctor of Pharmacy curriculum. Content will focus on research-based study skills that will be applied to the students' current didactic courses as weekly assignments. These study techniques and assignments may be individualized based on student and content needs. Students will regularly participate in study tables and may have additional assignments and course responsibilities designed to improve retention and wellness. This course can be taken multiple times, but only 1 credit will count towards a student's professional electives when applicable. Prerequisite: Permission alternate plan, didactic course faculty request or faculty mentor request.

#### **PHRM 465 DRUG INDUCED DISEASES - 2 hours**

The Drug Induced Diseases elective is an opportunity for students to further their critical thinking and problem-solving skills in evaluating patients for various adverse reactions. Course content will focus on major drug-induced diseases likely to be encountered in both inpatient and ambulatory settings, delivered in a case-based, active format. Students who complete the course will be prepared to apply drug safety principles, emphasizing drug-induced diseases, in their execution of the Pharmacists Patient Care Process (PPCP). Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

**PHRM 471 IPPE II INSTITUTIONAL - 4 hours**

This introductory institutional pharmacy practice experience (IPPE II) course will develop students' basic knowledge, professional identity and self-confidence in the area of institutional pharmacy. Under the supervision and guidance of pharmacy professionals, students will gain familiarity with all aspects of pharmacy practice in selected institutional settings. Students will be expected to build on knowledge and skills gained during their first professional year of school, achieving standard competencies for the practice of pharmacy in the institutional setting bearing in mind that competence at a mastery level in all areas is not to be expected at this stage of the student's education. Prerequisite: Successful completion of all P1 year courses with grade of Pass, C or better.

**PHRM 482 INDEPENDENT RESEARCH - 1-3 hours**

This elective course is designed to allow students to pursue research interests and become familiar with techniques used in research of discovery, integration, application and/or scholarship of teaching and learning. In collaboration with a faculty research mentor, each student will select an appropriate research problem and work towards its solution. This course may be repeated up to a total of 3 times for a maximum of 9 credits.

Prerequisite: Permission.

**PHRM 489 DRUGS IN POPULAR LITERATURE - 2 hours**

This course will focus on the representation of drugs in popular literature. A minimum of two books will be selected, read and discussed during the course in a book club style. The purpose of the course is to orient pharmacy students to the public's perceptions of medicine and/or the healthcare system, as well as to provide a contextual reference of the history of drug development and/or drug use. This course will tackle some of the assumptions health care providers may have and explore ways to be more thoughtful in decisions and in the care of patients.

**PHRM 493 TEACHING ASSISTANT - 1-2 hours**

This elective course will enable students to serve as Teaching Assistants (TAs) in a variety of pharmacy courses. TAs will develop skills in using a learning management system from the perspective of a TA. TAs will learn about FERPA and the requirements of this law. TAs may provide support at study tables to assist students with core courses. TAs will work closely with their assigned course coordinator to complete other course-related tasks. Prerequisite: Permission; Academic Good Standing.

**PHRM 494 PHARMACY IN ATHLETIC TRAINING - 2 hours**

As Athletic Trainers' (ATs) typical scope of practice continues to diversify from athletes to the workforce at large, there is a growing need for AT/pharmacist collaboration to most effectively identify and safely manage the role medications play in AT outcomes and treatments. As the most accessible health care professionals, pharmacists are often asked to assist in triage and treatment of injuries, including selection and sizing of athletic braces and crutches, with limited to no formal training in these areas. This course will run parallel to the Master's in Athletic Training (MAT) Pharmacy Course (ATTR 563), in which pharmacy students will learn the basics of MAT scope of practice, some simple athletic training injury prevention, treatment and rehabilitation techniques, selection and fitting principles for common OTC braces and crutches, minor injury triage and treatment and the role that medications play in MAT practice. Student

pharmacist participants will lead topic discussions with the MAT students in ATTR 563 surrounding MAT- focused medication principles in disease states most commonly encountered in MAT daily practice, both in athletes and in workforce injury prevention and rehabilitation.

#### **PHRM 495 ETHICAL DIMENSIONS IN HEALTH PROFESSIONS - 1 hour**

This course is designed to provide students with foundational knowledge in bioethics and a process by which to evaluate ethical dilemmas in healthcare. Theories and practices pertaining to bioethics are reviewed and expanded upon using a variety of readings, case studies for application and projects. Students will develop a process to evaluate ethical dilemmas and apply ethical and moral principles to past, current and future pharmacy and healthcare situations.

#### **PHRM 502 – INTERPROFESSIONAL EDUCATION (IPE) III - 0.5 hours**

The courses within the Interprofessional Education (IPE) sequence will enable students to work collaboratively and learn with, from and about other healthcare professions and how to work as a team to improve patient care. Professions the student can expect to interact with include but are not limited to the following: athletic training, nurse practitioner, medicine, nursing, occupational therapy, physical therapy, physician assistant and speech-language pathology. Events include, but are not limited to, live or virtual synchronous and asynchronous activities, on-line modules and simulations. Activities may also include pre-work. The goal of the IPE sequence is to gain competence in the IPEC domains: Roles/Responsibilities, Teams/Teamwork, Values/Ethics and Interprofessional Communication in a stepwise approach: Exposure, Immersion and Integration. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

#### **PHRM 503 – INTERPROFESSIONAL EDUCATION (IPE) IV - 0.5 hours**

The courses within the Interprofessional Education (IPE) sequence will enable students to work collaboratively and learn with, from and about other healthcare professions and how to work as a team to improve patient care. Professions the student can expect to interact with include but are not limited to the following: athletic training, nurse practitioner, medicine, nursing, occupational therapy, physical therapy, physician assistant and speech-language pathology. Events include, but are not limited to, live or virtual synchronous and asynchronous activities, on-line modules and simulations. Activities may also include pre-work. The goal of the IPE sequence is to gain competence in the IPEC domains: Roles/Responsibilities, Teams/Teamwork, Values/Ethics and Interprofessional Communication in a stepwise approach: Exposure, Immersion and Integration. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better; PHRM 502.

#### **PHRM 515 INTEGRATED PHARMACOTHERAPY V - 5 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances.

Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

#### **PHRM 516 INTEGRATED PHARMACOTHERAPY VI - 5 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances.

Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better

#### **PHRM 517 INTEGRATED PHARMACOTHERAPY VII - 5 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances.

Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

#### **PHRM 518 INTEGRATED PHARMACOTHERAPY VIII - 3 hours**

The courses in the integrated pharmacotherapy series will be centered on a body system and/or disease states. Each course will incorporate instruction about the pathophysiology of body systems/disease states, the pharmacology and medicinal chemistry of the agents used to treat the disease states and the therapeutics and management of patients. Pharmacogenomics, special populations and toxicology concepts will also be incorporated in the discussion of disease state treatment and management. The focus of this course series is to provide students with a well-rounded understanding of caring for patients in a variety of medical circumstances.

Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better, PHRM 515, PHRM 516

#### **PHRM 523 CASE CONFERENCE III - 1 hour**

Case Conference is a 4-course series of classes that students will progress through during their P2 to P3 year. The purpose of the case conference series is to allow students to progress in their critical thinking and clinical knowledge as they reinforce and apply what they have learned in the classroom to patient cases to facilitate the transition to become APPE-ready. Students will be able to successfully identify and resolve medication related problems and develop comprehensive patient-centered plans to optimize drug therapy in order to achieve positive outcomes utilizing the Pharmacists' Patient Care Process (PPCP). Patient cases will be a mixture of topics learned in the classroom to reinforce concepts taught in the IPT courses along with disease states that are not covered to exercise skills of self-directed learning. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

**PHRM 524 CASE CONFERENCE IV - 1 hour**

Case Conference is a 4-course series of classes that students will progress through during their P2 to P3 year. The purpose of the case conference series is to allow students to progress in their critical thinking and clinical knowledge as they reinforce and apply what they have learned in the classroom to patient cases to facilitate the transition to become APPE-ready. Students will be able to successfully identify and resolve medication related problems and develop comprehensive patient-centered plans to optimize drug therapy in order to achieve positive outcomes utilizing the Pharmacists' Patient Care Process (PPCP). Patient cases will be a mixture of topics learned in the classroom to reinforce concepts taught in the IPT courses along with disease states that are not covered to exercise skills of self-directed learning. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better, PHRM 515, 516, 523.

**PHRM 535 PHARMACY PRACTICE LAB V - 0.5 hour**

The courses in the Pharmacy Practice Lab series are designed to provide students with the opportunity to engage in a variety of pharmacy practice skill sets. Each lab course will include a variety of activities simulating professional practice scenarios through the use of peer-teaching, faculty-student interactions, demonstrations, student interactions with standardized patients and pharmacy-specific and inter-professional frameworks. Students will be expected to demonstrate critical thinking skills and develop lifelong learning techniques through these courses. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

**PHRM 536 CAPSTONE - 4 hours**

The purpose of this course is to provide a culminating Doctor of Pharmacy Capstone experience that will allow students to demonstrate their readiness to enter Advanced Pharmacy Practice Experiences (APPEs). Simulated APPE practice experiences, Standardized patients and Objective Structured Clinical Examinations (OSCEs) will be utilized and students will be asked to use previously learned and newly acquired information in new patient situations, draw connections between disparate information, justify a decision or recommendation and produce new or original work such as Medication Use Evaluations (MUEs), SOAP notes, Patient Care Plans, SBARs, Patient Counseling and Formal Case Presentations. This course requires students connect and relate knowledge and skills gained throughout the P1-P3 years, demonstrate critical thinking and problem solving, utilize the literature to create evidence-based recommendations and demonstrate the ability to provide holistic, individualized and inclusive patient-centered care utilizing the JCPP Pharmacists' Patient Care Process. Success will be measured by the achievement of an entrustment Level II on the Doctor of Pharmacy programs entrustable professional activities (EPAs). Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better

**PHRM 537 APPE PREPARATION - 4 hours**

This course is designed to provide students additional preparation in order to be successful in completing APPE rotations. Students enrolled in the course will practice basic APPE skills and competencies, including but not limited to journal clubs, care plans, patient presentations and calculations practice to ensure the student is APPE ready. Some students may be required to

take this course as part of a progression requirement or class remediation plan. Other students may elect to take this course. Prerequisite: Permission.

### **PHRM 540 PRACTICE AND PERSONNEL MANAGEMENT - 3 hours**

This course will provide foundational management principles related to the role of the pharmacist as a manager and leader in pharmacy practice settings. Topics will include pharmacy practice management as it relates to the medication use process and medications safety, business planning of clinical pharmacy services, leadership and personnel issues and the future of pharmacy practice. This course particularly focuses on how the managerial sciences apply to pharmacy practice and the management issues associated with the safety, effectiveness and efficiency in delivering pharmacy services in various practice settings. Students will develop knowledge of the business planning process commonly used in development of clinical pharmacy services. It will also provide an overview of the pharmacy workforce including supply and demand and future pharmacy practice models. Prerequisite: PHRM 442, 443.

### **PHRM 541 PHARMACY LAW - 2 hours**

This course will discuss the contours of law, specifically focusing on the area of pharmacy law. It will examine the federal and Indiana state laws that impact the practice of pharmacy, while emphasizing the legal and ethical principles applied by pharmacists in their daily decision-making. Students will learn the governmental framework within which pharmacy is practiced, as well as acquire an understanding of the laws, regulations and the ethical responsibilities applicable to pharmacists so that they will be able to protect the public and ensure patients' wellbeing. Furthermore, students will learn legal procedure, legal terminology and have an opportunity to reflect upon and evaluate the United States legal system, including its impact on the profession of pharmacy, through readings and in-class discussions. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 571 AMBULATORY CARE PHARMACY PRACTICE - 2 hours**

This course is an introduction to ambulatory care pharmacy practice with a focus on various practice models, developing ambulatory care services, common disease states that pharmacists manage in primary care and a holistic approach to managing patients. Throughout the course, students will be expected to participate in active learning coursework to further develop communication skills, problem solving and team collaboration. The general format of the class will be open forum discussion with an emphasis on student participation. The class will consist of both lecture and case-based studies. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 572 SPECIALTY PHARMACY - 2 hours**

This elective course is designed to provide students with foundational knowledge of the specialty pharmacy model of care. Students will learn about the growing area of specialty pharmacy from an administrative, economic and a clinical perspective. The course will describe the multiple roles of a specialty pharmacist including managing chronic disease states, evaluating outcomes data, distributing medications and obtaining payer reimbursement. The course will provide insight to specialty pharmacy through the use of guest speakers, group discussion and provided readings. Topics covered in this course will include specialty pharmacy operations, neurology, oncology, pulmonary, gastroenterology, inflammatory disease and

cardiology. There will be weekly quizzes to check for general understanding of lecture topics and required readings. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 576 CRITICAL CARE /INFECTIOUS DISEASE - 2 hours**

This course is designed to introduce students to selected disease states encountered in the intensive care unit and infectious diseases settings as well as current controversies regarding the clinical management of these patients. The management of these patients will be discussed using case study, application of medical literature, student-led presentations and open discussion. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 589 APPLICATIONS OF DRUG LITERATURE - 1 hour**

PHRM 589 builds on the evidence-based practice skills developed in Drug Information and Drug Literature Evaluation. Students will be expected to demonstrate superior critical thinking, professional writing and professional presentation skills. Students will have the opportunity to practice evaluating drug literature in informal discussion, journal club and therapeutic debate settings. Students will also have the opportunity to be an active participant in journal club and to provide and receive constructive feedback. By the end of the course, students should be able to expertly interpret and evaluate primary drug literature. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 591 ADVANCED DRUG DELIVERY SYSTEMS - 2 hours**

Building on the foundational knowledge gained in Pharmaceutics 1&2 course sequence, this course explores a variety of advanced drug delivery systems, for treatment and diagnostic purposes. Emphasis will be placed on, but not limited to, polymer-based systems, nano-carriers & nano-based technologies for the delivery of therapeutics and liposomes. Discussions will extend to approved/ marketed drug products that implement such novel technologies, as well as those in clinical drug development or still at the research/pre-clinical phase.

### **PHRM 595 POSTGRADUATE RESIDENCY TRAINING - 1 hour**

This course is intended to prepare students to succeed in the postgraduate training recruitment process. Success not only includes obtaining a position through the residency match, but also understanding the responsibilities, expectations, benefits and drawbacks of residency life, determining whether a residency is the right choice for you and finding a residency that will enable you to meet your personal goals. Students in this course will meet with residents, preceptors and program directors, reflect on their strengths and weaknesses, prepare professional correspondence, participate in mock interviews and make a plan for success in the residency recruitment process following the course. Prerequisite: Successful completion of all P1 and P2 year courses with grade of Pass, C or better.

### **PHRM 596 LEADERSHIP FOR PHARMACISTS - 2 hours**

This course is designed to provide students with an opportunity to build on the core curriculum in areas related to leadership. Theories and practices pertaining to leadership are reviewed and expanded upon using a variety of readings, case studies for application and projects. Students will develop greater self-knowledge, learn ways to work with others and apply leadership principles to current pharmacy and healthcare situations.

**PHRM 597 LEADING: PEOPLE & CHANGE - 2 hours**

The focus of this final leadership course in the elective series will shift to leading teams, working constructively with others and effecting change in the pharmacy profession. Theories and application of teamwork, transformational leadership and change management will be presented. Students will utilize skills developed throughout the series to identify and develop a management related project within the pharmacy profession.

**PHRM 601 PERSONAL AND PROFESSIONAL DEVELOPMENT - 0.5 hours**

This course is designed to assist students in preparing for standardized examinations – the North American Pharmacist Licensure Examination (NAPLEX) and Multistate Pharmacy Jurisprudence Examination (MPJE) – through their participation in a series of review sessions. This course also provides students an opportunity to evaluate the pharmacy program by participating in focus group discussions and completing surveys, most notably the American Association of Colleges of Pharmacy (AACP) Graduating Students Survey. These activities are purposely and intentionally designed to aid in assurance that students are practice-ready upon graduation. This class will be graded in a pass/no pass manner. Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better and concurrently enrolled in APPE rotations.

**PHRM 610 APPE ADVANCED COMMUNITY - 4-6 hours**

The Advanced Community Rotation focuses on the day-to-day operations of a retail/community pharmacy such as counseling and monitoring ambulatory patients, communicating with various caregivers and healthcare providers along with medication procurement and dispensing. The overarching goal of this rotation is to prepare the student pharmacist to think and act as a professional. Steps to achieving this goal include exploring as many experiences as possible, being confident in the performance of daily tasks, finding value and application in the rotation for future careers and having a complete understanding of a community pharmacist's role in the healthcare system. Students are expected to provide holistic, inclusive, individualized care for all patients. Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better.

**PHRM 620 APPE ADVANCED INSTITUTIONAL - 4-6 hours**

The Advanced Institutional/Hospital Rotation focuses on the day-to-day operations of an institutional/hospital environment, such as providing general care to patients and procurement and distribution of medications. The overarching goal of this rotation builds upon the knowledge and skills previously learned in order to fully participate in hospital pharmacy operations and services. Steps to achieving this goal include exploring as many experiences as possible, being confident in the performance of daily tasks, finding value and application in the rotation for future careers and having a complete understanding of an institutional/hospital pharmacist's role in the healthcare system. Students are expected to provide holistic, inclusive, individualized care for all patients. Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better.

**PHRM 630 APPE AMBULATORY CARE - 4-6 hours**

The Ambulatory Patient Care Rotation focuses on the ambulatory patient and their long-term medical needs and care. The overarching goal of this rotation is to provide pharmaceutical care

in an ambulatory care setting. Steps to achieving this goal include exploring as many experiences as possible, being confident in the performance of daily tasks, finding value and application in the rotation for future careers and having a complete understanding of an ambulatory care pharmacist's role in the healthcare system. Students are expected to provide holistic, inclusive, individualized care for all patients. This course may be repeated for credit. Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better.

**PHRM 640 APPE ACUTE CARE - 4-6 hours**

The Acute Care Rotation focuses on enhancing your ability to observe and provide comprehensive medication therapy management for acutely ill patients in an institutional setting. The student will be able to identify and optimize pharmacotherapy in a hospitalized patient. The overarching goal of this rotation is to learn what pharmacists do in the institutional setting by gaining hands-on experience with contributing to patient care. The student will master disease states and drug-related issues to the level of an entry-level pharmacist.

Students are expected to provide holistic, inclusive, individualized care for all patients. This course may be repeated for credit. Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better.

**PHRM 670 APPE ELECTIVES - 4-6 hours**

Elective advanced pharmacy practice experiences (APPE) in other settings (such as research, management, drug information, academia, managed care, long-term care, hospice and home health care) should complement the required experiences and provide adequate and innovative opportunities for students to mature professionally and in accordance with individual interests.

The overarching goal of the elective APPE is for students to broaden practice experience in pharmacy and pharmacy-related settings while positively contributing to the activities at the site. Students are expected to provide holistic, inclusive, individualized care for all patients.

Prerequisite: Successful completion of all P1, P2 and P3 year courses with grade of Pass, C or better.

## **ACADEMIC POLICIES AND PROCEDURES**

The University makes every effort to assist students to ensure an on-time graduation through academic advising and regular program evaluation review. However, the final responsibility for meeting all academic and graduation requirements rests with each student. Assistance in interpreting the requirements is available from academic advisors and the registrar.

### **Academic Dishonesty and Grievance**

Membership in the Manchester University community requires a devotion to the highest principles of academic and personal integrity, a commitment to maintain honor and a continuous regard for the rights of others. There can be no rights without individual responsibility.

Manchester University faculty are committed to teaching and learning as a career and a profession. Each instructor is presumed to develop and use methods and techniques which enhance learning and align with research based best teaching practices for their subject matter area of expertise. Instructors are expected to abide by the general principles of ethical behavior, keep complete records of student performance and develop, apply and express uniform criteria for evaluating student performance.

Students are free to take reasoned exception to the data or views offered in any course of study. While they may reserve judgment about matters of opinion, they are responsible for learning the content of any course in which they are enrolled. At the same time, students are expected to abide by the general principles of academic honesty which are commonly accepted in educational settings.

When a student chooses not to follow the general principles of academic honesty, the following policies and procedures will apply.

### **Academic Integrity**

Academic integrity is the commitment of all members of the academic community to act with honesty and integrity in their work. This means students complete their own work, always give credit to the work of others and refrain from doing work for other students.

### **Academic Integrity Policy**

It is the goal of the Office of Academic Affairs (OAA) to provide a policy that is understandable to both students and faculty members; OAA approaches violations of academic integrity, also called instances of academic dishonesty, as a learning opportunity, emphasizing the importance of accountability and growth for the student.

The Academic Integrity Policy applies in cases of plagiarism, cheating and/or falsification/fabrication as defined below.

### **Plagiarism**

Plagiarism is the presentation of information (either written or oral) as one's own when it is borrowed or copied from another person or source.

Plagiarism includes the following:

- The author of the work is properly identified, but the student does not use quotation marks correctly; or the material has been only slightly modified or rephrased rather than restated in the student's own words.
- Key ideas, words or items of information that are not common knowledge are copied from another writer/speaker and are presented without proper identification of the source(s).
- The student uses the ideas of several other people/authors and presents those ideas as their own.
- The student uses an entire paper or speech written or delivered by someone else and presents it as their own. This includes the creation of material using AI technology and presenting it as one's own work without proper documentation as required by the assignment.
  - Using AI for some portion of an assignment may be acceptable as directed by the instructor as part of a specific assignment.
  - Material submitted as your own which was created using AI that is not properly cited/documented constitutes plagiarism.
- The student translates texts written in another language into English and presents them as their own.

### Cheating

Cheating consists of any use of notes, texts or other sources that gives a student an unfair advantage in completing a class assignment or an exam.

Cheating can include:

- Using notes on a quiz or an exam when this is not allowed
- Helping another student complete an assignment or exam when they are supposed to complete the work on their own
- Giving another student the answers on homework, quizzes or exams
- Submitting the same work (essay, speech, art piece, etc.) to fulfill assignments in more than one class. If a student wants to submit the same work for assignments in two different classes, they must have the permission of both instructors (if both courses are being taken in the same semester) or the permission of the second instructor (if they are taken during different semesters).

Falsification or fabrication includes of materials includes altering information or making up information and presenting it as fact in any academic assignment. Falsification/fabrication also includes the fabrication of sources whether done by the student or an AI tool. This includes insufficient, inaccurate or manufactured citations for materials that cannot be traced back to any source. Fabrication of sources is often an indication that AI was used to generate the material.

It is important to note that plagiarism can be either intentional or unintentional; both kinds are violations of the academic integrity policy. For example, letting a friend look at a paper and not realizing that they copied it word-for-word is not an excuse, nor is not knowing how to cite something correctly.

Cultural differences are also important to recognize; in some cultures or countries it may be fine to take ideas or even entire passages of text from other authors without mentioning where the information was obtained. This differs greatly from the US (and several other countries) in which all words taken from another author as well as every idea taken from another author – even if the words are changed – must be accompanied by a formal citation or acknowledgment of the original author.

It is your responsibility as a student to ask your professors what exactly they mean by proper citation and/or to check with the Writing Center about what might be constituted plagiarism.

#### *Academic Dishonesty Procedures*

In a case of academic dishonesty, the instructor completes an Academic Dishonesty Tracking form and the documentation of the academic dishonesty charge is submitted to the Office of Academic Affairs designated staff. Before submitting the paperwork, the instructor contacts the student(s) documenting their concerns; they gather information from the students and share their plan of action with the students. The instructor then indicates on the paperwork if they desire a formal meeting with the student(s) and the Academic Affairs designee or not.

The Office of Academic Affairs is responsible for tracking student offenses. In cases of a student's first offense, when the case will not involve a formal meeting between the student(s), instructor and Academic Affairs designee, the Academic Affairs representative will send a letter outlining the seriousness of academic dishonesty, the specific consequences/penalties assigned by the faculty member and the consequences if a second offense occurs.

#### Second Offenses or Appeals:

A formal meeting between the student, instructor and Academic Affairs designee occurs for all second (and subsequent) offenses and for any first offenses if requested by the instructor or the student(s).

At the meeting, the allegation and associated grade penalty are discussed and the student can choose between the following:

1. Admitting to the allegation and accepting the penalty
2. Admitting to the allegation but disputing the penalty
3. Denying the allegation

If the student chooses option (a), the materials are saved in a confidential file by the Office of Academic Affairs and the matter is considered closed.

If the student chooses either option (b) or (c), they are referred to the Academic Integrity Panel (AIP), which will then meet with the student and determine whether a violation occurred and/or the associated penalty.

The AIP may also be convened at the discretion of the Office of Academic Affairs in the event of a particularly egregious offense or when additional sanctions may need to be discussed for a student with multiple offenses.

The AIP will consist of the Office of Academic Affairs designee and two faculty selected from six members appointed by FEC. The composition of each AIP will be determined based on scheduling availability and avoidance of conflict of interest. The Office of Academic Affairs designee will vote only in cases of a tie.

In instances when the case involves confidential information of a medical nature, Title IX concerns or issues related to disability accommodations, the AIP will not convene; instead, the case will be heard by the Office of Academic Affairs designee and appropriate representatives from Student Life.

Following the meeting the Office of Academic Affairs designee will inform the student and the instructor who filed the report of dishonesty of the AIP's decision in writing. The Office of Academic Affairs will inform the registrar of any action which affects enrollment (e.g., suspension or expulsion).

### *Penalties*

The instructor has the discretion to impose specific penalties, including grade sanctions such as failure of the assignment or failure of the course for any incident of academic dishonesty. When a failing grade for the course is imposed, the student will not be allowed to withdraw from the course with a grade of W. Penalties for academic dishonesty must be clearly stated in the syllabus for each course.

### *Due Process and Appeals*

Students have a right to due process. This shall include the right:

1. To be informed of the nature of the violation by the faculty member within two weeks of discovery of the incident of dishonesty or cheating.
2. To be accompanied to any meeting by a faculty or administrative staff member from the University campus community under special circumstances.
3. To request an appeal based only on due process or new, exculpatory evidence. Appeals must be submitted to the Office of Academic Affairs within 7 days of receipt of the letter documenting the allegation and/or sanctions. Appeals may be made only with the Chief academic affairs officer (VPAA). The VPAA's decision is final and no further appeal procedure shall exist in the University.

### **Academic Grievance Policy**

The Academic Grievance Policy pertains only to cases in which a student believes the final course grade has been assigned in a capricious or unfair manner. Grievances unrelated to academic performance may be brought directly to the Office of Academic Affairs.

#### Academic Grievance Procedures

1. The student and the instructor should discuss the student's concern and make every effort to reach a satisfactory solution. A mutually agreed upon third party may be invited to observe the meeting.
2. If an agreement cannot be reached or the instructor is unavailable the student should complete the Academic Grievance form and file it with the registrar who will

contact the undergraduate department chair or graduate program directors of the involved instructor who will make a ruling on the grievance following the procedures detailed below.

- a. Students must file the final course grade grievance with the registrar no later than five (5) business days after the posting of official grades or the receipt of final course grades for clinical rotations.
- b. Students may request an extension from the Office of Academic Affairs of the five-day filing deadline for extenuating circumstances.
- c. The chair/director will request a detailed written summary from each party.
- d. The chair/director will inform their college dean and the office of academic of affairs of the grievance.
- e. The chair/director will meet with both parties together, listen to their concerns and make a determination.
- f. The chair/director will inform the college dean of the result in writing. The written summaries will be forwarded to the Office of Academic Affairs (see a. above).

Exception: If the involved instructor is the department chair or graduate program director, the dean of the college will hear the concerns and attempt to resolve the grievance. If the involved instructor is the college dean, the Office of Academic Affairs will appoint a designee to take the lead in attempting to resolve the grievance.

Appeals:

An appeal must be based on new evidence or an argument that University policy was not followed.

If an agreement cannot be reached through the department chair/program director or college dean, the student may appeal the decision.

1. The student must file their appeal with Registrar's office.
2. Appeals will be heard by the Academic Standards Committee (or its designated representative) The written summaries initially provided to the department chair can be used by the Academic Standards Committee and/or the committee may wish to interview both parties individually.

The Academic Standards Committee (or the designee) will render a final decision which will be reported back to the involved parties.

Exception: If the involved instructor is a member of the Academic Standards Committee, the chief academic affairs officer will appoint a full-time faculty member from the same college to replace the involved instructor while the grievance is being reviewed, discussed and a decision is being made.

### **Academic Good Standing**

Academic good standing at Manchester University is determined by a student's successful progression toward achieving a minimum cumulative grade point average for a particular

enrollment period. Students on academic probation are considered in academic good standing if they are compliant with the academic probation program.

Students who have been suspended or reinstated on probation are not considered in academic good standing.

A student who is not in academic good standing will be ineligible for participation in intercollegiate athletics. Grade point average also is used to determine eligibility for serving in other roles on campus. In some cases, the minimum grade point average for participation in extracurricular activities may be higher than those listed in the Catalog.

Probationary status will be determined for all students at the end of fall and spring semesters. A student may petition for a reevaluation of their probationary status at the end of any grading period.

## **Academic Probation and Suspension**

### ***Undergraduate Probation and Suspension***

The University has established minimum standards of academic performance and reserves the right to evaluate a student's academic eligibility for continued enrollment. At the end of each semester, failure to meet the standards will result in academic probation or suspension from continued enrollment. Standards are based upon the student's cumulative grade point average (CGPA) and the total semester hours attempted by the student at Manchester University. Students may appeal their probation or suspension to the Academic Standards Committee. The appeal decision of the committee is final.

Students will be placed on academic probation or suspended from further enrollment if they do not meet the minimum standards outlined below.

#### **Undergraduate Probation**

Semester hours attempted*	Minimum CGPA required
0-27.75	CGPA < 1.8
28 or more	CGPA < 2.0

Undergraduate students on academic probation are required to successfully complete a formal program administered through Student Life. Students who do not successfully complete the formal program or earn a term GPA below 2.0 in the subsequent semester may be suspended.

#### **Undergraduate Suspension**

Semester hours attempted*	Minimum CPGA required
1-59.75	CGPA < 1.4
60 and up	CGPA < 1.8

\*In order to determine where transfer students are in relationship to these charts; transfer credits are added to the semester hours attempted at Manchester University.

The name of any student whose CGPA is above the minimum standards but has a semester GPA less than 1.8 shall be forwarded to the academic advisor and the Spartan Success team for academic counseling or intervention.

### **January or Summer Session for Suspended Students**

Suspended students may attend January or summer courses in the session immediately following the semester of academic suspension. Enrollment in either January or summer session courses does not guarantee reinstatement for the following semester.

### **Right to Appeal Academic Suspension and Reinstatement**

Any undergraduate student who has been suspended has the right to submit an appeal for reinstatement to the Academic Standards Committee. Suspended students who are not enrolled at the University for one academic year or more must submit the Readmission Application – available from the Office of Admissions – along with the letter of appeal. Students who are reinstated will be placed on academic probation and must meet the requirements outlined in the probation category above. Information about the appeal process is available through the Office of the Registrar.

### ***Graduate and Professional Probation and Suspension***

#### **Athletic Training**

A student may be placed on probation when their performance fails to meet the criteria listed below. If performance does not improve, the student may be suspended or dismissed from the Athletic Training Program.

- A student will be placed on academic probation when one or more of the following occurs:
  - The student has failed a course
  - The student's cumulative GPA falls below 3.0

A student will be academically dismissed under any of these conditions:

- Attaining a cumulative GPA below 3.0 for three consecutive semesters
- Failure to pass the same required course twice

#### **Timothy A. Ogden Master of Business Administration**

For students earning an MBA or any combined degree and MBA, a minimum cumulative grade point average of 3.0 is required for good standing in the MBA program. Any student falling below a 3.0 cumulative grade point average will be placed on academic probation for the following semester. If the student does not achieve a cumulative 3.0 at the end of the following semester, the student will be disqualified.

#### **Nutrigenomics**

Students whose academic performance falls below the minimum 3.0 GPA level after the student's first Fall Semester will be placed on academic probation. If a student receives an F in an MSNGX course, the student will be placed on academic probation.

A student will be academically dismissed under any of these conditions:

- Failure to pass the same required course twice

- Two consecutive semesters (Fall, Spring, Summer) with either a semester or cumulative GPA below 3.00

### **Pharmacogenomics**

A student who falls below a 3.00 cumulative grade point average following completion of the first 12 credit hours will be placed on academic probation for the next 12 credit hours. (Repeat courses will not count toward the 12 credit hour probationary period). After completion of 24 credit hours, a student who achieves at least a 3.00 cumulative grade point average will come off probation and be considered in good academic standing. A student who does not achieve a 3.00 cumulative grade point average following the probationary period will either 1) remain on academic probation for the next 6 credit hours if still able to attain a 3.00 cumulative grade point average at the time of graduation or 2) if not able to attain a 3.00 grade point average at the time of graduation, the student will be dismissed from the program.

A student who falls below a 3.00 cumulative grade point average for the first time following the completion of 24 credit hours will either 1) be placed on academic probation for the next 6 credit hours if still able to attain a 3.00 grade point average at the time of graduation or 2) if not able to attain a 3.00 grade point average at the time of graduation, the student will be dismissed from the program.

During any academic probationary period, the student must meet/communicate with the Director of Pharmacogenomics to discuss the probation. In order to graduate, students must complete all the requirements of the program with a minimum of a 3.00 grade point average.

A student will be academically dismissed under any of these conditions:

- Failure to pass the same required course twice
- Cumulative GPA below 3.00 at the time of graduation

### **Pharmacy**

A student may be placed on probation when their performance fails to meet the criteria listed below. If performance does not improve, the student may be suspended or dismissed from the Pharmacy Program.

- A student will be placed on academic probation when one or more of the following occurs:
  - The student has failed a course
  - The student's cumulative GPA falls below 2.0

### **Academic Dismissal**

- A student must complete all required coursework within six years of admission into the program. Remediation, leaves of absence, withdrawals (medical or otherwise), suspensions and delayed progression shall be included within the six-year period. A student shall be dismissed from the program when it is determined by the Associate Dean of Pharmacy Affairs that the student will not be able to meet the six-year requirement.
- A student who fails to pass the same required course twice will be dismissed from the program.

- A student who fails three or more courses in one semester will be dismissed from the program.

### **Physical Therapy**

A student will be placed on academic probation if their cumulative GPA falls below a 3.0. The student will return to academic good standing when the cumulative GPA is no longer below a 3.0.

A student will be academically dismissed under any of these conditions:

- Earning a grade below a C in any course graded A through F
- Earning a grade of NP in any course graded P/NP
- Earning a semester GPA below 3.0 twice
- Attaining a cumulative GPA below 3.0 for three consecutive semesters

### **Add/Drop**

Students may adjust their schedules without completing specific paperwork during the Add/Drop period. Changes made after the official Change of Course days require submission of the Change of Course web form. Students are responsible for ensuring they are properly enrolled in courses.

### **Advanced Placement and Credit by Examination**

Students may earn college credit through the Advanced Placement Program (AP) of The College Board, the International Baccalaureate (IB) Program or the University Level Examination Program (CLEP). Additional information is available through the Office of the Registrar.

Proficiency credit may be awarded for a grade of B or above on departmental proficiency examinations. No proficiency credit will be awarded for beginning modern language, basic mathematics, basic algebra, precalculus or applied music.

### **Artificial Intelligence**

Students may use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT) on assignments in a course only if instructor permission is obtained in advance and if proper citations are used.

### **Class Attendance**

Specific attendance policies and sanctions for excessive absences from class are the prerogative of the individual instructor/program and are outlined in each course syllabus or program handbook. Students are expected to attend all officially scheduled lectures, discussions, laboratory exercises and examinations. Instructors will excuse students for university-sanctioned events and may excuse them for other reasonable causes. Students are responsible for all work missed regardless of the reason.

The following are examples of reasonable causes for excused absences: sickness of student, death or serious illness in the student's immediate family, university activities (such as field trips,

intercollegiate sports or artistic performances), religious observances, military service, circumstances beyond the student's control, such as jury duty or bad weather.

Sanctions for unexcused absences may include a failing grade on any work due on the date of an absence, a reduction of the final grade for the course or a failure in the course. In some instances, students may be required to make-up missed hours. Only those sanctions published in the course syllabus are to be used by an instructor.

### **Concurrent Enrollment in Undergraduate and Graduate Programs**

Undergraduate students applying to be concurrently enrolled in a baccalaureate and a master's degree program at Manchester University must meet the following eligibility requirements.

#### **Eligibility Criteria:**

1. Students must have at least junior standing
2. Students must have a minimum cumulative grade point average (GPA) of 3.00
3. Students must apply and be accepted into the graduate program.
4. All course pre-requisites must be met for intended graduate program prior to taking those courses

Students may take up to 12 credits required in the Master's program and count these credits toward both their undergraduate and graduate degrees.

#### **Application Procedures:**

1. The student should meet with the program director of the Master's program or their designee, regarding their interest in the program and to learn of program requirements.
2. The student completes the Graduate Program Application form and acquires appropriate approvals.
3. Once accepted, the students will develop a program plan detailing the graduate courses the student will enroll in each semester while still an undergraduate student with the program director.

#### **Undergraduate students will be charged a fee for:**

1. Course credits above 18
2. Additional graduate course fees or program fees where applicable

#### **Credit**

The semester hour is the basic unit of credit at Manchester University. The number of semester hours generally corresponds to the number of class hours a course meets each week during the semester.

Manchester University guidelines for defining the approximate amount of work required for one semester hour of credit is as follows: For a course composed of classroom instruction, a semester hour of credit would normally involve 14 to 15 meeting times each semester with each lecture class meeting for 50 minutes. For one credit of a laboratory course the student should have three to four hours of laboratory instruction each week of the semester.

For each hour of classroom instruction, the student is expected to do two hours of preparation. Therefore, a typical three semester hour credit course over a semester would include 43 to 44 hours of class meetings and 86 to 88 hours of student work out of the classroom. Generally, 40 hours at an experiential/clinical practice site is equivalent to one semester hour of credit.

### **Dean's List –Undergraduate Students and Pharmacy Students**

At the end of each semester, the Office of Academic Affairs publishes the Dean's List. Students earning a semester grade point average of 3.5 or higher who have completed at least 12 semester hours with no more than three hours of Pass/Not Pass grades are included on the Dean's List. Students with more than one hour of Incomplete (I) or Not Recorded (NR) grades at the end of the semester are not eligible for the Dean's List. Students can petition to be added to a previous semester Dean's list when NRI grades are submitted.

### **Enrollment Status**

#### ***Undergraduate***

Students enrolled for 12 or more semester hours of credit in the fall or spring semesters are classified as full-time students. Full-time students are billed for one-half of the academic year costs prior to each of these semesters. January session tuition, general fees and room and board costs are included in these one-half year costs.

Enrollment in either fall or spring semester for less than 12 semester hours of credit classifies a student as part-time with part-time rates assessed for tuition costs. January session tuition and room and board costs are not included in charges for part-time enrollment.

Part time status may have implications for athletic eligibility and financial aid.

The Accelerated Bachelor of Science in Nursing program is billed at a per credit hour rate. For a full list of enrollment fees see Student Financial Services website.

#### ***Undergraduate Academic Load and Overload***

Enrollment in 12-18 semester hours of credit is considered a normal academic load. A student may enroll for more than 18 semester hours during a regular semester with the approval of their academic advisor. A per credit hour overload fee will be assessed to any credits over 18. No student will be permitted to enroll for more than 21 semester hours of credit in any semester without a special petition to the Academic Standards Committee.

#### ***Class Standing of Undergraduate Students***

The completion of course credits is used to determine a student's class standing.

- first year                      0 - 27.75 semester hours
- sophomore                    28 - 59.75 semester hours
- junior                            60 - 91.75 semester hours
- senior                            92 or more semester hours

#### ***Graduate and Professional***

Graduate students enrolled for nine (9) or more semester hours of credit per term are classified as full-time students. Pharmacy and Physical Therapy students are considered full-time with 12 credit hours per term.

Students are billed on a per-credit hour basis. Payment is expected prior to the start of each semester. Less than full-time enrollment may result in a change to the student's financial aid eligibility.

### **Examinations**

Final examinations are scheduled during the last week of each regular semester and other tests are given during the semester at the discretion of the instructor.

### **Exploratory Graduate Coursework**

Undergraduate students may take 12 credits of graduate level courses at the 500/600 level and apply those credits to their undergraduate degree. The students must meet the following criteria:

- The student has completed a minimum of 60 credits at the undergraduate level
- The student has a minimum cumulative GPA of 3.0
- The student must obtain a recommendation from their advisor and the program director.
- All course pre-requisites must be met prior to taking the intended graduate course or a waiver must be obtained from the course instructor (waived pre-requisites may make a student ineligible for admissions to a graduate program at a later date).

### **First Year Writing Seminar (FYWS) Enrollment and Completion**

New first-time, first-year students (FTFY) will be granted credit for a dual credit course that has been approved as an equivalent course for FYWS when: 1) the student's grade in the course is B or above and 2) the student's unweighted cumulative high school GPA is 3.2 or above.

A student who transfers in credit for FYWS will be placed in a foundational course that provides strong connections with other FTFY students and aligns with the student's academic interests. A composition course taken at another institution will fulfill the FYWS requirement for transfer students.

### **Grading System**

#### ***Undergraduate***

Manchester University reports and records grades through the conventional letter system. The following point values are used to calculate the grade point:

<b>Letter</b>	<b>Point Value</b>	<b>Quality</b>
A	4.00	Excellent
A-	3.70	
B+	3.30	
B	3.00	Good
B-	2.70	
C+	2.30	
C	2.00	Fair
C-	1.70	
D+	1.30	
D	1.00	Poor
D-	0.70	

F	0.00	Failing (no credit)
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**Graduate/Professional**

A four-point grading system is used to compute grade point averages for graduate work. The grading system for graduate courses is noted below.

Grade	Description	Grade Points
A	Highest passing grade	4.00
B		3.00
C	Lowest passing grade	2.00
F	Failure	0.00

**Other Grading Symbols**

Letter symbols used for other purposes on grade reports and records are listed below:

- **AU** Course audited
- **I** Incomplete (Temporary grade) Student unable to complete work for reasons beyond their control.
  - An incomplete grade may be assigned at the end of a semester when conditions beyond the control of the student preclude completing coursework. In such cases the student must be doing passing work and must be able to complete the unfinished work without further class attendance.
  - Work must be completed by the designated date, otherwise a failure is recorded.
- **NC** Course taken for no credit
- **NP** Not Pass – Equal to C- through F. Does not affect grade point average.
- **NR** Grade not reported\* (Temporary grade) Course extends beyond end of semester.
- **P** Pass – Equal to A through C. Does not affect grade point average.
- **R** Registered – Course overlaps two semesters.
- **UW** Unauthorized Withdrawal (Failure, 0)
- **W** Withdrawn Passing
- **WF** Withdrawn Failing (0)

**Grade Point Average (GPA)**

The cumulative grade point average determines a student's rank in class, academic honors and academic good standing. The first step in calculating the GPA is to determine grade points. Grade points earned in any course are determined by multiplying the number of semester hours assigned to that course by the point value of the grade earned. The cumulative GPA is determined by dividing the total grade points earned by the sum of the semester hours attempted.

**Graduation with Latin Honors**

Undergraduate

To graduate with honors, undergraduate students must complete a minimum of 60 graded credit hours through Manchester University. Credits earned through Pass/Not Pass grades do not count toward the 60-hour requirement.

Summa cum laude	3.950 - 4.000
Magna cum laude	3.850 - 3.949

Cum laude 3.650 - 3.849

Graduation with honors is determined using the final cumulative grade point average.

### Pharmacy

To graduate with honors, Pharmacy students must complete a minimum of 80% of graded credit hours through Manchester University. Credits earned through Pass/Not Pass grades do not count toward the 60-hour requirement.

Summa cum laude 3.90- 4.000

Magna cum laude 3.70 - 3.89

Cum laude 3.50 - 3.69

### **Intra-semester Academic Performance Reporting**

Early feedback about academic performance is critical to students' success. At week 3, faculty report the names of students who would benefit from additional support from academic advisors and the Success Center. Midterm grades are reported at week 7 for undergraduate semester long courses. These grades are not a part of the student's official record and do not affect the cumulative GPA.

### **Pass/Not Pass Option**

#### ***Student converted Pass/Not Pass courses (undergraduate only)***

In order to foster the spirit of intellectual inquiry and breadth, undergraduate students may convert a maximum of four elective courses to Pass/Not Pass. This option applies only to students who have completed one semester at Manchester and are not on academic probation. Courses in the general education curriculum, those prerequisite to or included in a major or minor and all courses required for teacher certification may not be converted to P/NP. Students may not request exceptions.

Eligible students may elect the P/NP option during the first two-thirds of a course. This option is not reversible after the request has been approved. Those enrolled for P/NP who earn grades of C or higher receive P. Full credit is given only for the P grade, but the credit is not included in determining students' grade point averages. The NP grade does not affect students' grade point averages.

#### ***Departmental and Program Pass/Not Pass courses***

Academic departments and program councils may offer courses that are offered solely on a Pass/Not Pass basis and all students enrolled in these courses are graded on a P/NP scale. These departmental offerings may be included in a major or minor and do not count towards the four courses undergraduate students may convert to P/NP. These courses may be primarily experiential in nature or determined by faculty to be incompatible with the level of evaluation required by letter grades. Courses that utilize the Pass/Not Pass grading scale must be approved by the University Curriculum Council. A brief rationale for the P/NP grading scheme should be included in the course proposal document.

### **Petitions for Special Actions**

Students who believe extenuating circumstances merit consideration may petition the University Academic Standards Committee for exceptions to stipulated policies and regulations. Action on petitions will be taken only at regular meetings of the Committee and will not be considered as a

precedent for any future action. The decision of the Academic Standards Committee is final and no further appeal procedure shall exist within the University.

### **Preparation for Graduation and Participation in Commencement**

Degrees are conferred 4 times per year - at the end of the fall and spring semesters, January term and Summer. Diplomas are mailed to graduating students following each conferral date.

Manchester University holds a Commencement exercise every May at the conclusion of the Spring semester. Participation in Commencement is determined by the actual or anticipated term of completion and may include students who plan on finishing requirements during the next term. Students who have more than 9 credits to complete may request permission to walk from the Registrar.

Students expecting to complete all requirements during the academic year must log into their Spartan Self-Service account and complete the Graduation Application by September 1 of their final year of attendance. A Letter of Completion indicating fulfillment of requirements for a degree to be conferred later will be supplied when needed for employment, graduate study or other purposes when all requirements are completed until such time as the degree is posted on the student's official transcript

### **Registration**

Students should complete the required steps to register for classes during the official registration period each semester. Instructions and time schedules are announced on the Office of the Registrar's website. Registration for new students should be completed by 5 p.m. the day before classes begin. Only under exceptional circumstances will new students be allowed to enroll after the first day classes are scheduled to meet. The University accepts no responsibility for holding a seat in any course if registration has not been completed according to schedule.

### **Repeating Courses**

#### ***Undergraduate***

Students may retake any course subject to the following conditions: (1) Students will receive credit for the course only once, except for courses which by catalog description may be repeated for credit; (2) Final grades for each enrollment in the course will be recorded on the permanent record. The highest course grade will be counted toward the cumulative and major GPAs for meeting graduation requirements.

#### ***Graduate/Professional (except DPT)***

Graduate students receiving a deficient grade in a course may repeat the course one time. Failure to successfully complete a course taken a second time will result in dismissal from the program. The last grade received is counted in the cumulative grade point average. For additional information, contact the Registrar.

#### ***Physical Therapy***

Physical Therapy Students may not repeat courses.

### **Time Limitations for Completing Degree Requirements**

### ***Undergraduate Graduation and Transfer-Out Rates***

Most students may complete their studies and graduate from Manchester University in four years without difficulty. Classes are readily available and advisors work closely with students to create an academic plan of study. Some students take more than four years to graduate when they change majors, pursue multiple majors, study abroad, encounter academic difficulties or simply stop attending for a January session, semester or more.

### ***Viability of curricular content for degree completion***

An undergraduate student may earn a degree by fulfilling requirements of any Manchester University Catalog in force while they are enrolled, provided these requirements are dated no more than seven years prior to the year the degree is to be awarded.

### ***Master of Athletic Training***

All requirements for the MAT degree must be completed within three years of admission to the program or the date of enrollment in the first graduate course at Manchester University, whichever is later.

### ***Timothy A. Ogden Master of Business Administration***

All requirements for the MBA degree must be completed within three years of the start date of the program.

### ***Master of Science in Nutrition and Nutrigenomics***

All requirements for the MSNGx degree and verification statement must be completed within five years of the start of the program.

### ***Master of Science in Pharmacogenomics***

All requirements for the on-campus program must be completed within two years of the start date of the program. All requirements for the online program must be completed within five years of the start date of the program.

### ***Graduate Certificate in Pharmacogenomics***

All requirements for the certificate must be completed within three years of the start date of the program.

### ***Doctor of Physical Therapy***

All requirements for the DPT program must be completed within five years of the start date of the program.

### ***Doctor of Pharmacy***

All program requirements for the PharmD program must be complete within six years of the start date of the program.

### ***Transcript of Record***

Official Transcripts are available through the National Student Clearinghouse. Transcripts are released upon completion of the order form and receipt of consent. Electronic transcript requests are typically processed within a few hours. Processing paper requests may take 5 business days and an additional 5-7 days for postal delivery.

### **Withdrawal from Courses**

During the first two-thirds of a course (these dates vary for half semester and full semester course, specific dates can be found on the academic calendar on the registrar's page). A student who withdraws within the deadline will receive a W on their transcript. After the designated withdraw deadline date, a student who withdraws will receive a WF on their transcript. A student who does not withdraw but stops attending class will receive a UW. Both the WF and UW are calculated as an F (0) in the student's grade point average.

Forms for withdrawing from individual courses are available through the Office of the Registrar.

### **Withdrawal from University**

The University regards the registration of a student as a contractual agreement. For this reason, special procedures must be followed in the event a student withdraws from the University. Any student considering withdrawal after the beginning of classes initiates the process by having an interview with a member of the Success Advising team and/or the respective graduate/professional program director. An online form must be completed with approval from the student financial services and registrar's offices before withdrawal is official.

## **SPECIAL LEARNING OPPORTUNITIES**

### **January Session**

January session is designed so students concentrate on one course. This allows participation in one of the many classes offered on and off campus in the United States and internationally. On-campus options include regular classes as well as specially designed classes. The maximum January session student load is one academic and one experiential course, not to exceed 5.0 semester hours.

Manchester University does not transfer tuition for students who enroll at another institution during January session, although information about colleges with which Manchester has formal tuition exchange programs is available in the Office of the Registrar.

### **Undergraduate Honors Program**

The Manchester University Honors Program enhances students' learning, creativity and leadership through membership in a collaborative and inclusive community. Honors recognition may be earned by students who have a cumulative grade point average of 3.50 or better and who convert the appropriate number of course hours. Students may receive 1 of 3 different levels of Honors recognition, depending on the number of honors course conversions they have completed.

#### **Eligibility:**

First-year students who are awarded a Presidential Scholarship or Dean's Scholarship are invited to submit an application for admission into the Honors Program. The applications will be reviewed by the Director of the Honors Program.

Upper-class and transfer students with grade point averages of 3.50 or higher and with at least 14+ credit hours can apply by contacting the Director of the Honors Program. These students

must complete an application and obtain a recommendation from a current or former faculty member to be considered for acceptance into the Honors Program. Transfer students are allowed to ask faculty members from another institution to complete the recommendation form.

To maintain membership in the Honors Program students must maintain a cumulative GPA of 3.5 or higher and complete at least one Honors course conversion per year (or complete the Honors Thesis course). Students whose cumulative grade point average falls below 3.49 will be in a probationary period for 1-2 semesters to raise their GPA to 3.50. If they do not, their Honors designation will be removed from their record. If students meet the requirement during another term, they can re-apply and continue to progress in the Honors Program.

### **Honors Course Conversions:**

Every semester, Honors Program members are encouraged to initiate a discussion with a professor of a course they would like to convert to Honors. A conversion should provide a student with an alternative, preferably more challenging, way of accomplishing the goals of the course. The Honors course conversion can build upon a current assignment or could add to the student's learning and discovery in the course. The goal of the conversion is to challenge the student by exploring complex perspectives and interdisciplinary ideas through classroom opportunities. All course work completed in the Honors Program will be identified on the student's record.

### **Graduation from the Honors Program:**

Students may receive 1 of 3 different levels of Honors recognition, depending on the amount and type of Honors course work they have completed. Honors course work cannot be taken on a Pass/No Pass basis.

1. *Honors and Achievement*: This recognition is given to the student who has maintained a cumulative 3.50 GPA and who has completed a minimum of 18 hours of Honors coursework. This must include 3 hours of Honors Thesis and at least 6 hours of Honors coursework at the 300-400 level. The student will be recognized at the undergraduate commencement ceremony with an Honors medallion.
2. *Honors*: This is given to students who have maintained a cumulative 3.50 GPA and who have completed a minimum of 12 hours of Honors coursework. At least 6 hours of Honors coursework must be at the 300-400 level. The student will be recognized at the commencement ceremony with Honors cords.
3. *Achievement*: This is for a student who has maintained a cumulative 3.50 GPA and completes the 3 hours of Honors Thesis but does not complete the required number of honors courses to qualify for Honors. To qualify for this recognition, students must apply no later than the beginning of their senior year and must have a strong recommendation from an instructor and department chair. Students will be recognized at commencement with an Honors Program lapel pin.

### **Peace Studies Institute**

The Peace Studies Institute offers public programs, visiting speakers and performers, conferences and workshops on peace and justice issues. A joint student-faculty-staff committee directs the Institute's program, which is supported primarily by the Sam and Marla Ropchan Endowment for Peace Studies.

### **Individualized Interdisciplinary Major**

A student may wish to design a major suited more to that individual than the major(s) offered by departments. Provisions have been made for this through the establishment of an individualized interdisciplinary major. A student presents a program proposal to the chief academic affairs officer. Individualized interdisciplinary majors must be approved by the Undergraduate Curriculum Committee. A student electing to complete an individualized interdisciplinary major cannot have another major. Procedures for planning this type of program can be obtained in the Office of Academic Affairs.

### **Experiential Learning**

Because actual experience is an excellent teacher, Manchester University provides numerous experiential learning opportunities for its students. Examples include practicums, field experiences, internships and clinicals. These experiences create opportunities for students to learn by doing and in some cases earn while they learn. These experiences link classroom instruction to the development of specific careers.

Specific courses are also labeled with an EXP designation. This indicates a course is designed around experiential learning and meets the requirements approved by faculty.

### **Study Away Programs**

Manchester University offers a variety of study away programs. Students of all majors may participate in off-campus study away programs and courses are for academic credit.

Short-term programs include January Session travel courses and occasional summer session classes. Short-term programs are led by Manchester University faculty and vary each year.

Students may participate in off-campus international and domestic travel courses for multiple years. Since the cost of January Session is included in the regular fees for semester-long study, the cost of an off-campus January Session course is limited to the expenses for that specific travel program. Students planning to participate in a specific January Session program should contact the faculty leader. Students with general questions or individuals interested in advanced planning should contact the Director of Study Away.

Semester and year programs are residency programs and are available through partner programs with Arcadia Abroad and Hokusei Gakuen University (HGU) in Sapporo, Japan.

Students planning to study abroad for a semester or year should meet with the Director of Study Away and begin planning early. The application process may take more than one year. Students must be familiar with major, minor and Core graduation requirements. If the courses taken abroad do not meet these requirements, additional work may be necessary for graduation. Therefore, study away students must work closely with their academic major advisor and the Director of Study Away to develop an integrated academic plan.

### **Tutorials**

Instructors may consent to tutor a catalog course for a student who is unable to take the course in the usual manner. In such cases, an additional fee is charged to the student. When courses are taught as tutorials because of University-caused scheduling conflicts, no fee is charged.

### **Directed Study**

Instructors may consent to offer a directed study class for a student who is interested in a catalog course that is under enrolled. When a course is taught as a directed study no fee is charged.

### Special Problems Courses

A student who has demonstrated the ability to work independently may propose a course with a qualified professor and second evaluator. The department chair and college dean also must approve the course. An additional fee is charged to the student.

### Summer Sessions

Summer session classes are offered in a shortened interval (typically three-week, six-week or twelve-week intervals with on-campus and online options. The on-campus format can also include travel courses.

### Audit

Students may choose to enroll in classes on an audit or no-credit basis with the consent of the instructor and appropriate graduate program director if applicable. While no official grade or academic credit is awarded for either experience, auditors may, but are not required to, submit assigned papers, take tests and complete papers and projects for evaluation.

Undergraduate students may change their registration from credit to audit or no-credit during the first two-thirds of a course. Students may not change their registration from audit or no-credit to credit.

Auditing a course may result in an additional fee. A full listing of fees can be found on the university website.

### General Education Core Curriculum

This innovative and interdisciplinary core curriculum is a cohesive program that informs, inspires and transforms Manchester students into persons of ability and conviction. By providing critical academic foundational skills, requiring interdisciplinary knowledge and skills and delivering high-impact student experiences, the core curriculum prepares students to live, work and thrive in a complex world.

The core curriculum is comprised of three main components, each made up of multiple categories. The total hours may vary from 32 to 36 credit hours depending on the courses used to fulfill the requirements.

**NOTE:** Some courses fall under more than one core category. However, they can only be counted towards one core category.

#### Core Curriculum (32-36 Credits)

##### Foundation (13-14 Credits)

##### First Year Writing Seminar (LA-FWS) (3 Credits)

- FYWS 111 First Year Writing Seminar

##### First Year Communication Seminar (LA-FCS) (3 Credits)

- COMM 110 Foundations of Human Communication

##### First Year Success Seminar (LA-FSS) (1 Credit)

- INTD 101 First Year Success Seminar

##### Quantitative Reasoning (LA-FQR) (3 to 4 Credits)

- DATA 210 Statistical Analysis
- MATH 115 Elementary Probability & Statistics
- MATH 121 Calculus I

- MATH 122 Calculus II
- MATH 211 Quantitative Skills for Business
- PHIL 230 Logic
- PSYC 241 Stats & Research Design I

#### Cultural and Global Understanding (LA-FCG) (3 Credits)

- BUS 202 Exploring International Business
- EDUC 230 Educational Psychology
- ENG 216 Topics in Literature and Cultural Studies
- ENG 238 World Literature
- ENG 246 Comics, Graphic Novels and Film
- ENG 250 Literary Passport
- ENG 261 Women in Literature
- EXSC 313 International Sports Medicine
- GNST 125 Intro to Gender Studies
- GNST 201 Introduction to Queer Studies
- HIST 121 World History to 1500
- HIST 123 World History From 1500
- HIST 210 Modern China & East Asia 1750 to Present
- HIST 226 Imperialism and the Modern World
- HIST 237 Race & Ethnicity in US History
- HIST 254 Latin American History
- HIST 256 African American History
- HIST 263 Making of India & Pakistan
- HIST 317 British Empire & Making of the Modern World
- HIST 353 Women and Gender in India and China
- MUS 124 Popular Music & Culture
- MUS 230 World Musics
- NURS 300 Maternal Newborn
- NUTR 103 Global Food and Nutrition
- PEAC 110 Introduction to Peace Studies
- PEAC 218 Mediating Conflict
- PEAC 250 Peacemaking in Practice Abroad
- PEAC 320 Global Conflict Resolution
- PHIL 327 Indigenous Thinking
- POSC 371 The United Nations
- PSYC 201 Social Psychology
- PSYC 352 Culture and Psychology
- REL 222 Religions of East Asia
- REL 223 Religions of India
- REL 244 The Religions of Abraham
- SOC 228 Racial, Ethnic, & Gender Inequality
- SOC 313 Cultural Ecology
- SOWK 228 Racial, Ethnic, & Gender Inequality
- SPAN 111 Conversational Spanish
- SPAN 112 Memory and Culture
- SPAN 201 Communication and Culture
- SPAN 202 Cultures and Controversies
- SPAN 301 Oral Communication

#### **Exploration (9-13 Credits)**

##### Natural Sciences (LA-ENS) (3-6 Credits)\*

- BIOL 104 The Science of Human Health
- CHEM 101 Chemical Science
- CHEM 136 Forensic Science
- CHEM T12 Kitchen Chemistry
- ENVS 130 Introduction to

##### Environmental Studies

- ENVS T11 Human Environmental Health
- NASC 103 Physical Science
- NASC 209 Physical Geology
- NASC 210 Exploration of the Natural Sciences

- NURS 405 Research for Evidence-Based Practice

\*Alternatively, students may take two 100 or 200-level courses, each in a different discipline, from BIOL, CHEM, ENVS, NASC or PHYS to fulfill the Natural Sciences requirement.

#### Arts and Humanities (LA-EAH) (3 Credits)

- ART 201 Art and Life
- ART 246 History of Modern & Contemporary Art
- ART 253 Women in the Arts
- ENG 115 Intro to Literature
- ENG 216 Topics in Lit and Cultural Studies
- ENG 261 Women in Literature
- HIST 113 North American History to 1865
- HIST 114 United States History Since 1865
- HIST 121 World History to 1500
- HIST 123 World History Since 1500

- HIST 210 Modern China and East Asia: 1750 to Present
- HIST 226 Imperialism and the Modern World
- HIST 237 Race and Ethnicity in US History
- HIST 242 South and Southeast Asia: Ancient to 1500
- HIST 254 Latin American History
- HIST 256 African American History
- HIST 263 Making of India and Pakistan
- HIST 317 British Empire and Making of the Modern World
- HIST 353 Women and Gender in India and China
- HUM 211 Exploration in the Arts
- MUS 122 Jazz History

#### Social Sciences (LA-ESS) (3-4 Credits)

- BUS 250 Business Economics
- COMM 212 Small Group Communication
- CRIM 110 Intro to Criminal Justice
- EDUC 111 Exploring Educational Systems
- HIST 113 North American History to 1865
- HIST 114 United States History Since 1865
- HIST 207 Epidemic Disease in US History
- POSC 123 American Politics
- POSC 150 International Relations
- POSC 201 Political Concepts and Ideology
- POSC 225 Public Policy
- POSC 234 Democracy & Dictatorship
- PSYC 110 Introduction to Psychology
- SOC 101 Introduction to Sociology
- SOC 102 Human Conflict
- SOWK 110 Intro to Social Work

#### **Transformation (10-13 Credits)**

##### Faith, Reason and Ethics (LA-TFR) (3 Credits)

- BUS 241 Social & Ethical Issues in Sport Management
- ENG 317 Journalism Editing and Ethics
- INTD 340 Pathways to Purpose

- PHIL 201 Intro to Philosophy
- PHIL 205 A Meaningful Life
- PHIL 206 The Human Person
- PHIL 215 Ethical Decision Making
- PHIL 219 Business Ethics

- PHIL 221 Medical and Research Ethics
- REL 113 The Bible & Philosophical Thought
- REL 120 Intro to Religious Studies
- REL 121 Sacred Traditions
- REL 210 Judaism, Christianity and Islam
- REL 247 Jesus in the Middle Eastern Perspective

Big Issues (LA-TBI) (2 Courses) (6-7 Credits): Requires Sophomore Standing

- BUS 455 Principled Leadership
- COMM 336 Video Games & Virtual Identity
- INTD 322 Fashion and Cultural Identity
- INTD 323 Incarcerated Shakespeare
- INTD 324 Feminist Theory
- INTD 335 Emotion in the Workplace
- INTD 340 Pathways to Purpose
- INTD 343 Philosophy of Mind
- INTD 350 Migrants and Refugees
- INTD 355 Critical Issues in Education
- INTD 405 Life and Death
- INTD 410 Cinema for Social Change
- INTD 425 Environmental Philosophy
- INTD 427 International Women's Rights
- INTD 441 Globalization
- INTD 445 Development of Modern Scientific Thought
- \*\*NURS 450 Capstone: Leadership in Nursing Practice
- SOC 351 Community & Environmental Sociology
- SOC 355 Health, Medical Care & Society
- SOWK 355 Health, Medical Care & Society

*\*\*NURS 450 fulfills the Big Issues requirement as a single course. Nursing Students Only.*

Creative Expression (LA-TCE) (1 to 3 Credits)

- ART 131 Basic Design
- ART 210 Painting I
- ART 213 Figure Drawing
- ART 221 Digital Photography
- ART 241 Ceramics
- ART 261 Graphic Design Concepts & Vectors
- BUS 234 Principles of Marketing
- COMM 235 Community Podcasting
- COMM 364 Producing for the Internet
- ENG 201 Journalism I: Reporting
- ENG 317 Journalism II: Editing
- ENG 363 Topics in Creative Writing
- MUS 100 Piano (Beginner)
- MUS 101 Applied Piano (Majors)
- MUS 102 Voice (Beginner)
- MUS 105 Organ (Beginner)
- MUS 107 Voice: Non-Majors (Beginner)
- MUS 117 Songwriting and Production
- MUS 126 Beat Making & Production
- MUS 127 Music Fundamentals and Ear Training
- MUS 128 Class Piano I: Non-Majors (Beginner)
- MUS 130 A Cappella Choir
- MUS 140B Symphony Orchestra Strings
- MUS 146 Symphonic Band
- MUS 200 Piano: Non-Majors (Intermediate)
- MUS 201 Piano (Intermediate)
- MUS 202 Voice (Intermediate)
- MUS 205 Organ (Intermediate)
- MUS 207 Voice: Non-Majors (Intermediate)
- POSC 370 Model United Nations

## **VERIFICATION OF STUDENT IDENTITY POLICY**

### **Overview**

Manchester University must operate in compliance with the provisions of the United States Federal Higher Education Opportunity Act (HEOA) of 2008, Public Law 110-315, that requires the verification of student identity in distance or correspondence education.

### **Purpose**

The purpose of this policy is to establish identity verification procedures for students enrolled in distance education courses. According to the provisions of the HEOA, all credit-bearing courses and programs offered through distance education methods must verify that the student who registers for a distance education course or program is the same student who participates in and completes the course or program and receives academic credit.

The HEOA has identified the following as acceptable methods of identity verification:

- An individual secure login and password,
- Proctored activities and/or,
- Other technologies or practices that are effective in verifying student identification.

### **Scope**

This policy applies to all credit-bearing distance education courses and programs offered by Manchester University.

### **Policy Statement**

This policy ensures that Manchester University operates in compliance with the provisions of the HEOA concerning verification of student identity in distance and correspondence education. All methods of verifying student identity in distance education must protect the privacy of student information. The student must be notified of any projected fees associated with student identity verification. Responsibilities for the consistent application of student identity verification procedures must be clearly stated and described.

### **Verification Methods**

Manchester University uses a secure account to ensure that the student who registers for a course is the same student who participates in the course.

- During the admissions process, each accepted student receives a Manchester University network account which includes a unique username, email address and password.
- Each student enrolls in Multi Factor Authentication (MFA), through Microsoft Azure, upon initial login to the email system or student portal. This will require a student enter a code either generated by the Microsoft Authenticator app or texted to their cell phone whenever they sign in from a different device or location.
- Students must provide valid network credentials to log into the learning management system and access their course(s).
- All online course work that is graded or contributes to a student grade is submitted via this system. Faculty may only use third-party apps via the University Learning Management System, so that assignments, submissions and grades are secure.

- Manchester does not support nor assume responsibility for the security of platforms outside institutionally provided systems.
- For courses delivered through interactive video, the student's identity is verified visually by the instructor. For faculty members with visual impairments, alternative arrangements using a proxy will be made.

### **Student Privacy**

The Family Educational Rights and Privacy Act (FERPA) of 1974 is designed to protect the confidentiality of educational records. The law applies to all schools that receive funds under an applicable program of the United States Department of Education. Manchester University ensures that FERPA rights of their students through the following methods:

- Students gain access to their education records and courses through a secure login with their unique network credentials. Alternatively, students may visit the Registrar's office to gain access to their education records.
- Manchester University deploys and maintains security that safeguards against unauthorized access that could threaten student privacy. This includes an intrusion prevention system, firewall and anti-virus software. These safeguards are reviewed at least annually for effectiveness and improvement.
- In compliance with Indiana law, Manchester University does not collect any personally identifiable information from any visitor to their website except for specific university services, such as admissions applications, campus virtual tour, event registration or other online forms.

### **Fees**

Manchester University does not charge additional fees for student identity verification. However, it is routine for students in an online course to employ a headset and web camera for audio-visual participation in the online course. Faculty members provide this specific information in their course materials and syllabi.

### **Responsibilities**

Office of Academic Affairs:

- The Office for Academic Affairs is responsible for defining and publishing acceptable ethical and academic behavior in the University Catalog including information on academic dishonesty.
- The Office of Academic Affairs is responsible for providing instruction and support to faculty members on Manchester University's online teaching protocols and practices.

Information Technology Services:

- The Information Technology Services department is responsible maintaining the Learning Management System, ensuring network security, employing the best practices for user account access and following strict identity verification procedures.

Faculty:

- Faculty members who teach online courses at Manchester University can work closely with an Instructional Designer. The instructional designer provides faculty members with best practices in online teaching and pedagogy and can review courses to ensure effective design.
- Faculty members are responsible for applying pedagogical practices that are effective in student identity verification. Possible methods used include video streaming interaction, reviewing student writing samples from assignments, routine interaction with the student (through email, phone or video call), group assignments, etc.
- Faculty members are responsible for including information on academic dishonesty in their course syllabus. Faculty members must also include any hardware or software requirements to participate in the course in the syllabus or course materials.
- Faculty members are responsible for using institutionally provided systems for all assignments and grading.
- Because technology and personal accountability may not verify identity absolutely or ensure academic integrity completely, faculty members are responsible for noticing changes in student behavior and coursework such as sudden shifts in academic performance, writing styles or behaving differently in group assignments.

Students:

- Students are responsible for knowledge of the information contained in the Student Handbook, University Catalog and course syllabi. Failure to read university/college/program/course requirements, guidelines, procedures and policies will not exempt students from responsibility.
- Students are responsible for protecting their network credentials and other sensitive data and for following all University mandated security measures, such as multi-factor authentication as state in the Acceptable Use Policy. Students must abide by the Manchester University IT Policy Guide located on ChetNet.

**Definitions**

Distance learning/online course: A method of education or a single course that relies on the Internet for the majority of or all communication, collaboration, participation and assignment submission.

**STUDENT LIFE AND STUDENT SUPPORT**

Manchester University is committed to providing quality programs and services that enhance and diversify the personal, academic and social experience of students. The Student Life Division focuses on building community, retaining students and supporting student success and is dedicated to a student-centered approach to daily operations.

A full listing of all student services and programs can be found in the student handbook, *The Source*.

**Registrar**

The Office of the Registrar assists with the following processes: transcript requests, registration, enrollment verification and course changes. They also help with changes related to majors, minors, advisors and names or addresses.

**Academic Support**

Academic Support offers an array of comprehensive, student-centered services designed to help students develop the skills and strategies essential for academic achievement at Manchester.

The Academic Support office helps students learn efficiently and effectively, develop college study strategies and develop the critical thinking skills necessary to succeed in college. Support services include one-on-one academic coaching, individualized goal setting advisement, tutorial support at course-specific study tables, workshops to build academic success, assistive technology, proctoring services for administration of exams and outreach contacts and appointments for students referred through Spartan Success-the university's early alert system.

**Tutoring**

Peer tutors, under the direction of the Tutoring Programs Coordinator, lead study tables for courses at Manchester. Study tables meet at various times throughout the week and at various locations across campus. Students may request tutoring for any course at any point in the semester.

**The Math Center**

The Math Center provides tutoring for all math courses offered at Manchester University. The Math Center is under the direction of the Tutoring Programs Coordinator and is staffed with 2 – 3 students each evening.

**The Writing Center**

The Writing Center is a place where students can work with writing consultants on any type of writing project, at any stage of the process. Writing consultants teach editing strategies and review rules of grammar and punctuation that writers may apply to their own writing. Consultants also help writers to think critically about their goals, to consider how an audience might respond to key points and to examine the impact of organizational and visual elements of writing. Writing Center staff members visit classes to offer writing direction and offer advice on generating a topic, citing sources, avoiding plagiarism and research strategies. Students may stop into the Writing Center to meet with consultants at any time or make an appointment with a specific consultant.

**Intercollegiate Athletics**

Varsity sports are a key component to campus life at Manchester. Both the men and women compete as members of NCAA Division III and are part of the Heartland Collegiate Athletic Conference (HCAC). Intercollegiate sports for the men include baseball, basketball, cross country, football, soccer, swimming and diving, tennis, indoor and outdoor track and field and

wrestling. Women compete in basketball, cross country, tennis, indoor and outdoor track and field, softball, soccer, swimming and diving, wrestling and volleyball.

### ***Eligibility for Athletics***

To be eligible to compete in athletics at Manchester University a student must meet three standards. They must: (1) be in academic good standing, (2) make normal academic progress, (3) meet the full-time semester hour load requirement for your academic program.

1. **Academic Good Standing.** Students are not regarded to be in academic good standing if they are not in compliance with the probation program as defined in the Academic Probation and Suspension portion of this catalog.
2. **Normal Academic Progress.** To meet the normal academic progress standard, an undergraduate student must have passed 12 semester hours in the first semester of attendance and thereafter 24 hours in the previous two consecutive semesters of attendance. (January and summer sessions may be used to reach this total.) Graduate students must meet program specific requirements.
3. **Semester Hour Load Requirement.** A student must be enrolled in enough credits to qualify as a full-time student in their academic program to be eligible to practice or compete.

The normal academic progress standard may be met with transferrable credits from other institutions. Credits, not grades, earned at other accredited institutions transfer to Manchester University. Students are advised to check with the registrar in advance as to whether or not coursework will transfer.

Eligibility to compete in athletics is determined during the fall and spring semesters.

## **PEOPLE OF MANCHESTER UNIVERSITY**

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### **Cabinet**

Cabinet, 2025-2025

### **President**

Stacy H. Young (2023)  
B.S., Manchester College, 1996; M.B.A, Bethel University, 1998; Ph.D. Andrews University  
2013.

### **General Counsel and Chief Academic Officer**

Leon Letter (2024)  
BS, Central Michigan University, 1997; MA, Wayne State University, 2000; JD, Wayne State  
University, 2000; Ed.D., Ferris State University, expected 2026.

### **Vice President for Advancement, Enrollment and Marketing,**

Melanie B. Harmon (2011)  
BA, Indiana University, 1991; MA, 2010.

### **Vice President for Finance and Chief Business Officer**

Clair W. Knapp (2016)  
BS, St. Francis College, 1990; MBA., Indiana Wesleyan University, 2014.

### **Vice President for Student Life and Graduate Enrollment**

Abby Van Vlerah (2019)  
BA, Saint Mary's College, 2004; MA, University of Wyoming, 2006; Ph.D., Bowling Green State  
University, 2013.

### **Director of Presidential and Board Operations**

Julie Knuth (2011)  
BS, Manchester College, 2001.

## Faculty

**Frank Aerts** (2023), associate professor of physical therapy  
BSPT, Catholic University Leuven, 1990; DScPT Andrews University, 2012.

**Jeffrey A. Beer** (2006), professor of exercise science  
BS, Ball State University, 2000; MA, Kent State University, 2002; Ph.D., Indiana University  
2018.

**Timothy M. Brauch** (2009), Isaac and Etta H. Oppenheim professor of mathematics  
BS, Centre College, 2002; MA, Wake Forest University, 2004; MA, University of Louisville,  
2007; Ph.D., 2009.

**Joshua G. Brock** (2023), assistant professor of exercise science  
BS, Manchester College, 2005; MA, Indiana University, 2013; T2T, Taylor University, 2013;  
MAE, Ball State University, 2019.

**Dennis A. Brown** (2011), professor of pharmaceutical and graduate life sciences  
BS, Eastern Michigan University, 2004; PhD, Wayne State University, 2008.

**Sabrina R. Brown** (2024), assistant professor of biology and environmental studies  
BS, Indiana State University, 2014; MS, Indiana State University, 2016; PhD, University of  
Nebraska-Lincoln, 2019.

**Mark A. Bryant** (1999), professor of chemistry  
BS, Indiana University, 1985; Ph.D., University of Arizona, 1991.

**Barb J. Burdge** (2003), professor of social work  
BA, Indiana University, Bloomington, 1994; MSW, Indiana University, Indianapolis, 1998; Ph.D.,  
Indiana University, 2013.

**Diane M. Calinski** (2013), professor of pharmaceutical and graduate life sciences  
BS, Pennsylvania State University, 2005; PhD, University of Michigan 2013.

**Jennifer A Campbell** (2013), professor of pharmacy practice  
PharmD, Purdue University, 2006.

**Judd A. Case** (2007), dean of the college of arts and sciences, professor of communication  
studies  
BA, Brigham Young University, 2000; MA, 2002; Ph.D., University of Iowa, 2010.

**Samantha J. Champion** (2023), instructor of pharmacy practice  
BS, University of Toledo, 2010; PharmD, University of Toledo, 2012.

**Gregory W. Clark** (1992), professor of physics

BA, Indiana University, South Bend, 1985; MS, Indiana University, Bloomington, 1987; Ph.D., 1992.

**Megan L. Conley** (2023), instructor of nursing  
BSN, University of Indianapolis, 2016; MSN/Ed, University of Indianapolis, 2024.

**Aron K. Costello-Harris** (2010), associate professor of biology  
BS, Indiana University of Pennsylvania, 2002; MS, 2005; Ph.D., Miami University, 2010.

**Marcie L. Coulter-Kern** (2000), professor of psychology  
BS, Evangel College, 1982; MA, University of Nebraska, 1986; MA, University of Notre Dame, 1998; Ph.D., 2000.

**Russell G. Coulter-Kern** (2000), professor of psychology  
BA, Evangel College, 1982; MA, University of Nebraska, 1986; Ph.D., University of Notre Dame, 1993.

**Kathryn S. Eisenbise Crell** (2009), professor of religious studies  
BA, Earlham College, 2001; MA, Bethany Theological Seminary, 2004; Ph.D., Graduate Theological Union, 2009.

**Connie J. Crump** (2025), associate professor of physical therapy  
BS, Indiana University, 1989; DPT, A. T. Still University, Arizona School of Health Sciences, 2014; Ph.D., Indiana Wesleyan University, 2024.

**Alicia L. Dailey** (2017), associate professor of social work  
BA, DePauw University, 1979; MA, International School of Theology, 1985; MDV, The Southern Baptist Theological Seminary, 1995; MS, University of Louisville, 2008; Ph.D., University of Louisville, 2015.

**Lucas D. Dargo** (2018), associate professor of athletic training  
BAT, Ball State University, 2013; MS, Ohio University, 2014; DAT, Indiana State University, 2018.

**Kathryn L. Davis** (2010), professor of chemistry  
BA, Hope College, 2005; BS, 2005; Ph.D., University of Pittsburgh, 2010.

**Teresa DeLellis** (2015), associate professor of pharmacy practice,  
PharmD, Wayne State University, 2013.

**Jeffrey M. Diesburg** (2011), professor of art  
BA, Iowa State University, 2003; MFA, Savannah College of Art and Design, 2006.

**Dustin Diller** (2023), assistant professor of nursing

BSN, Indiana Wesleyan University, 2007; MSN, Indiana Wesleyan University, 2012; DNP, Indiana State University; 2025.

**Beth A. Driscoll** (2016), associate professor of marketing and management  
BS, Ball State University, 1989; MBA, Indiana University at Kokomo, 1997.

**Riley R. Eichenauer** (2023), assistant professor of pharmacy practice  
PharmD, Manchester University, 2022.

**Stacy L. Erickson-Pesetski** (2007), associate dean of academic affairs, professor of English  
AB, Ripon College, 2000; Ph.D., University of Iowa, 2007.

**Melanie A. Felmler** (2025), professor of pharmaceutical Sciences and pharmacogenomics  
BSc, University of Guelph, 2001; MSc, University of Saskatchewan, 2005; PhD, University at Buffalo, 2011.

**Norman E Fenn III** (2022), clinical associate professor  
BSc, Saint Mary's University, 2004; PharmD, University of Colorado Skaggs School of Pharmacy & Pharmaceutical Sciences 2014.

**J. Jared Friesen** (2016), associate professor of sociology  
BA, Huntington University, 1998; MA, Ball State University, 2002; Ph.D., University of Kentucky, 2018.

**Uma Ganesan** (2015), associate professor of history  
MA, University of Cincinnati, 2006; Ph.D., University of Cincinnati, 2011.

**Beate C. Gilliar** (1993), professor of English  
BA, University of Arizona, 1984; MA, 1986; MA, 1988; Ph.D., 1993.

**Cassandra R. Gohn** (2017), associate professor of biology  
BS, Saint Mary's College, 2012; Ph.D., IU School of Medicine, 2017.

**Sarah K. Gordon** (2013), associate professor of pharmacy practice  
PharmD, Lake Erie College of Osteopathic Medicine School of Pharmacy, 2012; B.S.P.S, University of Toledo, 2008.

**Katharine L. Gray Brown** (2007), professor of philosophy and peace studies  
BA, Manchester College, 1991; MA, University of Notre Dame, 1992; MA, University of Minnesota, 1994; Ph.D., 2000.

**Suad Sakalli Gumus** (2024), associate professor of education  
BA, Canakkale Onsekiz Mart University-Turkiye, 1995; MS, Indiana University, 2002; PhD, Indiana University, 2008.

**Anuj Gurung** (2022), Gladys E. Muir assistant professor of peace studies  
BA, Hiram College, 2008; MA, Georgetown University, 2011; Ph.D., Kent State University, 2019.

**Darla V. Haines** (1998), director of the library; technical services and systems librarian  
BA, Grove City College, 1989; MA, Kent State University, 1993; MLS, 1997.

**Kierstan Hanson** (2013), associate professor of pharmacy practice  
BA, University of Minnesota, 2004; PharmD, University of Iowa, 2008.

**Haley J. Howard** (2023), assistant professor of pharmacy practice  
BSPS, The University of Toledo, 2019; PharmD, The University of Toledo, 2021.

**Katharine N. Ings** (1999), professor of English  
BA, University of Ottawa, 1989; MA, Indiana University, 1992; Ph.D., 2000.

**Jason L. Isch** (2017), associate professor of pharmacy practice  
PharmD, Purdue University, 2015.

**Sarah Iskander** (2023), assistant professor of pharmacy practice  
PharmD, Manchester University, 2022.

**Tara L. Jenkins** (2023), dean of the School of Health Professions & Nursing  
BS Pharmacy, University of Oklahoma, 2000; PhD Pharmaceutical Sciences, University of Oklahoma, 2007.

**Sun J. Kang** (2015), associate professor of sport management  
BA, University of California, Davis; MS, Barry University; MBA, Barry University; Ph.D.,  
University of Louisville, 2015.

**Allison Keen** (2023), clinical instructor of nursing  
BSN, Indiana University, 2019; MSN/Ed, Western Governors University, 2024.

**Austin Keen** (2021) instructor of nursing  
BSN Indiana University Kokomo, 2018; MSN Indiana University Kokomo, 2018.

**Kelsey-Jo Kessie** (2018), associate professor of psychology  
BA, Hope College, 2011; MA, University of Delaware, 2014; Ph.D., Bowling Green State  
University, 2017.

**Justin M. Lasser** (2011), professor of religious studies  
BA, Gordon College, 2004; MA, Union Theological Seminary, 2006; M.Phil., 2008; Ph.D., 2011.

**Julie A. Lies** (2024), assistant professor of athletic training  
BS, Purdue University, 2011; MPM, Indiana University, 2013.

**Mark G. McCoy** (2020), associate professor of psychology  
BS, Oakland University, 2009; MA Oakland University, 2014; Ph.D., Bowling Green State University, 2020.

**David McGrady** (2016), associate professor of accounting and finance  
BA, Franklin College, 1978; MBA, University of Texas at Arlington, 1979.

**Timothy P. McKenna-Buchanan** (2014), associate professor of communication studies  
BS, Wayne State College, 2008; MS, Illinois State University, 2010; Ph.D., Ohio University, 2014.

**Jacob H. Mertens** (2022), assistant professor of communications studies  
BA, University of North Carolina Wilmington, 2012; MA, University of Wisconsin-Madison, 2016.

**Joe R. Messer** (2008), Mark E. Johnston professor of entrepreneurial studies  
BS, Purdue University, 1982; MS, 1993.

**Blake Moore** (2024), assistant professor of sport management  
BS, Manchester University, 2018; MS Grace College, 2022.

**Noha A. Mourad** (2018), assistant professor of pharmaceutical and graduate life sciences  
BPharm, Cairo University, 2003; MS, Purdue University, 2012; PhD, Purdue University, 2016.

**Brooke N. Murphy** (2024), assistant professor of physical therapy  
BS, Manchester University, 2013; DPT, Trine University, 2017.

**Courtney Niehoff** (2025), assistant professor of physical therapy  
B.S Exercise Science Trine University 2019; PT, DPT Trine University 2021.

**Jeffrey P. Osborne** (2004), professor of chemistry  
BA, Goshen College, 1992; Ph.D., University of Illinois, 1999.

**Kimberli Pike** (2022), associate professor of nutrition and nutrigenomics  
BS, Ball State University, 1995; MS, Ball State University, 2000; DCN, Rutgers University, 2023.

**Shamma Shakila Rahman** (2024), assistant professor of pharmaceutical and graduate life sciences  
B.Sc. (Hons.), University of Dhaka, 2012; M.S., University of Dhaka, 2013; Ph.D., University of Nebraska Medical Center, 2018.

**Gabriela R. Ramalho** (2021), assistant professor of political science  
BA, State University of New York, 2010; MA, Columbia University, 2011; MA, University of Connecticut, 2014; PhD, 2019.

**Timothy M. Reed** (2008), professor of music

BS, LaGrange College, 1999; MM, Illinois State University, 2004; Ph.D., University of Florida, 2008.

**Barbara Ritchie** (2023), associate professor of physical therapy  
DBA South University (2022), MaEd Argosy University, 2015, BS PT Indiana University, 1997.

**Jennifer D. Robison** (2018), assistant professor of biology  
BA, Dickinson College, 2003; MS University of Delaware, 2006; Ph.D., Indiana University-Purdue University Indianapolis, 2019.

**Yousif B. Rojeab** (2022), professor of pharmaceutical and graduate life science  
B.Sc. Pharmacy, Jordan University of Science and Technology, 1999; Ph.D., University of Houston, 2007.

**Samuel L. Rohr** (2023), professor of business  
BS, Manchester College, 1995; MBA Indiana Institute of Technology, 2001; Ph.D., Indiana State University, 2009.

**Eva G. Sagan** (2011), instructor of mathematics  
BA, Beloit College, 1993; MBA, University of Illinois, 1995; M.Math., University of Georgia, 1997.

**Terese A. Salupo-Bryant** (1999), professor of chemistry  
BS, University of Dayton, 1986; Ph.D., The Ohio State University, 1993.

**Ann K. Savariar-Drummond** (2018), assistant professor of pharmaceutical and graduate life sciences  
B.S. Chemistry, Huntington University, 2014; MS, Manchester University, 2017.

**Heather A. Schilling** (2003), professor of education  
BA, Manchester College, 1990; M.Ed., Indiana University, 1998; Ed.D., Ball State University, 2011.

**Jennifer K. Simmers** (2008), professor of accounting  
BS, Manchester College, 1994; MBA, Indiana University, 1999.

**W. Thomas Smith** (2015), dean of the School of Pharmacy and professor of pharmaceutical sciences  
Pharm.D., Saint Louis College of Pharmacy, 1994; J.D., Saint Louis University School of Law, 2005.

**Stacy S. Stetzel** (2006), professor of education  
BS, University of Saint Francis, 1998; M.Ed., Indiana Wesleyan University, 2003; Ph.D., Indiana State University, 2015.

**Sydney M. Tillman** (2024), assistant professor of nutrition science  
BS, Ball State University, 2019; MS, Ball State University, 2020.

**Sara N. Trovinger**, associate professor of pharmacy practice  
PharmD, Purdue University, 2008; MEd Purdue University, 2018.

**Heather C. Twomey** (2000), dean of the college of business and human services, Howard and Myra Brembeck professor of business  
BA, Manchester College, 1996; M.Acct., 1997.

**Wambui M. Wamburu** (2023), associate professor of pharmacy practice  
B.Sc. Chem, Worcester State University, 2000; Pharm.D, Mercer University, 2004.

**Jonathan P. Watson** (1998), associate professor of English  
BA, Vanderbilt University, 1985; MA, Lehigh University, 1990; Ph.D., Indiana University, 1998.

**Kyle D. Watson** (2019), associate professor of chemistry  
BA, Manchester College, 2011; Ph.D., University of Notre Dame, 2015.

**Rachel Zaremba** (2023), assistant professor of pharmacy practice  
BS, Northern Illinois University, 2015; PharmD, Midwestern University, 2021.

### **President Emeriti**

**David F. McFadden**, president emeritus of the University, assistant professor of political science  
BA, Manchester College, 1982; MS, Claremont Graduate School, 1987; Ph.D., 1995.

**Jo Young Switzer**, president emerita of the University, professor emerita of communication studies  
BA, Manchester College, 1969; MA, University of Kansas, 1977; Ph.D., 1980.

**William Robinson**, president emeritus of the University  
BA, University of Northern Iowa, 1971; MA, Wheaton College 1973; Ph.D. University of Pittsburgh 1979.

### **Faculty Emeriti**

**Mark J. Angelos**, professor emeritus of history  
BA, University of Wisconsin-Milwaukee, 1981; MA, 1983; Ph.D., University of Illinois at Urbana-Champaign, 1992.

**Stephen A. Batzka**, professor emeritus of art  
BS, Manchester College, 1962; MEd, Miami University, 1966; MS, University of Tennessee, 1979.

**Dwight B. Beery**, professor emeritus of physics  
BA, Manchester College, 1959; MS, Indiana University, 1962; Ph.D., Michigan State University, 1969.

**John W. Beery**, associate professor emeritus of music  
BME, Central Michigan University, 1961; MA, Central Michigan University, 1962.

**Stanley K. Beery**, professor emeritus of mathematics, Isaac and Etta H. Oppenheim professor of mathematical sciences  
BA, Manchester College, 1965; MS, Miami University, 1968; Ph.D., Florida State University, 1975.

**Charles E. Boebel**, professor emeritus of English  
BA, Luther College, 1960; MA, University of Iowa, 1962; Ph.D., University of Arizona, 1971.

**Dagny M. Boebel**, professor emeritus of English  
Ph.D., Purdue University.

**Robert C. Bowman**, professor emeritus of religion and philosophy  
BA, Manchester College, 1956; BD, Bethany Theological Seminary, 1961.

**James P. Brumbaugh-Smith**, associate professor emeritus of mathematics, Isaac and Etta H. Oppenheim associate professor of mathematics  
BS, Manchester College, 1984; MS, Clemson University, 1985; Ph.D., 2000.

**Kim A. Duchane**, professor emeritus of exercise science and athletic training  
BS, Northern Michigan University, 1978; MA, Sam Houston State University, 1987; Ph.D., Texas Woman's University, 1996.

**Barbara J. Ehrhardt**, instructor emerita of biology, director emerita of Koinonia Environmental and Retreat Center  
BS, Manchester College, 1989, MA, 1994.

**Stanley B. Escott**, vice president and dean emeritus of student development, professor emeritus of psychology  
BS, Ball State University, 1959; MA, Ball State University, 1962; Ph.D., Purdue University, 1967.

**Robin J. Gratz**, librarian emeritus  
BA, Manchester College, 1970; MA, Duke University, 1971; MA, University of Chicago, 1974.

**Lila D. Hammer**, registrar emerita  
BS, Manchester College, 1979; MA, Purdue University, 1993.

**Richard B. Harshbarger**, professor emeritus of economics; Howard and Myra Brembeck professor of economics  
BS, Manchester College, 1956; MA, Indiana University, 1958; Ph.D., 1964.

**David J. Hicks**, associate professor emeritus of biology  
BA, Colgate University, 1974; MS, Cornell University, 1978; Ph.D., 1982.

**Mark W. Huntington**, professor emeritus of exercise science and athletic training  
BS, Manchester College, 1976; MS, Boston University, 1979; PED, Indiana University, 1994.

**Robert G. Jones**, associate professor emeritus of music/woodwinds, director emeritus of orchestra  
BS, Northern Arizona University, 1961; MM, Wichita State University, 1963.

**Dorothy B. Keller**, professor emerita of sociology and social work  
BA, Oberlin College, 1955; MA, University of Michigan, 1968; MSW, The Ohio State University, 1977; MA, 1977, Ph.D., 1985.

**David P. Kreps**, professor emeritus of biology  
BS, Manchester College, 1964; M.Sc., The Ohio State University, 1968; Ph.D., University of Health Sciences/Chicago Medical School, 1976.

**Cheryl L. Krueckeberg**, associate professor emerita of social work  
BA, Purdue University, 1976; M.Div., McCormick Theological Seminary, Chicago, 1980; MSW, Loyola University of Chicago, 1992.

**Mary P. Lahman**, professor emerita of communication studies  
BA, Manchester College, 1983; MA, Miami University, 1984; Ph.D., Indiana University, 1994.

**Young S. Lee**, professor emerita of mathematics  
Ph.D., University of Idaho, 1989; MS, University of Wisconsin-Madison, 1998; Ph.D., 1998.

**Jill S. Lichtsinn**, librarian emerita  
BS, Manchester College, 1979; MLS, Indiana University, 1991; MS, 2004.

**Jen L. Lutz**, professor emerita of accounting  
BA, Illinois Wesleyan University, 1991; MAS., University of Illinois at Urbana-Champaign, 1996; CMA, 2001.

**Lynne F. Margolies**, associate professor emerita of Spanish  
BGS, University of Kansas, 1982; MA, 1984; Ph.D., 1992.

**Edward G. Miller**, professor emeritus of chemistry  
BA, Manchester College, 1956; Ph.D., Cornell University, 1961.

**Steve S. Naragon**, professor emeritus of philosophy

BA, Manchester University, 1982; Ph.D., University of Notre Dame, 1987.

**Timothy A. Ogden**, professor of business

BA, Manchester College, 1987; MBA, Claremont Graduate School, 1989; JD, Indiana University, 1996.

**Franklin T. Olive**, associate professor emeritus of accounting and business

BS, Frostburg State University, 1968; M.Ed., Bowie State College, 1973; BS, University of Maryland, 1976; M.B.A., 1980; CPA, 1979.

**Benson C. Onyeji**, professor emeritus of political science

BA, University of District of Columbia, 1979; MA, American University, 1980; MA, University of Denver, 1982; Ph.D., 1990

**Robert B. Pettit**, professor emeritus of sociology

BA, Baylor University, 1967; MTS, Harvard Divinity School, 1969; M. Phil., Columbia University, 1975; Ph.D., 1986.

**John H. Planer**, professor emeritus of music

BA, Knox College, 1965; MA, University of Michigan, 1966; Ph.D., 1970.

**Bradán D. Pyrah**, associate professor emeritus of accounting

BS, Brigham Young University, 1982; M.Acc., 1986; JD, J. Reuben Clark Law School, 1986; CPA, 1985.

**Andrew F. Rich**, professor emeritus of mathematics, Isaac and Etta H. Oppenheim professor of mathematics

BA, Bethel College, Kan., 1977; MS, University of Chicago, 1978; Ph.D., 1989.

**Richard W. Robison**, professor emeritus of education

BA, LaVerne College, 1961; MAT, Michigan State University, 1968; Ph.D., 1974.

**Ingrid N. Rogers**, professor emerita of modern languages

Staatsexamen, Philipps University, 1974; Ph.D., Philipps University, 1976; D.Min., Bethany Theological Seminary, 1988.

**Thelma S. Rohrer**, assistant professor emerita of art

BA, Manchester College, 1984; MA, Michigan State University, 1989.

**Jo Ann Schall**, associate professor emerita of education, director emerita of teacher education

BS, Manchester College, 1959; MA, Michigan State University, 1962.

**Charles M. Stanton**, associate professor emeritus of mathematics and computer science

BA, Wesleyan University, 1964; Ph.D., Stanford University, 1969.

**James T. Streator**, professor emeritus of chemistry  
BS, University of Wisconsin, 1960; MS, Purdue University, 1965; Ph.D., 1974.

**Scott K. Strode**, professor emeritus of communication studies, director emeritus of theatre  
BA, University of Puget Sound, 1959; MA, University of Washington, 1966; Ph.D., Indiana University, 1974.

**Jerry E. Sweeten**, professor emeritus of biology  
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