

Student Handbook

2011-2012

University of Michigan

COLLEGE OF PHARMACY



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This handbook is the authoritative source for degree requirements.

OVERVIEW

Introduction

This Student Handbook is designed to be used in conjunction with the College website, the University handbook and other resources available to students. Any policies described herein should not be considered a replacement for any University regulations and students are expected to adhere to all general University policies and procedures. Any questions regarding the information in this handbook should be directed to the Office of Student Services.

The College

The College traces its history to 1868 when pharmacy was first taught as a distinct academic discipline. A school of pharmacy was established in 1876 with the distinction of being the first such unit within a state university. The title of the school was later changed to the College of Pharmacy.

The University of Michigan College of Pharmacy prides itself on a sense of community and excellence in teaching, research and service. The College enrolls approximately 320 Pharm.D. students and 90 graduate students, which makes the College one of the smallest academic units at the University of Michigan. As a result, Michigan's pharmacy students have access to all the facilities offered by a large, very diverse, world-renowned university, while also having the ability to enjoy the advantages of belonging to a select, close-knit group. The small class size also creates more valuable opportunities to sharpen clinical, leadership, critical thinking, communication, teamwork, and other high-demand career skills. The College of Pharmacy is responsible for the Doctor of Pharmacy Program and also offers Doctor of Philosophy programs in Medicinal Chemistry, Pharmaceutical Sciences, and Social and Administrative Sciences. There is also a small undergraduate program for the BS in pharmaceutical sciences degree.

College Vision Statement

To be a global leader in pharmacy and pharmaceutical education, research and practice with the ultimate goal of providing excellent, innovative patient care and drug development.

College Mission Statement

The mission of the University of Michigan, College of Pharmacy is to prepare students to become pharmacists and pharmaceutical scientists who are leaders in any setting. The College provides a quality education that effectively integrates critical thinking, problem-solving and leadership skills. Research in the pharmaceutical, social and clinical sciences and its translation into health care is a key component of our mission. The College achieves its mission by striving for excellence in education, service and research, all directed toward enhancing the health and quality of life of the people of the State of Michigan, the nation and the international community.

College Strategic Goals

The College's six long-term strategic goals, listed below, serve as the blueprint for College activities.

- To educate Pharm.D. students with a foundation in basic and clinical knowledge, research, skills, attitudes and values enabling the professional students to become compassionate, innovative, adaptable leaders and providers of pharmaceutical care in diverse settings. The professional students will develop the ability to effectively communicate with patients and other health care professionals, utilize their knowledge to optimize medication therapy outcomes, and develop the skills necessary for self-directed, lifelong learning to enable them to advance the field of health care.

- To provide graduate programs that enable PhD students to acquire the necessary knowledge and skills in scientific research for them to become accomplished scientists who are experts and leaders in the pharmaceutical, medicinal, social and administrative and clinical sciences.
- To recruit, develop and retain effective, dedicated educators who inspire their students to pursue lifelong learning in the health sciences and in the service of human health.
- To anticipate, recognize and respond to the needs and concerns of society by improving human health through the design, implementation, conduct and evaluation of research related to drugs and pharmaceutical care.
- To maintain a culturally and socially diverse academic community to prepare pharmacists to meet the needs of a culturally and socially diverse society.
- To shape the future direction of the pharmacy profession through education, research and the development of innovative practice models.

College Core Values

The College core values are essential and enduring tenets that in conjunction with the mission, guide College decisions and behaviors, and are not compromised for short-term expediency

College Core Values

Respect – Excellence – Leadership – Community
Diversity – Integrity – Professionalism – Innovation

ORGANIZATIONAL STRUCTURE AND COLLEGE OFFICES

Organizational Structure

The College of Pharmacy operates within a departmental structure that includes the following departments:

- Department of Clinical, Social, and Administrative Sciences, which consists of faculty in the disciplines of social and administrative sciences, pharmacy administration, and pharmacy practice, including clinical faculty and adjunct clinical faculty
- Department of Medicinal Chemistry, which consists of faculty in the disciplines of medicinal chemistry and pharmaceutical chemistry
- Department of Pharmaceutical Sciences, which consists of faculty in the discipline of pharmaceuticals.

Each department is led by its own department chair. See Appendix A for the College organizational chart.

Office of Student Services – 734-764-7312

The Office of Student Services, located in 1028 Pharmacy Bldg, assists in the recruitment and admission of Doctor of Pharmacy students. Enrolled students should also visit the Office for information regarding certification, registration, internship licenses and additional information and directions for University student services.

Although some student services at the College are provided by the Clinical Sciences and Experiential Training Offices, students should ask personnel in the Office of Student Services for assistance whenever they're uncertain

about where to obtain information or services at the College or the University. See Appendix A for organizational chart for Student Services. (email: : cop.studentservices@umich.edu)

Experiential Training Office – 734-763-0091

The Experiential Training program provides Doctor of Pharmacy students with a structured, supervised program of participation in the practice of pharmacy. The goal of the various introductory and advanced pharmacy experiences is to help students acquire practice skills and judgment, and develop the level of confidence and responsibility needed for entry into the pharmacy profession. Introductory pharmacy practice experiences (IPPEs) are spread throughout the first three years of the Doctor of Pharmacy program and the entire fourth year of the program is devoted to advanced pharmacy practice experiences (APPEs). The Experiential Training Office is located in B021 Pharmacy, on the lower level of the College of Pharmacy building. In addition to scheduling all practice experiences, the office maintains immunization certification and provides students with the necessary documentation they need to replace lost ID cards. (email address: cop-et@umich.edu)

Pharmacy Advancement and External Relations Office – 734-764-7350

Located in Room 1010, this office coordinates all alumni related events and fundraising for the College. Additionally, the office works in concert with Student Services on the Leadership Scholars Program and the P3 and P4 scholarship program. Students should also contact this office with questions regarding the approval of merchandise bearing the College's identity for use by professional organizations.

Business and Finance Office – 734-764-7542

Business and Finance (room 1037) is responsible for any financial issues related to the College. This includes, but is not limited to, management of operating and non-operating revenue and expenditures, budget administration/reporting, oversight of undergraduate and graduate financial aid, research administration, procurement, temporary appointments, expense reimbursements, central copy machine management, and internal controls development, improvement and monitoring. Please see the Travel Reimbursement section in the Handbook for more information regarding travel reimbursement processed through the Business and Finance Office. (email: cop.businessfinance@umich.edu)

Facilities Office – 764-647-2365

The Facilities Office handles the scheduling for all College classrooms and meeting rooms, is responsible for the mechanical functions (i.e, air conditioning) for the College, the student lockers and access to the building. (Also see COP resources for more information regarding these topics.)

Information Technology Office – 764-647-9450

All students are provided with the University's Standard Computing Package consisting of a Uniqname and UMICH Kerberos password, email, software (limited, shared access), online file storage, printing allocation, wi-fi access and a MCommunity Directory listing. Please visit, "Student Computing at U-M" (<http://www.itd.umich.edu/orientation/>) for a comprehensive listing of available computing resources provisioned by the University.

The College of Pharmacy Information Technology Services (ITS) department, located in Suite B018 on the lower level of the Pharmacy building, supports all public computing areas within the College such as the Student Lounge, Lecture Rooms, and wi-fi accessible study spaces. ITS may be contacted via e-mail at cop.help@umich.edu or by phone at 734-647-9450 (7-9450 from a University (updated 5/6/2011) landline). In case of emergency, such as equipment failure immediately prior to a presentation, ITS may be paged at [734-670-4298](tel:734-670-4298) (please leave room number as a page, such as "1570", for example)

College Telephone and Email List

Please see the listing on the College website for faculty and staff members' contact information, located under the heading "College Directory" http://pharmacy.umich.edu/pharmacy/faculty_and_staff

DOCTOR OF PHARMACY PROGRAM**Overview**

As delineated in the mission statement, the College strives to prepare students to become pharmacists and pharmaceutical scientists who are *leaders* in any setting by providing students with a *quality education that effectively integrates critical thinking, problem-solving and leadership skills*. The curriculum ensures that graduates are prepared to practice in diverse settings through the integration of biomedical, pharmaceutical, behavioral, social and administrative sciences, and also to practice pharmacy with the ethical, moral, and legal tenets of the profession. As one of the America's top-ranked Doctor of Pharmacy (Pharm.D.) programs, the University of Michigan College of Pharmacy provides a pharmacy education unsurpassed in breadth and depth. The College offers more than 300 clerkship experiences, including a vast selection of centers, clinics, and other medical units affiliated with University of Michigan Hospitals and Health System, one of the nation's premier health systems.

Curriculum and Assessment Committee

The Curriculum and Assessment committee is composed of faculty, students, and alumni who are responsible for the oversight of the professional curriculum of the College of Pharmacy. Responsibilities of the committee include reviewing and assessing current courses, approving new courses, curricular structure, and assessment of the overall curriculum. It is the Committee's responsibility to ensure that College-defined Ability Based Outcomes drive curricular design and are achieved within the curriculum. Another key responsibility of the committee is the continuing assessment of the curriculum along with continuing curricular revision as identified by curricular assessment. The Curriculum and Assessment Committee also approves health relevant electives as described below.

Curricular Philosophy

In concert with the core mission and goals of the College, the curricular philosophy is that students be provided a comprehensive foundation in basic, social and administrative, and clinical sciences in a logical, integrated, and progressive manner, thereby enabling graduates to be successful in any setting and to become leaders in the profession.

Ability Based Outcomes (ABOs)

To produce the type of student envisioned by our curricular philosophy, the College has developed the curriculum based on the achievement of professional competencies, commonly referred to as the Ability Based Outcomes (ABOs). These domains serve to define what students must be able to do (i.e., skills, attitudes, behaviors) with their knowledge in order to successfully become compassionate, innovative, adaptable leaders and providers of pharmaceutical care in diverse settings. Students are expected to have the ability to effectively communicate with patients and other health care professionals, utilize their knowledge to optimize medication therapy outcomes, and have the skills necessary for self-directed, lifelong learning to enable them to advance the field of health care.

The competencies are categorized into five major domains: 1) patient care; 2) manage and use resources in the health care system; 3) health improvement, wellness, and disease prevention; 4) critical thinking and problem

solving; and 5) self-regulated, life-long learning. Upon completion of the doctor of pharmacy program, the student will be proficient in the following competencies:

1. Provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health care team.
 - 1.1 Gather, organize, and interpret relevant patient or population specific data
 - 1.2 Identify pharmacotherapy problems
 - 1.3 Develop a therapeutic plan
 - 1.3.1 Integrate basic scientific knowledge, evidence based literature, emerging technologies, and changes in health care.
 - 1.3.1.1 Relate the chemical and biochemical structure of drugs to their therapeutic actions
 - 1.3.1.2 Relate the chemical, biochemical and pharmacological mechanisms of drug action to the identification and resolution of medication-related problems
 - 1.3.1.3 Possess a comprehensive knowledge of the physicochemical aspects of pharmaceutical products and drug delivery systems.
 - 1.3.1.4 Develop a sufficient knowledge of pharmacokinetic principles to be able to select or modify dosage regimens for an individual patient.
 - 1.3.1.5 Develop the ability to critically evaluate the literature relevant to health care.
 - 1.3.2 Consider the potential effects of the patient's health literacy, psychosocial, economic, and cultural background on therapeutic outcomes.
 - 1.3.3 Help patients with the appropriate use of over the counter medication, complementary and alternative medicine, and self-care products and durable medical equipment.
 - 1.3.4 Identify therapeutic outcomes
 - 1.4. Communicate and collaborate effectively with patients and other health care professionals to engender a team approach.
 - 1.5 Implement the pharmacotherapeutic plan.
 - 1.5.1 Communicate the plan to the patient, patient's agents, and health care providers in a culturally sensitive manner.
 - 1.5.2 Serve as a patient advocate.
 - 1.6 Monitor outcomes and modify therapeutic plan as needed.
 - 1.7 Document pharmaceutical care activities and associated outcomes.
 - 1.8 Deliver comprehensive pharmaceutical care in a legal and ethical manner.
 - 1.8.1 Adopt personal and professional ethical principles that place the health and safety of patients above personal gain
 - 1.9 Assure the accuracy and completeness of medication orders.
 - 1.10 Ensure the safe and accurate dispensing of medications.
 - 1.11 Demonstrate professional skills, attitudes, and values and a sense of personal responsibility to patients, patient's agents, and other health care providers.
 - 1.12 Participate in a successful patient-centered practice (including medication therapy management).*
 - 1.13 Participate in the development and implementation of population-specific, evidence-based disease management programs and protocols.
 - 1.13.1 Demonstrate working knowledge in informatics to include the practice of the integration of technology, automation, and processes for the improvement in medication use for the purpose of improving health outcomes for patients.
 - 1.13.2 Utilize epidemiologic and pharmaco-economic data.
 - 1.13.3 Utilize medication-use criteria, medication use review and risk reduction strategies.

- 1.13.4 Communicate effectively and persuasively with patients, health care professionals, administrators, policy makers, and the public.
- 1.14 Retrieve, analyze and interpret scientific literature to provide drug information to patient's, caregivers, and other health care providers.
- 2 Manage and use resources of the health care system.
 - 2.1 Manage human, physical, medical, informational, and technological resources.
 - 2.1.1 Promote efficient and cost-effective resource utilization.
 - 2.1.2 Integrate legal, ethical, social and professional principles.
 - 2.1.3 Communicate and collaborate with patients, caregivers, and health care personnel.
 - 2.1.4 Incorporate the resources available from regional and national pharmacy and medical organizations into system improvement plans.
 - 2.2 Manage medication use systems.
 - 2.2.1 Assume responsibility for all aspects of medication distribution process.
 - 2.2.1.1 Provide, assess and coordinate accurate medication distribution.
 - 2.2.1.2 Incorporate emerging technologies
 - 2.2.1.3 Comply with all legal, ethical, and professional standards.
 - 2.2.1.4 Demonstrate the functions required for the preparation of extemporaneous and parenteral products.
 - 2.2.1.5 Ensure the integrity of drug products.
 - 2.2.2 Utilize data from quality improvement strategies to optimize patient outcomes.
 - 2.2.3 Participate in medication safety and error reduction programs to minimize medication misadventures.
 - 2.2.4 Interpret and apply drug use and health policy.
 - 2.2.5 Interpret and apply pharmacy benefit plans.
 - 2.3 Communicate and collaborate effectively with other health care professionals.
- 3 Promote health improvement, wellness, and disease prevention.
 - 3.1 Promote the availability of effective health and disease prevention services.
 - 3.2 Apply population specific data, quality assurance strategies, informatics and research processes to identify and resolve public health problems.
 - 3.3 Communicate and collaborate with health care personnel, policy makers, community members, and at risk populations to identify and resolve public health problems.
 - 3.4 Apply population specific data, quality assurance strategies, and research processes to develop pharmacy related health policy.
 - 3.5 Serve as an advocate for the profession of pharmacy.
- 4 Think critically and solve complex problems.
 - 4.1 Systematically gather, analyze, synthesize information using available methods and research tools
 - 4.2 Integrate such information from diverse sources to conclusions that lead to the most appropriate course of action in a given situation
 - 4.3 Instill an understanding of sound research principles and participate in scientific efforts that are ethical, evidence-based, logical, and honest.
- 5 Establish oneself as a motivated, self-directed, independent, life-long learner and an advocate for the patient and profession.

- 5.1 Maintain professional competence by identifying and analyzing emerging issues, products, and services.

Pharm.D. Curriculum

Students are required to complete the four-year course sequence that corresponds to their year of graduation that is outlined on the College website (http://pharmacy.umich.edu/pharmacy/pharmd_curriculum) and in Appendix B. A minimum of 128 credits are required for graduation. Course descriptions can be found on the College website (http://pharmacy.umich.edu/pharmacy/course_descriptions) and in Appendix D. Due to changes in the curriculum the elective requirement varies for students graduating in 2012 and 2013, 2014 and 2015 as outlined in the table below.

Elective Credit Requirements

Class of 2015

Eleven elective credits are required for the Doctor of Pharmacy degree. These elective credits must be taken on the Ann Arbor campus by the end of the third year of the program. One graded elective course may be modified to a P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term. At least 6 of the 11 elective credits must be pre-approved course credits that focus on pharmacy or health-relevant topics. Please see the Appendix for the list of courses accepted for HR credit. One graded elective course may be modified to P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term, except in the fourth year of the program.

Class of 2014

Twelve elective credits are required for the Doctor of Pharmacy degree. These elective credits must be taken on the Ann Arbor campus by the end of the third year of the program. One graded elective course may be modified to a P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term. At least 6 of the 12 elective credits must be pre-approved course credits that focus on pharmacy or health-relevant topics. Please see the Appendix for the list of courses accepted for HR credit. One graded elective course may be modified to P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term, except in the fourth year of the program.

Classes of 2013

Fifteen elective credit hours are required to graduate from the College of Pharmacy with the Doctor of Pharmacy degree. A maximum of seven elective credits may be earned through transfer credit from other institutions. At least 8 elective credits must be taken while the student is enrolled and in residence at the College. Residence credit is defined as courses elected on the Ann Arbor campus or at off-campus sites but directed by Ann Arbor faculty present on the site. At least 7 of the 8 in-residence elective hours must be earned from pre-approved elective courses that focus on pharmacy or health-relevant topics. One graded elective course may be modified to P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term.

Classes of 2012

Twenty elective credit hours are required to graduate. A maximum of seven elective credits may be earned through transfer credit from other institutions. At least 13 elective credits must be taken while the student is enrolled in residence at the College. Residence credit is defined as courses elected on the Ann Arbor campus or at off-campus sites but directed by Ann Arbor faculty present on the site. At least 7 of the 13 in-residence elective hours must be earned from pre-approved elective courses that focus on pharmacy or health-relevant topics. One health-relevant elective course (included in the 7 required credits) must be taken in the fourth year. One graded elective course may be modified to P/F (pass/fail) or S/U (satisfactory/unsatisfactory) grading basis each term, except in the fourth year of the program.

Health-Relevant Courses

In general, any course taught at the Medical School, Nursing School, School of Public Health and elective courses taught at the College of Pharmacy count as health-relevant courses. Other courses taught at the University of Michigan that have been evaluated by the Curriculum Committee are contained on a current list of Health-Relevant Courses and is available in the Office of Student Services and also in Appendix C. Students may petition the Curriculum Committee to add a course to the approved list of health-relevant courses. The petition should include a course description, number of credit hours, and the instructor's name. A link to a website that contains this information is also acceptable if it includes the required information. Requests should be submitted by email to Rosemary Laczko (rlaczko@umich.edu) in the Office of Student Services.

Investigations Course Requirement

Students are required to complete an Investigations course in the third and fourth year of their program. Information is provided by the Investigations Committee before registration and on their website, regarding the procedures for identifying course instructions, submitting proposals and final reports, and the timeline for completion. The Investigations course requirement is not considered complete until a final paper is submitted to the Investigations Committee.

In order to register for an Investigations course, students must have an override (permission) to elect the course. The permissions to register are issued by the Registrar's Office after student services staff process them electronically into the registration system. Students obtain permission to enroll in the investigations courses by sending an email to the faculty advisor, requesting permission to enroll. The faculty member must forward his/her permission for the student to register to: cop.studentservices@umich.edu.

Curricular Practical Training for International Students

The University of Michigan and the federal government allow international students to work if they are employed by the University or if they have enrolled in a Curricular Practical Training (CPT) Course. In order to register for the College of Pharmacy CPT course, students must contact the International Center for their current requirements for Curricular Practical Training. If the student qualifies to enroll in the program, an offer of employment must be presented at the College of Pharmacy and a CPT form (available at the International Center must be completed by the Student Services Staff and signed by the advisor for the course). In most cases, the Associate Dean for Academic Affairs will serve as the student's instructor for the course. The student must meet with the Associate Dean to determine if the position will enhance the student's educational experience here. If the student registers for the CPT course (Rackham 998), he/she must complete any requirements for the course that's defined by the Associate Dean, which may include a written paper. The steps for registering for Rackham 998 are: Student should produce a written offer of employment and present it to the Office of Student Services. The letter will also be required at the International Center.

- 1) The faculty member (Associate Dean) who is responsible for the course election must sign the CPT authorization form.
- 2) An add/drop form will be completed by the Office of Student Services and given to the student to present at the Registrar's Office for registration.
- 3) Student must complete the program requirements, which includes a workshop, at the International Office after registering for the course.
- 4) Students who have not been enrolled in the CPT course for the Winter Term will be allowed to enroll in the course for the Spring/Summer term. However, if a student is enrolled for the Winter Term and request enrollment for the Spring/Summer term, he/she will be responsible for the required tuition for the term.
- 5) Student will receive a Y grade until the course has been evaluated by the faculty member.

Registration and the Office of the Registrar

All continuing students are eligible to register for the subsequent term, unless the student has a financial hold. The University Registrar's Office issues registration appointments in March for the fall term and in November for the winter term. The Office of Student Services distributes information to each class during the registration period each term. The Registrar's Office is responsible for registration appointments and processes certification, official residency status, official transcripts, diplomas and assesses tuition. The Office is located at State Street in the LS&A Building, next to the Michigan Union and near the Student Activities Building. The website is <http://www.ro.umich.edu/>

Modifying a Course and Add/Drop Procedures

Course changes are subject to the following deadlines:

- 1) **Adding a Course.** Courses may be added through the end of the third week of classes of a term (second week of a half-term).
- 2) **Dropping a Course.** Courses may be dropped through the end of the 10th week of a term (four-and-one-half weeks of a half-term). Courses dropped after a term's third week of classes (second week of a half-term) require the permission of the course instructor and an adviser. The course grade will carry a W designation on the student's academic record. The fee assessment will not be reduced for courses dropped after a term's third week of classes (second week of a half term).
- 3) **Changing a Modifier.** A course modifier (e.g., from graded to pass/fail) may be changed through the end of the third week of classes of a term (second week of a half-term). Petitions for exceptions to the change-of-election deadlines must be submitted to the College Committee on Academic Standing for consideration. The committee may approve a request if the student documents unusual circumstances in support of an exception. All requests to the Committee for exceptions should be submitted by email or in written form to the Office of Student Services.

Transfer Credit

For students in the classes of 2012 and 2013, up to seven elective credits can be transferred to the Pharm.D. program from other institutions toward the 20 elective-credit requirement, if approval is given at time of matriculation into the program. Advanced standing or transfer of credit for any required Pharmacy courses must first be evaluated and deemed equivalent by the Assistant Dean before credit is given.

For students in the classes of 2014 and 2015, no advanced standing elective credit is awarded toward the elective credits required for graduation (12 elective credits for the class of 2014 and 11 for the class of 2015). Advanced standing or transfer of credit for any required Pharmacy courses must first be evaluated and deemed equivalent by the Assistant Dean before credit is given.

One exception to this rule is an online course offered by the University of Florida College of Pharmacy. The course is listed on the acceptable courses that are counted toward the Health-Relevant elective credit requirements.

Withdrawal from the Pharm.D. Program

Students who wish to withdraw from the Pharm.D. program after registration must take a paper withdrawal form to the Office of the Registrar, signed by the Assistant or Associate Deans. If the withdraw occurs after the term has begun, tuition will be assessed, according to the schedule set by the Registrar's Office.

Students who withdraw from the Pharm.D. program voluntarily or when dismissed by the Committee on Academic Standing must apply for readmission if they wish to be enrolled for a subsequent term. Requests for consideration for readmission should be addressed to the College Admissions Committee *no later than eight weeks before the start of the term in which a student intends to enroll*. Decisions will be based on the circumstances leading to a student's withdrawal and the availability of space in the class year for which the student would qualify upon readmission.

Tuition and Fee Schedule

Students enrolled in the College of Pharmacy are assessed tuition according their residency classification (in-state or out-of-state residency status). The amount of tuition charged is determined each July and is published by the Office of the Registrar. The information regarding tuition can be found on their website:

<http://www.ro.umich.edu/tuition/>.

Grading System

Grade Notations. College of Pharmacy students receive grades of A+ through E. Grades of A+ through C- denote passing work in courses required for a degree from the College of Pharmacy. D+, D, and D- grades denote passing work in elective courses only. Grades of A+, A, and A- indicate excellent work; grades of B+, B, and B- denote good work; and grades of C+, C, and C- fair work. The minimum passing grade is a C- for a required course and a D- for an elective course. Grades of D+, D, D- denote failure in required courses. Grades of D+, D, and D- indicate deficient work in elective courses. An E grade denotes failure in any course. Grades are not removed from a student's record by reelection of the same course. Grades carry the following honor-point values per each semester hour credit: A+, A = 4.0; A- = 3.7; B+ = 3.3; B = 3.0; B- = 2.7; C+ = 2.3; C = 2.0; C- = 1.7; D+ = 1.3; D = 1.0; D- = 0.7; E = 0.0. The number of honor points awarded per course is determined by multiplying the honor-point value of the letter grade by the semester hours of credit of the course for which it is earned. Example: A grade of B+ 3.3 honor points) earned for a three-credit course yields 9.9 honor points. Honor points earned are used to calculate the student's grade point average (GPA). The GPA is computed by adding the honor points earned for each course and dividing that total by the number of semester 2hours of credit elected for a grade. A grade of P or F awarded for a course elected on a pass/fail basis does not affect a student's GPA.

Pass/Fail Option. The pass/fail option allows students to elect courses that interest them without concern for their grade point average. Student transcripts show one of two designations for courses elected as pass/fail: P (pass) and credit toward program or F (fail) and no credit toward program. Instructors in graded courses report letter grades for all students in their courses. For students who have elected a course on a pass/fail basis, the Registrar's Office records letter grades of A+ through C- as P on transcripts and letter grades of D+ through E as F. Pass or fail grades do not enter into the computation of the term or cumulative grade point average. There are two restrictions on the pass/fail option: 1) a student may elect only one elective course per term on a pass/fail basis, and 2) a required course cannot be elected on a pass/fail basis unless it is graded on a pass/fail basis only. Required courses graded on a pass/fail basis do not count toward the one-course-per-term limit on pass/fail elections. Elective courses graded only on a pass/fail or credit/no-credit basis do not count toward the one-course-per-term limit on pass/ fail elections. Students electing a course on the pass/fail option must indicate the grading option at the time of registration. A course elected on a graded basis may be changed to pass/fail, and vice-versa, before the start of the third week of the term (or before the second week of a half term). Courses on an audit basis, if permission is obtained from the instructor. If permission is given to audit a course, the student must fulfill the instructor's expectations. The grade designation for an audited course is V/ (visit). No credit toward any degree requirements is given for courses elected on an audit basis.

Class Absences and Requirements for Course Credit. Final examinations are held in most courses during the last part of each term. (Also see Exam Deferral Policy). Absence from the final examination is reported on a student's academic record as X and credit for the course is temporarily withheld. Any student absent from a final examination is required to report to the instructor as soon as possible. A student with a valid excuse for absence is permitted to take an examination. The letter grade then added to the X on the student's transcript reflects performance on that examination and if the student earns a passing grade in the course credit is awarded. If a student's excuse for absence is deemed unsatisfactory or if the student fails to present an excuse, the course grade becomes an E. (See also the Exam Deferral Policy). When a student is prevented by illness or other cause beyond control from completing a course, the instructor may report an I (incomplete) for the course. Incompletes are awarded only when most course requirements have been completed and work has been satisfactory. When an I is reported for a course credit is temporarily withheld. The student should complete outstanding course requirements as soon as possible. Unless the instructor grants an extension and submits it in writing to the Registrar's Office, an incomplete must be completed by the end of the next term (not including spring-summer term) for which the student is enrolled. When all course requirements are met the appropriate letter grade is added to the student's record; if the student earns a passing grade in the course, credit is awarded. If course requirements remain uncompleted after the allotted time has elapsed, the Records Office adds a course grade of E to the student record. A student who repeats a course and completes it with a minimum passing grade receives the additional number of honor points for the new grade. Extra semester hours of credit for the repeated course do not count toward those needed for graduation, but semester hours of credit for both elections are included in the denominator in calculating the grade point average.

Absences. Although the regulation of class attendance is left to the discretion of each instructor, he or she is urged to report excessive absences to the associate dean so that the cause may be determined. Students are warned that the accumulation of unexcused absences may result in either a request to drop the course or a report of an E grade. Only valid excuses, such as incapacity, are accepted. (Also see Exam Deferral Policy).

Satisfactory Progression and Probation

Students who do not successfully complete a required course or fall below the required cumulative and/or term GPA of 2.000, will have their records reviewed by the Committee on Academic Standing and placed on academic probation. The Committee meets at the end of each term and outlines the requirements for students who are placed on probation. Students are encouraged to submit a letter to the Committee on Academic Standing prior to the meeting to provide insight into the situation. Each case is considered according to the student's circumstances, the College policies on scholarship, and progress toward fulfillment of degree requirements. Students are subject to one or more of the following actions by the Committee: 1) academic warning; 2) academic probation; 3) academic probation with specified conditions; 4) denial of permission to proceed to the next year of a degree program; and/or 5) dismissal from the College. Student appeals regarding committee decisions are heard by the College Executive Committee.

Advisement Toward Degree Completion

Advisement regarding student records and degree completion is available from Rosemary Lazko in the Office of Student Services. You may contact her for an appointment at rlazko@umich.edu.

Rho Chi Society

Third and fourth year pharmacy students are invited into membership of the Rho Chi Society if they are in the top 20% of their class, beginning with the fall term of their third year of enrollment.

Student Records and Transcripts

College of Pharmacy students have an academic file containing admissions material, unofficial copies of their academic records, and correspondence. An additional, confidential file may be kept that contains sensitive material. The material could include charges of misconduct and/or letters from a health professional. Students must contact the Office of the Registrar for copies of their academic records (transcripts). This service is available on Wolverine Access and is free of charge.

Students have a right to examine the materials in their own academic files. Students who wish to review their files may do so by scheduling an appointment with the Manager of Student Services. Students may add documents to their files. Requests for deletions and additions to the files must be made to the Associate Dean for Academic Affairs. Academic records are kept in the College of Pharmacy for five years after a student graduates and confidential files are kept for two years after graduation or withdrawal from the College.

The Family Educational Rights and Privacy Act of 1974 (FERPA) governs both the release and access to student records in the College and University. FERPA states that that access to individual student academic files is restricted to those faculty and staff members who have a legitimate the need to review the files to perform their “administrative task outlined in the official’s duties or performing a supervisory or instructional task directly related to the student’s education.” See FERPA rules for other disclosure, amendment and access laws governing student records, located on the University Registrar’s website: <http://www.ro.umich.edu/ferpa/>

Graduation and Enrollment Certification

Upon the request of a student, the Office of Student Services will provide certification of enrollment or graduation. The information may include:

- 1) Current class standing (program and level)
- 2) Date of first enrollment in the College
- 3) Estimated date of graduation
- 4) Number of internship hours earned through the Pharm.D. program
- 5) Academic standing (good standing or probation)

The College of Pharmacy is unable to certify enrollment for student loans. Requests for official enrollment certification for student loans must be submitted to the University Registrar’s Office.

Graduation

All students who plan to graduate must apply for graduation on Wolverine Access early in the term in which they expect to graduate. The Office of Student Services verifies the students’ eligibility with the Office of the Registrar before a diploma can be awarded.

LICENSURE**Michigan Pharmacy Internship License**

All students in the Pharm.D. program are required to hold valid Michigan Limited Educational Internship Licenses. The Michigan Board of Pharmacy requires all interns to renew their licenses each May. Students who do not hold a valid, up-to-date license are not allowed to report to their internship sites and will be disenrolled.

Use this website to obtain an internship license in Michigan:

http://michigan.gov/mdch/0,1607,7-132-27417_27529_27548---,00.html

Tips when completing the Michigan Limited Educational Internship License

- 1) Pages 4-6 contains some information about the required background check and live fingerprint scanning that's required.
- 2) Page 7 & 8 is the actual application. Fill all of it out, except the last box that requires the College certification. Submit the form to the Office of Student Services who will certify your eligibility and ask that you pick it back up and mail it in (please do not staple the form before submitting it to the Office of Student Services). Note that the license fee is \$40 and that it cost \$15 to renew each year.
- 3) Pages 9-10 are for a preceptor to fill out if paid work is completed with a Michigan licensed preceptor at a pharmacy. (Which should be almost any pharmacy). Students cannot earn any internship hours without a valid internship license. This includes internship hours in the Pharm.D. program. These forms should be submitted on a regular basis for any internship hours earned through a paid position.
- 4) For more information regarding Michigan Internship Licenses see the Michigan Department of Licensing and Regulatory Affairs.

Internship Hours for Other States:

Although students earn a sufficient number of internship hours in the pharmacy program to be licensed in the State of Michigan, some states require more hours. It is a good idea to submit worked hours to the state. Students planning to return "home" to another state during the summer and work as an intern should contact that state's Board of Pharmacy to learn what is required to become an intern in that state. Upon graduation, some or all of the internship hours may count toward the state's licensing requirements.

California Internship License

In order to become licensed in the state of California, applicants must submit internship hours when applying for licensure and not before. Therefore, the internship reporting form for the state of California should be completed for all experiences (worked and rotation experiences in the Pharm.D. program) and saved for submission after graduation.

Please visit the Office of Student Services regarding internship licenses or email Rosemary Laczko (rlaczko@umich.edu).

Applying for the NAPLEX and MPJE Licensure Exams

The Registration Bulletin for the North American Pharmacist Licensure Examination (NAPLEX) and the Multistate Pharmacy Jurisprudence Examination (MPJE) can be downloaded from the National Association of Boards of Pharmacy (NABP) website at www.nabp.net. The Registration Bulletin contains important information about applying for and taking the examinations that should be thoroughly reviewed. Students can submit their NAPLEX, MPJE and "Application for Examination as a Pharmacist" applications prior to graduation. After graduating and satisfying all other requirements (e.g., completion of intern hours), the Michigan Board of Pharmacy will inform NABP of applicants' eligibility to take the examinations (for those who have designated Michigan as their "primary state."). NABP will then contact Pearson VUE to notify them that they can issue an Authorization to Test (ATT) letter. Once the ATT has been received, applicants can make an appointment to take the exams. Exams can be scheduled at any testing center in the U.S. The NAPLEX and MPJE exams can be taken on different dates and at different testing centers.

The College sends a Certificate of Education to the Michigan Board of Pharmacy upon graduation. Students requiring certification for another state should contact Rosemary Laczko in the Office of Student Services.

The exact procedure for registering for the NAPLEX is dictated by the states' Boards of Pharmacy. There are some states that require applicants to apply for the exam through their State Board. Read all instructions carefully when applying for your license.

For more information regarding the NAPLEX and MPJE Licensure Exams, see <http://www.nabp.net/programs/> or the NAPLEX-MPJE ctools resource site.

STUDENT ORGANIZATIONS

The following students groups have organized chapters at the University of Michigan College of Pharmacy. More information, including who to contact in each group, can be found on the University's Student Groups website:

http://pharmacy.campusgroups.com/club_signup?group_type=1383.

Pharmacy Student Government Council (PSGC)

PSGC is a student-run organization that works to enhance communication between students, faculty, administration, the University, and other schools with health-related interests. PSGC is made up of three elected representatives from each class. The goal of PSGC is to lobby for the interests of pharmacy students and to promote students' education and career needs. One of PSGC's annual events is a Town Meeting where students exchange their thoughts about the College with a panel of faculty.

American Pharmacists Association Academy of Student Pharmacists (APhA-ASP)

The American Pharmacists Association (APhA) is the first national pharmacy organization in America and is comprised of more than 60,000 pharmacy practitioners, student pharmacists, pharmacy technicians and scientists - individuals all interested in advancing the pharmacy profession. The Academy of Student Pharmacists is the student branch of APhA acting as the collective voice of student pharmacists and providing opportunities for professional growth. In the community, APhA-ASP hosts diabetes and hypertension screenings. They also promote educational events about heartburn prevalence, immunization, antibiotic resistance, tobacco cessation, and poison prevention. The UM chapter organizes and holds community service events throughout the year, including multiple health fairs and a clinic at The University of Michigan Health System's Turner Geriatrics Center. As a student organization, it believes in promoting student relations. APhA-ASP sponsors social events such as ice cream socials and PharmBash, the annual college-wide formal. The regular monthly meetings include guest speakers presenting topics related to career opportunities and professional growth. At regional and national meetings, APhA-ASP members discuss legislative issues relevant to pharmacy.

International Society of Pharmacoeconomics and Outcomes Research (ISPOR)

Interested in exploring "non-traditional" pharmacy careers? The goal of UM ISPOR is to increase student knowledge of practices and advances in pharmacoeconomics and health outcomes research from a global perspective. The student chapter serves as a bridge between students interested in pharmacoeconomics and members of the pharmaceutical industry, health care organizations, government, and academia. ISPOR at the University of Michigan, Ann Arbor is truly multidisciplinary with members drawn from the College of Pharmacy, School of Public Health, School of Medicine, School of Business and the School of Nursing.

Phi Delta Chi

Founded at the University of Michigan in 1883, Phi Delta Chi now has 70 collegiate chapters nationwide and has initiated more than 50,000 men and women into the brotherhood. The purpose of this fraternity is to advance the science of pharmacy and its allied interests and to foster and promote a fraternal spirit among its members. As the Alpha Chapter, University of Michigan's brothers perform community service projects, professionalism events and enjoy social fellowship among its members. Being a brother is to uphold the motto put forth by the founders, *Alterum Alterius Auxilio Eget*, meaning each needs the help of the other. It is the goal of PDC to instill confidence both as a pharmacist and as a leader through working together to educate the community about the science of pharmacy. We strive to promote excellence in each of our members. Brothers have the opportunity to meet other brothers throughout the country at the national and regional conferences to network, form lasting friendships and fulfill our union as brothers for life.

Student National Pharmaceutical Association (SNPhA)

SNPhA members are dedicated to raising awareness about the profession to the under-represented, and reaching out to the communities in which they reside. Each SNPhA member has the unique opportunity to build leadership skills within the organization by making a project their own. There are limitless opportunities to be involved in this organization.

University of Michigan Health-system Student Pharmacists (UM-HSP)

University of Michigan Health-system Student Pharmacists (UM-HSP) was started as an interest group during the 2008-2009 school year under the guidance and organization of Dr. Stevenson, Dr. Kraft, and several students from the 2010 and 2011 graduating classes. After the inaugural year of 2009-2010, the organization gained recognition as an ASHP Student Society of Health-system Pharmacy (SSHP). The mission of UM-HSP is to prepare the next generation of health-system pharmacists to be leaders in their schools and communities to advance the future of the pharmacy profession. The organization anticipates student needs and delivers student-relevant information, tools and resources such as hospital tours, residency training forums and health-system guest speakers. UM-HSP also works to establish an organizational framework that enhances collaboration among other student organizations. The needs of students with respect to health-system pharmacy careers, professionalism, and leadership development are addressed.

Pharmacy Christian Fellowship (PCF)

PCF exists for the central purpose of glorifying Jesus Christ in pharmacy education and practice. Its members are an interdenominational group open to people of all religious backgrounds. PCF strives to provide activities for the refreshment and encouragement of members, prayer and meditation on Scripture, education and discussion of current issues in pharmacy, service and missions, and networking with Christian health professionals.

POLICIES AND PROCEDURES**ACADEMIC AND PROFESSIONAL CONDUCT POLICY****INTRODUCTION**

The College of Pharmacy Student Academic and Professional Conduct Policy ("Conduct Policy") is a policy under which students and faculty share responsibility for monitoring the academic and professional conduct of students. Like many other professions, pharmacy is largely responsible for formulating and monitoring its own ethical standards. This opportunity to govern itself is a privilege granted to the profession by society with the

understanding that the profession will maintain the welfare of the public as its primary concern. In exercising this responsibility, the American Pharmacists Association (“APhA”) and corresponding state and local professional associations such as the Michigan Pharmacists Association have adopted codes of ethics that define minimum standards of professional conduct. In this system, the responsibility of students parallels the responsibility of pharmacists, who maintain high professional standards by monitoring the professional conduct of their peers. U-M Pharmacy students are expected to be familiar with the APhA Code of Ethics and to adhere to it. Graduate student activities are generally not covered by the APhA Code of Ethics but are instead described in the University of Michigan Rackham Graduate School’s Policy Statement on Academic and Professional Integrity. All graduate students within the College must maintain the highest standards of integrity in their research and conduct themselves in a professional manner in their dealings with others. It is the responsibility of all to ensure that our actions and behaviors are maintained at the highest possible standards.

The Pharmacy faculty, believing that self-governance should begin during the student years, adopted this Conduct Policy. As a condition of admission to the College of Pharmacy (“College”), therefore, each student must sign a pledge stating that he or she understands the Conduct Policy and agrees to abide by its principles. Students are also required to sign pledges for all examinations, attesting that they have neither given nor received help on the examination. Similar pledges may also be required for other class work at the discretion of the instructor.

All members of the College community, including students, staff and faculty members, have a responsibility to report student behavior that violates this policy, as outlined in Section II of this policy. Conversely, intentionally making false accusations can have a negative impact on the individuals involved and the community. Anyone who knowingly and intentionally files a false complaint against a student under this policy is subject to discipline.

SCOPE OF POLICY

The Conduct Policy applies to all students enrolled in the College of Pharmacy including programs, events and activities affiliated with, sponsored by or sanctioned by the College of Pharmacy. In addition, the Conduct Policy covers all student nonacademic and extracurricular activities regardless of whether the activity takes place on or off campus that have an adverse impact on the University, the College of Pharmacy, faculty, staff, students, patients, or clinical staff; or on the student’s fitness for continued enrollment in the College of Pharmacy; or on the student’s fitness for the pharmacy profession.

Students in the College of Pharmacy are also required to comply with the University Statement of Student Rights and Responsibilities:

<http://www.oscr.umich.edu/statement/>

Rackham graduate students must also comply with all Rackham conduct policies that apply to graduate students:

http://www.rackham.umich.edu/policies/academic_policies/

Any questions regarding the Conduct Policy should be addressed immediately to relevant faculty or the Associate Dean of Student Services. Any questions regarding the meaning of any provision of this Conduct Policy will be decided by the Dean of the College of Pharmacy. The Dean’s decision as to any questions of interpretation is final.

I. DEFINITIONS OF UNACCEPTABLE STUDENT CONDUCT

Enrollment in the College of Pharmacy carries obligations concerning conduct, inside and outside the classroom. Students entering the profession of pharmacy or a career in research are expected to have the highest standards

of personal integrity and to conduct themselves in a manner that is a credit to themselves, the College, and the profession.

Students are subject to all reasonable regulations and rules set forth by the College. Students are responsible for becoming thoroughly familiar with all College policies and procedures including, but not limited to, this Conduct Policy, and obtaining clarification of policies that are unclear. Concerns about any College policy should be brought to the appropriate faculty member or to the College Executive Committee.

The following behaviors are examples of violations of the Conduct Policy. This list is not intended to be an all-inclusive list of behaviors that violate basic ethical standards expected of College of Pharmacy students. In addition, attempts at misconduct as well as completed acts are violations of the Conduct Policy.

A. Academic Dishonesty. Deception is contrary to the high standards of personal conduct described above. A student who engages in any form of academic dishonesty is subject to disciplinary action by the College. The College has adopted the following definitions for the most common forms of academic dishonesty.

1. **Cheating.** Using unauthorized notes, study aids, or information from another student or students' paper on an examination.
2. **Plagiarism.** Submitting a piece of work that in part or whole is not the student's own, without attributing the quoted portions to their correct sources.
3. **Fabrication.** Presenting data in a piece of work that were not gathered in accordance with the guidelines defining the appropriate methods of collecting or generating data, and failing to include a substantially accurate account of the method by which the data were collected or generated.
4. **Aiding or abetting dishonesty.** Providing material or information to another person with the knowledge that the material or information will be used improperly.
5. **Violating instructions regarding completion of assignments.** Although independent study is recognized as a primary method of effective learning, at times students benefit from studying together and discussing home assignments and laboratory experiments. When any material is to be turned in for inspection, grading or evaluation, it is the responsibility of the student to ascertain what cooperation between students, if any, is permitted by the instructor.

B. Professional Misconduct

1. **Falsification of records and official documents.** Without proper authorization, altering documents affecting academic records, forging signatures of authorization or falsifying information on an official academic document, election form, grade report, letter of permission, petition, clinical record or any other official College or University document.
2. **Providing professional care in an unsafe or harmful manner.**
 - Acting without demonstrated competence or without the guidance of a qualified person in the provision of a recommendation to a patient or health care provider.
 - Willfully or intentionally doing physical and/or mental harm to a patient/client.
 - Exhibiting careless or negligent behavior in connection with the care of a patient/client.

- Refusing to assume the assigned and necessary responsibility for care of a patient/client and failing to inform the instructor so that an alternative measure for that care can be found.
 - Working outside of one's professional boundaries as defined by state or federal statutes
3. **Disrespecting the privacy of a patient/client.**
- Using sufficient information about a patient (e.g. full name, last name, or position) in written assignments and/or patient data of any sort (e.g. computer generated forms that will be removed from the clinical area), such that the patient could be identified
 - Discussing confidential information in inappropriate areas, such as elevators.
 - Discussing confidential information about a patient with third parties who do not have a clear and legitimate need to know.
 - Violation of the Health Insurance Portability and Accountability Act of 1996 (HIPAA).
 - Referencing patients, or patient-related or other confidential information on social networking sites or other public forums.
4. **Falsifying patient records or fabricating professional care or patient experiences.**
5. **Failing to report omission of or error in treatment or medications.**
6. **Drugs and alcohol.**
- Using, possessing, selling or distributing illicit drugs; illegally using, selling, possessing, or distributing and drugs or alcohol; or using prescribed, over the counter, or illicit substances in such a manner as to impair one's judgment or performance as a pharmacy student, including being in an educational or clinical setting under the influence of alcohol, illegal drugs, or prescribed drugs inconsistent with the prescribed use.
 - Concerns of alcohol abuse or abuse of other controlled substances, as well as behavior that impairs a student's ability to meet professional standards over time, or disturbing or threatening behavior, should be reported to the Associate Dean of Student Services. This report can be made using the Notice of Professional Concern described later in this policy. Such conduct may lead in an investigation and/or action taken pursuant to the Code of Conduct.
 - The University of Michigan has policies regarding the use of alcohol and other drugs and these policies are in effect for students:
<http://www.umich.edu/~spolicy/studentalcoholdrug.html>
 - The University also has policies in force for student organizations:
<http://studentorgs.umich.edu/guidebook/policies/alcohol>
- C. **Commission of a Crime.** Engaging in illegal activity that would impact the student's ability to obtain or maintain a professional license or employment in the fields of pharmacy and research. The results of criminal proceedings will not be determinative of proceedings under this Conduct Policy.
- D. **Violating Computer Use Policies.** Violating the University's Information Technology Policies and Guidelines that defines proper and ethical use of computers and electronically stored data is a violation of this Code of Conduct.

E. Other Professional Misconduct. Student pharmacists are expected to abide by the American Pharmaceutical Association (APhA) Code of Ethics for Pharmacists which forms the basis of the roles and responsibilities of pharmacists. Violation of the APhA Code of Ethics includes the following:

1. **Disrespect or disregard for the covenantal relationship between the patient and pharmacists.**
 - A pharmacist has moral obligations in response to the gift of trust received from society. In return for this gift, a pharmacist promises to help individuals achieve optimum benefit from their medications, to be committed to their welfare, and to maintain their trust.
2. **Failure to promote the good of every patient in a caring, compassionate, and confidential manner.**
 - A pharmacist places concern for the well-being of the patient at the center of professional practice, and considers needs stated by the patient as well as those defined by health science. A pharmacist protects the dignity of the patient by focusing on serving the patient in a private and confidential manner.
3. **Failure to respect the autonomy and dignity of each patient.**
 - A pharmacist promotes the right of self-determination and recognizes individual self-worth by encouraging patients to participate in decisions about their health and, in all cases; a pharmacist respects personal and cultural differences among patients.
4. **Failure to act with honesty and integrity in professional relationships.**
 - A pharmacist has a duty to tell the truth and to act with conviction of conscience. A pharmacist avoids discriminatory practices, behavior, or work conditions that impair professional judgment, and actions that compromise dedication to the best interests of patients.
5. **Failure to attain and maintain professional competence.**
 - A pharmacist has a duty to acquire and maintain knowledge and abilities as new medications, devices, and technologies become available and as health information advances.
6. **Disrespect or disregard of the values and abilities of colleagues and other health professionals.**
 - When appropriate, a pharmacist asks for the consultation of colleagues or other health professionals or refers the patient and acknowledges that colleagues and other health professionals may differ in the beliefs and values they apply to the care of the patient.
7. **Disregard of or failure to serve the needs of individual patients, community, and society.**
 - The primary obligation of a pharmacist is to individual patients. However, the obligations of a pharmacist may at times extend beyond the individual to the community and society. In these situations, the pharmacist must recognize the responsibilities that accompany these obligations and act accordingly.
8. **Failure to maintain a fair and equitable distribution of health resources.**
 - When health resources are allocated, a pharmacist distributes those resources to patients in a manner that is fair and equitable; balancing the needs of patients and society.

- F. Disruptive behavior.** Disruptive behavior includes conduct such as obstructing or disrupting classes, team projects, talks, presentations, or other activities or programs of the College or other parts of the University and obstructing access to College community assets or to similar resources in other parts of the University. Excluded is any behavior protected by the University's policy on "Freedom of Speech and Artistic Expression." Students will treat fellow University of Michigan students, faculty and staff with respect and in a civil manner. Incivility is not considered to be professional behavior and is prohibited within this Code.
- G. Sexual and other unlawful harassment.** This conduct includes not only sexual or other unlawful harassment based on a person's identity or status, but also hazing, stalking, repeatedly sending e-mails, making phone calls or transmitting documents that are uninvited and unwanted, making threats, and any other wrongful conduct that seriously interferes with the work or study of any member of the school community, guest or any person with whom the offender is interacting in connection with any school program or activity. The University's definition of sexual harassment can be found at: <http://www.umich.edu/~spolicy/facstaffhass.html>
- H. Relationships with faculty and staff members.** Students should be cognizant of and abide by the University Policy on Faculty-Student Relationships. Romantic or sexual relationships between students and University faculty and staff are discouraged due to the negative consequences that often occur when such conduct takes place. The University of Michigan policy appears on the University website: <http://www.umich.edu/~spolicy/>
- I. Obstructing the investigation of a possible violation of this conduct policy.** Including intentionally and knowingly filing a false complaint; making dishonest or misleading statements; falsification of information; altering, destroying or deleting relevant documents, files or e-mails; violating the confidentiality of the process; or any other act that hinders an investigation.

II. REPORTING PROCEDURES

- A. Responsibilities for Reporting.** All members of the College community – faculty, administrators, staff and students – have a responsibility to report any reasonable suspicion that a student has violated this Conduct Policy. A report must be immediately made to the Associate Dean of Student Services. Anyone not sure of whether or not to report a suspicion should consult with the Associate Dean of Student Services before making a decision not to formally report the suspicious behavior.

All faculty members are required to report all incidents of academic misconduct (e.g., plagiarism, cheating, falsification of data, and violation of professional standards) that occur in their course to the Associate Dean of Student Services. The Associate Dean of Student Services will make a determination of next steps, including whether an investigation should be instituted by an Honor Council. A faculty member will not impose a sanction within the course without the approval of the Associate Dean. In general, issues relating to professional students will be handled initially by the Associate Dean of Student Services and issues relating to graduate or Bachelor students in Pharmaceutical Sciences will be handled by the Associate Dean of Research and Graduate Education. In such cases where the sanction is limited to penalties within the course, the matter is resolved. It is important that all faculty and staff members report all misconduct so that there can be fairness in the application of the Conduct Policy across the entire student body.

- B. Professionalism Concern Notice.** If a faculty or staff member or other individual who has contact with the student and observes a student exhibiting unethical behavior, as defined in this Code of Conduct, the concern should be brought to the course director/Director of Experiential Education who will then decide whether to formally submit a Professionalism Concern Note to the Associate Dean of Student Services. If the concern for substandard professionalism arises outside of a College of Pharmacy course, faculty or staff should also submit the Professionalism Concern Note directly to the Associate Dean of Student Services.

The purpose of a “Professionalism Concern Note” is to report instances or patterns of substandard professional behavior by a student pharmacist to the College Administration where the concern will be reviewed confidentially. The student may be referred to counseling or other formal intervention. Professionalism Concern Notes may result in a report of substandard professionalism in the student’s formal academic record.

The Associate Dean will review each Professionalism Concern Note. The student will be notified of the concern and required to meet with the Director of Experiential Education and/or Associate Dean for Student Services. Subsequently, a plan for addressing the behavior, and further counseling, remediation or formal action will be developed based on the seriousness of the concern. The Professionalism Concern Note will be placed in the student’s academic file. In general, the documentation for students with fewer than three Professionalism Concern Notes will be purged from their academic file at the point of graduation. However, in rare cases, due to the seriousness of the incident, the Professionalism Concern Note may become part of the student’s permanent record. Records of all Professionalism Concern Notes will also be maintained in a confidential, secure database. A student who has three or more Professionalism Concern Notes will be reported to the Honor Council for further action/recommendation. However, any Professionalism Concern Note may result in a recommendation for a hearing (see below) if the problem with professionalism is deemed serious enough by the Associate Dean responsible for this student.

The Professionalism Concern Note form can be found in the Appendix or on the College website at: http://sitemaker.umich.edu/etp/professional_concern_form

C. Professionalism Commendation Notice

A notice of professional commendation is also available to recognize outstanding professionalism by a student. More information about this can be found in the Professionalism Commendation Notice Policy.

III. INVESTIGATION AND RESOLUTION PROCEDURES

A. Intake Meeting.

1. The Associate Dean of Student Services will provide the accused student of notice of the allegation of misconduct within five University business days of receipt of the report alleging misconduct.
2. The Associate Dean of Student Services will meet with the accused student as soon as possible after the notice of alleged misconduct has been sent but no later than ten University business days. In this meeting, the Associate Dean of Student Services will (a) inform the student of the nature of the allegations; (b) explain the hearing process; and (c) explain the student’s options. As a result of this meeting the following outcomes are possible:

- A determination by the Associate Dean that NO infraction occurred and the matter is concluded; or
- A referral of the matter to the Honor Council; or,
- Acceptance of responsibility by the accused that includes acceptance of agreed upon sanctions determined by the Honor Council and Discipline Committee, in consultation with the appropriate Associate Dean.

B. Hearing¹. The hearing is conducted by a five-person Honor Council comprised of three faculty and two student representatives, drawn from a pool of student representatives trained in the hearing procedures. Hearings involving graduate students will utilize graduate student representatives and hearings involving Doctor of Pharmacy students will utilize Doctor of Pharmacy students as the student representatives on the Honor Council. The Honor Council will select one of the three faculty members to serve as chair. If a student has concerns about potential bias of a member of the Honor Council, the student can submit a written request to the Associate Dean for Student Services, with rationale, for substitution of another member. The Associate Dean will approve or disapprove the request and that decision is final.

The Hearing Procedures are as follows:

1. No later than ten University business days before the hearing, the accused student and the Associate Dean must submit to the Honor Council, in writing, all documents that each party would like the Honor Council to consider and a list of all relevant witnesses whom they would like to have submit testimony before the Honor Council. If the accused student intends to have a personal advisor accompany him or her, as outlined in subparagraph (7) below, the accused student must submit the name of the advisor and must state whether the advisor is an attorney.
2. No later than five business days before the hearing, the chair will provide each party with a hearing packet that includes all documentation that has been submitted for review by the Honor Council, the list of witnesses to appear, and information about the hearing, including the names of the panelists.
3. In addition to hearing testimony from the witnesses identified by the student and the Associate Dean for Student Services, the Honor Council may, at its discretion, hear testimony from any other party whose testimony it deems relevant to the proceeding, including other witnesses and, even if not a witness, the instructor of the course. The Honor Council may also review any other documents or evidence that it deems relevant to the proceeding.
4. The accused student will have an opportunity to appear before the Honor Council to present his or her case and remain present while all testimony and information is presented to the Honor Council. The accused student may review all documents considered by the Honor Council and may question witnesses who appear before the Honor Council. The accused student may also present his or her own evidence and witnesses.

¹ If the matter is referred for a hearing and the student is in a Rackham Graduate School Program, the appropriate Associate Dean will notify the Resolution Officer in Rackham's Graduate Student Affairs Office.

5. The Honor Council may conduct the hearing even if a party is absent and will make its findings and recommendations based on the information presented to the Honor Council.
6. The Honor Council may limit any testimony based on redundancy or lack of relevance.
7. The accused student may be accompanied at the hearing by a personal advisor, who may be an attorney. The advisor may not participate directly in the proceedings, but may only advise the accused student.
8. The hearing will be closed to the public and will be recorded. A party to the proceeding may request a copy of the recording. The Honor Council will deliberate in private. There will be no recording of the deliberations.
9. All recordings of proceedings will be controlled by the College of Pharmacy. No court reporters, stenographers, videographers, or similar professionals are permitted without the prior consent of the College of Pharmacy. Records and documents that are available in advance to all parties may be redacted to protect the privacy rights of individuals not directly involved in the hearing process.
10. The chair of the Honor Council will prepare a written report containing factual findings and stating any sanctions to be imposed. The vote of the majority of the members of the Honor Council, including the chair of the panel, will determine whether the student is found responsible or not responsible for the alleged violation and will recommend any sanctions. **A finding that the accused student is responsible for an alleged violation will be the sole discretion of the Honor Council if, based on the totality of the evidence presented, it is more likely than not that the violation occurred.** Sanctions will be determined by the Honor Council and reviewed by the Associate Dean of Academic and Faculty Affairs or Associate Dean of Research and Graduate Education (for graduate students) for appropriateness.
11. The Associate Dean's determination of action will be communicated in writing by the chair to the student both by e-mail to the student's University e-mail account and by the U.S. postal service to the local address on file in the School of Pharmacy's Registrar's office, with copies to the appropriate faculty member and appropriate Associate Dean. This will complete the process unless the student appeals the decision.
12. The decision of the Associate Dean is effective immediately. If an appeal is planned, the student has the option of asking the appropriate Associate Dean for a delay in implementation of the sanction until the appeal process is completed. The decision of the Associate Dean regarding a request for a delay is final.

IV. Appeals

Within five University business days of receiving the written notification of the Honor Council's decision from the Honor Council Chair, the student may submit a written appeal of the decision or the sanction (or both) to the Executive Committee. Appeals must be based on at least one of the following arguments:

- A. There were violations of procedure that seriously compromised the investigation and/or conclusions.
- B. The evidence clearly does not support the findings.

- C. The sanctions are excessive relative to the violation.
- D. There is significant new evidence not reasonably available at the time of the investigation.

The Dean will determine if the appeal meets the above conditions. If not, the Dean notifies the student within ten University business days and the matter is ended. If there is evidence that the appeal should be reviewed, the Executive Committee will review the written appeal. The Dean will issue a written report regarding the committee's decision within fourteen University business days of receiving the appeal. The decision of the Executive Committee is final and no further appeals are allowed.

V. SANCTIONS²

Each incident and each individual student is unique and all mitigating circumstances will be considered with each infraction. The following list is an example of the type of sanctions that may be imposed and it is not intended to be all-inclusive. In addition, a combination of sanctions may be imposed. Possible sanctions include:

- A. **Educational project.** Completion of a class, workshop or project to help the student understand why his or her behavior was inappropriate and/or how to avoid a future violation (e.g., a workshop on ethical behavior).
- B. **Service.** Performance of one or more tasks designed to benefit the school or the nearby community and to help the student understand why his or her behavior was inappropriate.
- C. **Warning.** Informing the student in writing that he or she has violated the code and that future violations will be dealt with more severely. The warning letter will be removed from the student's file at the time of graduation if there are no other incidents.
- D. **Grade change.** A lowering of the student's grade, possibly to "Fail" or assigning a grade of "Incomplete."
- E. **Additional course work.** The completion of additional course work or other educational or clinical experiences.
- F. **Formal reprimand.** A written reprimand to the student that she or he has violated the code and that any future violations will be dealt with more severely. A copy of the reprimand will be put in the student's academic file.
- G. **Disciplinary probation.** Designation of a period of time during which the student will not be in good standing with the College. The terms of the probation may involve restrictions of student privileges and/or may delineate expectations of behavior. Consequences may also be spelled out if the student fails to meet the terms. A record of the probationary period will be included in the student's academic file.
- H. **Transcript notation.** A notation on the student's transcript that a failing grade in a course was related to an academic honor code violation.

² In the case of Rackham graduate students, sanctions G–K may be recommended by the College of Pharmacy but can be imposed only by the Rackham Graduate School, after consulting with the College of Pharmacy.

- I. **Withholding a degree.** Withholding of the student's degree until stated sanction requirements have been met. There may be a deadline set for meeting the requirements which, if not met, will result in the student's loss of eligibility to receive the degree at any time in the future.
- J. **Suspension.** Temporary removal of a student from the program for a specified or unspecified period, which will be permanently noted on the transcript. There can be stipulated conditions for re-admission to the student's program as well as a time limit for meeting those stipulations.
- K. **Expulsion.** Permanent dismissal from the program, which will be permanently noted on the student's transcript, including the reason for expulsion.
- L. **Rescinding a degree**³. Annulment of a degree previously awarded by the College of Pharmacy. In addition, the College of Pharmacy may withhold a College of Pharmacy or Rackham degree or prevent registration until the hearing process or sanctions are satisfactorily completed
- M. **Removal from Educational or Clinical Site.** Student should also be aware that violation of these policies or those of clinical practice sites may result in the expulsion of the student from the practice site independent of the actions of the Honor Council by virtue of the policies of the practice site. Policies of the practice site may be stricter than what is contained in this Student Academic and Professional Conduct Policy.

VI. CONFIDENTIALITY AND FILE RETENTION POLICY

Members of the College community involved in any stage of the investigation and resolution process of this Conduct Policy are expected to maintain the confidentiality of the process and to respect the privacy interests of the participants and to avoid engaging in any unauthorized disclosure of information. Records created under this Conduct Policy are governed by the same confidentiality and file retention policies applicable to other student records.

VII. WAIVER OF DEADLINES

All deadlines may be waived, at the discretion of the Dean or appropriate Associate Dean, as provided for in this policy. Requests for extensions or waiver of deadlines should be submitted to the appropriate person, depending on the stage in the process. The Dean or Associate Dean on his/her own initiative or in response to a request of a party, alter deadlines when it is in the best interest of all parties to do so.

VIII. ACADEMIC CONSEQUENCES OF POLICY VIOLATION

Academic consequences beyond what is stated in this policy could occur from unprofessional behavior by students. As stated earlier, a clinical site may ban a student from the institution for violation of policy. Violations of the Conduct

Policy could have a negative effect on a student's course grade which may trigger action by the Committee on Academic Standing or Progressions Committee independent of the actions of the Honor Council.

³ In the case of an alumnus/alumna who earned his/her graduate degree in a College of Pharmacy graduate program, the College of Pharmacy may request that the Rackham Graduate School rescind the graduate degree. Only the Rackham Graduate School may rescind a Rackham graduate degree.

Academic and Professional Conduct Policy adopted by the College of Pharmacy, effective September 1, 2011

COMPLAINTS AND GRIEVANCES

The College has a number of mechanisms by which students are able to voice their concerns including personally contacting a faculty or staff member or one of the Associate Deans. In addition, the College has a website site that allows students to provide feedback regarding general areas and the information is then routed to the appropriate person to respond. You can access this system the College website: current students\comments and feedback. Please note you do not need to use this approach but it may be handy in cases in which you are unsure who to contact. Please note you can use this site to provide anonymous feedback. Additional mechanisms for providing feedback include the Annual Town Hall Meetings, End of Semester Student Feedback Sessions and the P4 Exit Interviews. If however, you feel you have concerns regarding the discrimination, research misconduct, failure to accommodate verified disabilities, violations of College or University Policy or a violation of ACPE accreditation standards please use the formal Grievance Policy and Procedure listed below.

GRIEVANCE POLICY AND PROCEDURE

The purpose of the Student Grievance Policy is to provide a mechanism for objective internal review of faculty and staff actions. Students should use this Policy to address the following concerns/issues:

1. Discriminatory⁴, unfair, arbitrary or capricious treatment by faculty or staff.
2. Research misconduct or plagiarism by faculty or staff.
3. Failure to accommodate verified disabilities.
4. Violation of College, or University Policy (e.g., student records policy).
5. Violation of ACPE accreditation standards

Generally, a student's disappointment or disagreement about a grade or course placement is not a grievable matter unless the student brings forth specific information in support of the grounds for grievance listed above.

Graduate Pharmacy students who are enrolled in the Horace H. Rackham School of Graduate Studies may use either the Grievance Process provided by the Graduate School or the College of Pharmacy Grievance Policy. Students enrolled in courses in other schools and colleges should utilize the grievance process within those respective units if there is a grievance regarding courses in those schools.

⁴ Students may also choose to pursue claims of unlawful discrimination or harassment in compliance with the University's Nondiscrimination Policy Statement:

"The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of Michigan is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status in employment, educational programs and activities, and admissions. Inquiries or complaints may be addressed to the Senior Director for Institutional Equity, and Title IX/Section 504/ADA Coordinator, Office of Institutional Equity, 2072 Administrative Services Building, Ann Arbor, Michigan 48109-1432, 734-763-0235, TTY 734-647-1388. For other University of Michigan information call 734-764-1817."

In cases where a student's complaint or grievance may be heard or reviewed in more than one University forum, the student may have the matter heard or reviewed in one forum of his/her choice.

Several general guidelines apply to student grievances:

1. Every effort should be made to resolve disputes at the earliest possible step in the grievance procedure.
2. Grievances should be filed as soon as possible following the action or decision from which the grievance derives.
3. Documentation of grievances should include all pertinent information that supports the grievance.

Students who wish to file a grievance about an action or decision of a College of Pharmacy faculty or staff member shall take the following steps:

Step 1. The student should schedule an appointment with the faculty or staff member involved in the decision or action in question and discuss the matter with the faculty or staff member, within 10 University business days after the incident or decision in question. Most disputes should be resolved at this level, following thorough discussion of the issues by those involved.

Step 2. If the matter is not resolved at Step 1 or the student determines that Step 1 is not appropriate for the particular issue, then the student should meet with the Associate Dean of Student Services who will attempt to resolve the matter informally.

Step 3. If the matter remains unresolved, then the student may file a written grievance to be heard by an ad hoc Grievance Committee appointed by the dean. If a formal grievance is filed, then the following procedures will apply:

Step a: Written Grievance The Written Grievance initiates the Formal Grievance Process. The student must submit a written grievance to the Student Services Office requesting a grievance hearing. The Written Grievance must be submitted within 20 University business days following the date of the incident in question.

Step b: Respondent's Statement The Respondent must submit a written response to the Student Services Office within 10 University business days after notice of the Written Grievance.

Step c: Grievance Hearing The grievance hearing will be scheduled by the Student Services Office within 30 University business days after receiving the respondent's written statement. Ten University business days before the hearing, all parties will submit all relevant documentation to the Student Services Office, who will prepare this for distribution to the hearing panel and the parties. The hearing panel will be comprised of two faculty members and one student. One of the faculty members will serve as chair of the committee. The grievant may call relevant witnesses during the hearing to provide testimony about the matter. The involved faculty or staff member will also provide testimony and relevant witnesses during the hearing. Each party may invite an advisor to the hearing, however, the role of the advisor is to support and advise the grievant, not participate in the proceedings. Parties must provide the name of the advisor to the chair of the hearing panel, including whether the advisor is an attorney.

Step d: The Findings

Within 5 University business days following the Grievance Hearing, the grievance panel will issue its findings and make recommendations for resolution to the appropriate associate dean. Within 5 University business days, the appropriate associate dean will inform the parties, in writing, of the grievance panel's decision and the associate dean's decision on the appropriate action to have the matter resolved.

Step e: Students or respondents may appeal in writing the outcome to the Executive Committee (see appeals process). All appeals must be submitted to the Dean's office within 10 University business days after receiving the outcome letter from the associate dean.

Grievance policy updated 081511

**GRIEVANCE PROCEDURE FOR THE ACCREDITATION COUNCIL FOR PHARMACY EDUCATION
ACCREDITATION STANDARDS**

Any student may bring a grievance or complaint in reference to the Accreditation Council for Pharmacy Education (ACPE) accreditation standards. The ACPE, as directed by the U.S. Department of Education, requires that any student complaint lodged against the College of Pharmacy, or the pharmacy program, alleging a violation of the ACPE Accreditation Standards should be submitted in writing to the Student Services Office. The Accreditation Standards ("Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree," adopted June 14, 1997) can be found in the publications section of the American Association of College's of Pharmacy (AACP) accreditation Website at: <http://www.acpe-accredit.org/>. The College of Pharmacy Student Grievance Policy and Procedures should be used to file such complaints.

Accreditation Council for Pharmacy Education Grievance policy updated 081511

CRIMINAL BACKGROUND CHECK POLICY AND PROCEDURES FOR DOCTOR OF PHARMACY STUDENTS

Introduction and Rationale

The University of Michigan, College of Pharmacy has developed a policy on Criminal Background Checks for Doctor of Pharmacy students as they will be in contact with "vulnerable populations" during the course of their educational experiences. This policy was established to comply with emerging accreditation standards from the Accreditation Council for Pharmacy Education (ACPE) and to promote the highest level of integrity in the health professions. The goal is to protect the safety and well-being of patients in settings where students perform educational experiences.

In addition to this policy and procedure students are required to have a valid Michigan pharmacy intern license (http://www.michigan.gov/documents/mdch_pharmacist_edu_lmt_app_pkt_97802_7.pdf).

The process of securing a valid intern license requires that students undergo fingerprinting and submit to a criminal background check that is separate from that outlined in the policy outlined below. A current list of relevant crimes and offenses that may prohibit a person from becoming a licensed health care professional in the State of Michigan are available in the "Legal Guide" posted at <http://www.miltcpartnership.org/MainSite/W1.aspx>. The Criminal Background Check required by the College of Pharmacy cannot be used for purposes of obtaining an intern license (i.e., both background checks are required). Moreover, matriculation into the Doctor of Pharmacy

Program at the University of Michigan College of Pharmacy does not guarantee, in any way, the ability of an individual to obtain a valid intern license or future pharmacy license.

Note that although the College of Pharmacy works with its affiliated experiential practice sites regarding student requirements, facilities may have additional requirements for criminal background checks which go beyond that required by the College or the State. In order for students to have educational experiences at these sites, they would be required to meet the site specific requirements, as well as the College and State requirements.

Policy

The University of Michigan College of Pharmacy requires that students offered admission to the Doctor of Pharmacy program undergo a criminal background check from a designated vendor prior to matriculation into the program. The criminal background check is not a component of the application, interview or decision making process, but rather a mandatory component of the post-acceptance matriculation process. In addition, students will be required to update their criminal background check following completion of the P3 academic year-- prior to beginning advanced pharmacy practice experiences during the P4 year.

The vendor will provide the results of the criminal background checks directly to the individual students. Students will be given the opportunity to respond/comment or dispute any report stating they have a criminal background. Following the review, the student will be required to release the results of the criminal background check to the College of Pharmacy. If the student does not release the results of criminal background check within 10 days it will automatically be released to the College per the permissions and disclosures agreement.

Experiential sites/facilities may request information regarding a student's criminal background history before agreeing to host the student at the given practice site. In this situation, the student will be notified and given the opportunity to directly release the information to the site (via their access to the information) or will sign a release giving the College of Pharmacy the authority to provide the site with this information. Some facilities may have additional requirements which the student must comply with in order to have an educational practice experience at the given site.

Ultimate decisions regarding matriculation of a given student whose criminal background check reveals information of concern will be made by a subcommittee of the Committee on Academic Standing based on state requirements for health care professionals, University of Michigan Health System policies and procedures, as well as requirements at affiliated practice facilities.

A final decision regarding matriculation will only be made after careful review, based on institutional policies and procedures, the individual's file and information from the criminal background check. Several factors will be considered in this process including the nature, circumstance and frequency of any offense or offenses; the length of time since the offense; documentation of successful rehabilitation; and the accuracy of information provided by the applicant in his/her application. When making a decision the following will also be considered: (a) potential threat to patients; (b) potential threat to school or community at large; (c) ability to complete clinical rotations due to site requirements; (d) eligibility for licensure; (e) appropriateness to become a member of the pharmacy profession; and (f) and State as well as Federal law, if applicable.

If requested, a copy of the student's criminal background check will be provided to the State of Michigan Board of Pharmacy.

All criminal background data will be maintained in a secure place in the Office of Student Services to assure confidentiality.

Procedures

(1) Consent for Criminal Background Check

For Students Being Admitted to the College: After students have completed the application process and have been notified of an offer for admission to the College of Pharmacy, they will be asked to submit information to an outside vendor to facilitate the criminal background check.

The outside vendor will secure relevant data regarding student admissions status from PharmCAS per the AACP/PharmCAS National Criminal Background Check Program. The vendor will subsequently send the student an email requesting them to initiate the process. Students will be required to complete the release and consent form.

For Students Matriculating from P3 to P4 Year: Students who have completed the third year of the Doctor of Pharmacy program will be asked to complete an additional criminal background check. The College of Pharmacy will provide the outside vendor with student email addresses. Subsequently, the vendor will send the student an email requesting them to initiate the process. Students will be required to complete the release and consent form.

Students are expected to incur all fees associated with the request for the criminal background check.

- (2) Applicant data and social security number verification will be performed by the vendor conducting the criminal background check.
- (3) The vendor will perform the criminal background check by searching (a) county criminal records; (b) Statewide criminal records; (c) Federal criminal records; (d) National criminal database; (e) sex offender registration databases; (f) the vendor's propriety database of sanctions and disciplinary actions taken by state and federal authorities/boards; (g) military service discharge records; and (h) International records if applicable.
- (4) Distribution of results:
Student: The student will be notified by email that the criminal background check is complete. At that time students will be instructed to review the information, comment on it/dispute the information and/or release it to the College of Pharmacy. The results of the criminal background check will automatically be released to the school 10 days following student notification. Note that at any time students can request a copy of the report so they can send it to a third party (e.g., employer, etc.), if necessary.

Delivery of Results to College of Pharmacy: The results of an individual's criminal background record will be delivered to the College via a secure website once the student releases the report to the College or 10 days have passed since the report was released from the vendor to the student.

(5) Review of Criminal Background Check Information:

Information will be reviewed by staff in the Office of Student Services. If the criminal background check identifies student criminal conduct, the case will be referred to a subcommittee of the Committee on Academic Standing.

The subcommittee of the Committee on Academic Standing will conduct a careful and thoughtful case by case review of any situation involving student criminal behavior discovered by the criminal background check. This review and recommendation regarding continued matriculation will be based on institutional policies and procedures, the individual's file including information from the criminal background check. Several factors will be considered in this process including the nature, circumstance and frequency of any offense or offenses; the length of time since the offense, documentation of successful rehabilitation, and accuracy of information provided by the applicant in his/her application. When making a decision, the following general issues will be considered: (a) potential threat to patients; (b) potential threat to school or community at large; (c) ability to complete clinical rotations; (d) eligibility for licensure; (e) appropriateness to become a member of the pharmacy profession; and (f) State, as well as Federal law, if applicable.

The committee will subsequently submit a written recommendation regarding action to the Associate Dean for Academic Services. The recommendation will include information regarding the criminal behavior, the process taken by the committee, the recommendation and the basis for the recommendation.

The student has the right to appeal the process using the standard College appeal process through the Executive Committee.

- (6) Experiential practice sites/facilities may require students complete a criminal background check. The site will be informed of the College's policy and procedure. If the site wants documentation regarding an individual student's information, the student will be contacted and asked to provide the site with access to the information. If the site/facility has additional requirements beyond those performed by the College of Pharmacy, the student will be required to meet these requirement prior to placement at the given facility/site.

Policy approved XXX

DRESS AND APPEARANCE POLICY

Students participating in professional practice experiences are expected to adhere to acceptable standards of personal hygiene and grooming, as well as ensure that clothing is appropriate to the training site and assists the site in maintaining a professional image. The ETP has adopted the dress and appearance policies and procedures established by the University of Michigan Hospitals and Health Centers and the University of Michigan Health System Department of Pharmacy Services (available on the ETP Web site or on request from the Experiential Training Office). However, students must be aware that individual training sites and/or preceptors may have dress and appearance requirements that differ from the specific standards outlined in these policies and procedures.

Students also are expected to wear their College of Pharmacy name badge during all professional practice experiences.

During each year of the Doctor of Pharmacy curriculum, students are required to sign a statement indicating their understanding of, and intention to comply with, the dress and appearance policies and procedures.

EQUAL OPPORTUNITY/NONDISCRIMINATION

The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of Michigan is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status in employment, educational programs and activities, and admissions. Inquiries or complaints may be addressed to the Senior Director for Institutional Equity, and Title IX/Section 504/ADA Coordinator, Office of Institutional Equity, 2072 Administrative Services Building, Ann Arbor, Michigan 48109-1432, 734-763-0235, TTY 734-647-1388. For other University of Michigan information call 734-764-1817.

EXAM DEFERRAL

Students are expected to take all exams and quizzes on time (per course syllabi); however, the faculty and administration realize that circumstances occasionally arise that may interfere with a student's ability to take an exam or a quiz as originally scheduled. The guidelines listed below are designed to address such situations.

Except in the case of emergencies, deferrals are not assured. In emergency situations students are required to follow the procedure outlined below under "Emergency Deferral." In non-emergent cases, students should request a deferral from the Associate Dean at least two weeks in advance, provide a compelling reason for the request and include the appropriate documentation.

Students may request an exam deferral for any of the reasons outlined below. When a deferral request is made, the student must explain the reason for their request and follow the guidelines outlined below (see Planned Deferral). Note: in some courses it is not possible to defer an exam.

Potential reasons for deferring an exam:

Emergency : situations that cannot be foreseen, such as:

- a) Illness
- b) Death of a family member or close friend
- c) Family emergencies (e.g., serious, unexpected illness of immediate family member or spouse)
- d) Birth of the student's child
- e) Personal emergencies or traumas (e.g. automobile accident/emergency surgery)

Planned Absence: non-emergent cases, such as:

- a) Pharmacy or other professional conference attendance
- b) National pharmacy student organization meetings/events
- c) Religious holidays or other religious obligations (see UM policy on religious observation)
- d) Major personal or family events (e.g. weddings of family members, life events)

Procedures for deferral**1. Emergency Deferral**

If there is an emergency as described above, the student must notify the Associate Dean for Student Services (or Associate Dean for Academic Affairs if the Associate Dean for Student Services is unavailable) as soon as possible, but **no later than 5 pm the day after the quiz/exam**. The expectation is that if the reason falls into one of the emergency categories listed above and that the deferral will be granted. Note that in the event of illness, the Associate Dean will require a student to obtain medical attention and bring in verification from the health care provider.

2. Planned Deferral

In all other situations, deferral requests must be approved by the Associate Dean **prior** to the quiz/exam. The expectation is that deferrals for these planned events will be arranged well in advance. **Requests must be made at least two weeks in advance of the scheduled exam.** The student should come to the Office of Student Services and fill out a deferral form or fill out an electronic request via email. This form must then be submitted to, and approved by, the Associate Dean. It is the student's responsibility to initiate this process in a timely manner. If the form is not approved in advance, deferral of the exam will not be allowed. Planned exam deferrals are not assured. Students should contact the Associate Dean as early as possible so the arrangements can be considered. Students should be in good academic standing in all current classes to be

considered for a planned exam deferral. In most situations, it is not possible to schedule an exam earlier than stated in the course syllabus.

Additional Exam Deferral Information

Students who are allowed to defer an exam are expected to take the exam at the established makeup time. The Associate Dean will advise students of available times and dates for the makeup exam.

While there is no absolute limit on the number of deferrals any student will be allowed. Deferrals are the exception and the number of requests made by each student will be carefully scrutinized. The Associate Deans monitor all deferral requests and meet with students who request deferrals.

Being unprepared or oversleeping are not considered acceptable reasons to defer an exam, although extenuating circumstances are always considered on an individual basis. If a student disagrees with the Associate Dean's decision about a deferral, he or she may submit a written appeal to the Executive Committee.

Requesting a Quiz/Exam Deferral

For emergencies, call Associate Dean for Student Services Nancy Mason at 734-763-4981 or email nmason@umich.edu. If the Associate Dean for Student Services is unavailable, email Associate Dean Bruce Mueller, muellerb@umich.edu or call 734-763-6629. In the event neither is available call the Office of Student Services, 734-764-7312. If the emergency meets the stated criteria, the deferral will be approved. The Associate Dean will contact students with makeup instructions. For non-emergencies, the deferral request form should be completed and submitted to the Associate Dean at least 2 weeks in advance. For special situations, please contact the Associate Dean well in advance to discuss those circumstances.

FACULTY-STUDENT RELATIONSHIPS POLICY AT THE UNIVERSITY OF MICHIGAN

Faculty-Student Relationships. The teacher-student relationship lies at the foundation of the educational process. As a matter of sound judgment and professional ethics, faculty members have a responsibility to avoid any apparent or actual conflict between their professional responsibilities and personal relationships with students.

Romantic and/or sexual relationships between a faculty member and a student have the potential to pose risks to the faculty member, the student, or third parties. For a variety of reasons, the University strongly discourages romantic and/or sexual relationships between faculty members and students.

In spite of these warnings, the University recognizes that sometimes such relationships occur. If a romantic and/or sexual relationship occurs or has occurred between a faculty member and a student for whom the faculty member has supervisory responsibility, an inherent conflict of interest arises. When a conflict of this nature occurs, the faculty member must disclose the relationship to an appropriate administrator so that a resolution to the conflict can be sought.

This policy applies to any University or University-sanctioned teacher, mentor, or supervisor of students. This includes, but is not limited to, regular instructional faculty, clinical faculty, supplemental and research faculty, postdoctoral fellows, graduate student instructors, graduate student research assistants, preceptors, and graders.

HIPAA

During the course of their training at The University of Michigan College of Pharmacy, Doctor of Pharmacy students will have access to confidential information in oral, written, or electronic formats. This information may pertain to patient care or to financial, business, scientific or research matters.

Students may become aware of confidential information because it is part of their training responsibilities, or they may encounter it unintentionally through their association with a training site. The University of Michigan College of Pharmacy and its experiential training sites expect that students will exercise due care in any discussion, access, storage, interpretation, release, or handling of confidential information. For example, patient information should not be discussed in public areas or with friends or family members. Passwords for computer systems must not be shared. Students using computers in open areas on inpatient units and in ambulatory care clinics should minimize patient information screens to the task bar, sign off, or use other technology to minimize the risk of unauthorized access. (These examples are not all-inclusive.)

In all practice settings, confidential information may be accessed only by students having a job-related “need to know” (meaning that the specific information is necessary for the student to perform his or her appointed duties). Students cannot access information about family, friends, employees, or any other person without explicit permission. Confidential information may be released only by authorized employees, and then only in accordance with existing policies.

Any student who voluntarily allows or participates in inappropriate access and/or dissemination of confidential information may be subject to immediate disciplinary action, up to and including expulsion. Students are encouraged to report known or suspected violations of confidential information.

All Doctor of Pharmacy Students receive instruction in Health Insurance Portability and Accountability Act of 1996 (HIPAA) regulations, as required by the University of Michigan and the University of Michigan Health System.

During each year of the Doctor of Pharmacy curriculum, students are required to sign a statement indicating their understanding of, and intention to comply with, confidentiality policies and procedures.

HEALTH INSURANCE

The tuition at the University of Michigan includes a health service fee that funds the University Health Services (UHS) located at 207 Fletcher Street. As long as students are enrolled, they and their spouses, dependents and domestic partners are eligible for services at UHS. Services free of charge include: clinic visits (e.g., medical clinics, gynecology, specialty clinics, and nurse visits), eye care for medical problems, physical therapy, x-rays and most laboratory tests.

UHS may bill a student’s health insurance company for services that are not covered under health service fees. Medications, immunizations, allergy antigens, routine eye exams and other services will be billed. Call 734-764-8325 to schedule an appointment. Walk-in appointments are also available.

For more information on the services provided and recommended health insurance, please visit the Health Service website: www.uhs.umich.edu/

Although the University of Michigan’s University Health Service can serve many of the routine health care needs of students in the College of Pharmacy, all Pharm.D. students must verify that they have adequate health insurance

to cover both inpatient and outpatient care in the Ann Arbor area. In addition, the coverage should include all other communities in the U.S. where experiential rotations may be scheduled. Travel insurance is available through the University at a nominal cost to cover students completing rotations and is required for all students completing international rotations (<http://www.uhs.umich.edu/tai/>).

Students who do not have health insurance will be held personally responsible for treatment costs, including charges such as emergency room care, prescription medications, ambulance services, hospitalization, and fees from other health care facilities.

Information about the student health insurance plan endorsed by The University of Michigan can be found at: <http://www.uhs.umich.edu/insurbill/msa.html>

IMMUNIZATIONS AND TUBERCULIN SKIN TESTING REQUIREMENTS

Students enrolled in The University of Michigan College of Pharmacy must provide written documentation of certain immunizations or proof of immunity before they will be permitted to participate in introductory or advanced practice experiences.

A “Record of Required Immunizations” must be submitted once by all Doctor of Pharmacy students. The form becomes part of the student’s permanent College of Pharmacy record and may be shared, upon request, with the student’s rotation and other community placement sites. Students who already have documentation of the required immunizations may attach a copy to the “Record of Required Immunizations” (in lieu of having the “Record” filled out by a health care provider) if the existing documentation contains *all* of the required information and was certified by a licensed health care provider.

Additionally, the “Record of Influenza Vaccine” must be submitted *annually* in the fall semester.

Students who are allergic to a vaccine ingredient, or who have a medical condition which prevents the administration of a vaccine, must attach a health care provider’s note to their Immunization Record form.

All expenses associated with these requirements are the responsibility of the student.

Specific Immunization Requirements

1. All students born after 1956 are required to document immunization with measles, mumps, rubella (MMR) vaccine (administered as two doses) or serologic evidence (i.e. a titer test) of immunity to measles, mumps, *and* rubella.
2. All students are required to document immunization with live-virus varicella zoster vaccine series (administered as two doses) or serologic evidence (i.e. a titer test) of immunity to varicella. **Documentation of prior infection with chicken pox is not sufficient.**
3. All students are required to document completion of the hepatitis B vaccine series or serologic evidence (i.e. a titer test) of immunity to hepatitis B. The vaccination series for hepatitis B is given in three steps over a period of 6 months. Students are encouraged to begin this series as soon as possible after enrolling in the College of Pharmacy and plan to finish during the first (P1) year.

4. All students are required to document completion of one **adult dose** of the tetanus-diphtheria-pertussis vaccine called Tdap. **Childhood immunization with DTaP is not sufficient.**
5. All students will be required to obtain an **annual** influenza vaccine (i.e. “flu shot”). The “Record of Influenza Vaccine” must be submitted each year during the fall semester.
6. Although documentation is not required, all students should have received a polio vaccine (primary series completed) prior to entering the College of Pharmacy.

Tuberculosis Testing

Students enrolled in The University of Michigan College of Pharmacy must undergo annual tuberculosis testing before they will be permitted to participate in introductory or advanced practice experiences. **This requirement includes students who may have been immunized with the BCG vaccine.**

Students who have a positive skin test, or a history of a positive test, must be evaluated via chest x-ray and/or physical examination each year to rule out active disease and assess the potential need for drug therapy. Even if no testing or chest x-ray is performed, the form must be signed by a healthcare provider indicating that the student is approved to work in the healthcare environment.

A “Record of Tuberculin Skin Testing” must be submitted by all Doctor of Pharmacy students **annually**. The form becomes part of the student’s permanent College of Pharmacy record and may be shared, upon request, with the student’s rotation and other community placement sites. Students who already have documentation of the required testing may attach a copy of those documents to the “Record of Tuberculin Skin Testing” (in lieu of having the “Record” filled out by a health care provider) if the existing documentation contains *all* of the required information and was certified by a licensed health care provider.

All expenses associated with required testing and immunizations are the responsibility of the student.

PROFESSIONAL LIABILITY INSURANCE

Professional liability insurance (malpractice insurance) covers the student in cases of professional negligence that results in injury to a patient.

Students enrolled in the Doctor of Pharmacy program are covered under a University of Michigan policy for claims that may arise pursuant to their participation in introductory and advanced practice experiences, because these activities are approved courses of study conducted under the auspices of the University. The policy provides "occurrence coverage," which protects students for covered incidents regardless of when the claims are filed. However, the coverage does **not** extend to any paid or volunteer work in which the student may engage outside of the College's Experiential Training Program.

Students who wish to obtain their own professional liability insurance are encouraged to seek policies that provide occurrence coverage with minimum limits of \$1 million per incident/\$3 million annual aggregate. Low-cost policies also can be purchased through the American Pharmacists Association (APhA), the Michigan Pharmacists Association (MPA), and other professional associations or from insurance companies directly.

PROFESSIONAL COMMENDATION NOTE PROCEDURE

Professional Behavior

In conferring the Pharm.D. degree, the University of Michigan certifies that the graduate is competent to undertake a career as a pharmacist. It also certifies to competency in pharmaceutical knowledge and skills, and that the graduate demonstrate those traits essential to the profession of pharmacy which include:

- *Altruism* is putting the best interest of patients above self-interest
- *Accountability* is required at many levels—individual patients, society, and the profession.
- *Compassion* is to be disposed to see, as well as feel, what a trial, tribulation, or illness has wrought in a patient’s life.
- *Duty* is the free acceptance of a commitment to service. This commitment entails conscientiousness in fulfilling one’s responsibilities including being available and responsive when “on call,” and accepting inconvenience to meet the needs of one’s patients.
- *Excellence* entails a conscientious effort to exceed ordinary expectations and to make a commitment to life-long learning.
- *Honesty and Integrity* are the consistent regard for the highest standards of behavior and the refusal to violate one’s personal and professional codes. Honesty and integrity imply being fair, being truthful, keeping one’s word, meeting commitments, and being straightforward. They also require the recognition of the possibility of conflict of interest and avoidance of relationships that allow personal gain to supersede the best interest of the patient.
- *Respect for others* is the essence of humanism, and humanism is central to professionalism. Respect for patients and their families and for colleagues is demonstrated through a willingness to acknowledge and learn about the cultural influences that shape their health beliefs and behaviors.

The College has a great stake in instilling professionalism into its students. The College has two mechanisms to ensure a high degree of professionalism is practiced by our students. Because students are not yet professionals, the Professional Concern Note system was developed to identify unprofessional behaviors early in order to help students develop a lifelong habit of professionalism. This system is described in the College’s Student Academic and Professional Conduct Policy. The second mechanism to reinforce professional behaviors is the Professional Commendation Note.

Professional Commendation Note

Purpose

The purpose of a “Commendation Note” is to report the exceptional professional behavior or service of a student. This information is conveyed to the student and recorded in the student’s College file. The Commendation Note is not used to highlight academic excellence, as this is evaluated and reported through the current grading and evaluation system.

1. Submission

Any faculty member, adjunct faculty, staff, or other individual who observes the student’s professional behavior may recommend the student for commendation. This recommendation can be made to the course director or Director of the Experiential Training and Community Engagement Program. The course/experiential director then formally submits the Commendation Note via the on-line form to the Associate Dean for Academic Affairs. Alternatively, a College website for submission of Commendation Notes is available for direct submission. This website is https://pharmacy.umich.edu/pharmacy/professionalism_concern_note. A Commendation Note may be submitted with the student’s final evaluation during a course/rotation, or may be separately submitted.

2. Process and Recording

The student will be contacted and notified of the commendation. The commendation will be placed in the student’s file.

SOCIAL MEDIA FOR BUSINESS PURPOSES POLICY

The College has adapted the UMHS social media policy and as such students, faculty and staff must abide by the “Use of Social Media for Business Purposes” outlined below.

I. POLICY STATEMENT

It is the policy of the University of Michigan Health System (UMHS) and the College of Pharmacy to support institutional communication goals through the use of social media platforms for business purposes while assuring that any use of social media for business purposes complies with all Federal and State laws and regulations, accreditation standards and U of M and UMHS (collectively, “UM”) policies and procedures.

II. POLICY PURPOSE

The purpose of this policy is to assure that the use of social media platforms for business purposes complies with all Federal and State laws and regulations, accreditation standards and UM policies and procedures.

This policy is not intended for the use of social media for personal purposes *so long as* such personal usage does not associate or identify a patient, subject, student, or UMHS workforce member at UMHS or the College of Pharmacy, does not discuss U of M and/or UMHS business *and* is purely about personal matters.

III. DEFINITIONS

Content Owner – The person(s) assigned the responsibility of creating, administering, maintaining, monitoring and moderating an official UMHS social media presence/site. This person(s) is assigned by department as the individual responsible for monitoring and maintaining content within that site. Due to the on-going need for access to the social media platform site, the person(s) assigned the role of Content Owner should be a regular, non-temporary employee within the department. The department is responsible for obtaining social media site access information from the Content Owner in the event the Content Owner’s employment status ends within the department and/or UMHS. Due to their limited role within UMHS (e.g., time-limited), volunteers, students and non-permanent staff members should not create social media presences on behalf of UMHS or the College of Pharmacy.

Moderator – Assigned by Content Owner and/or department as the individual responsible for responding to and moderating comments and postings by internal and external users, including deleting comments and postings that do not meet the criteria set forth in this policy, and routing complaints, questions and concerns to the appropriate UMHS unit responsible for handling such issues (e.g. patient complaint is sent to Patient Relations for follow-up) or to the Associate Dean for Student Services at the College of Pharmacy.

Official communications – Any messages made on behalf of and/or in UMHS’ or the College of Pharmacy’s name and posted on one or more social media platforms/presences (e.g. a UMHS Cancer Center Facebook page).

Social Media, Social Media Site, Social Media Presence or Social Media Platform – Any technology, tool or online space for integrating and sharing user-generated content in order to engage constituencies in conversations and allow them to participate in content and community creation, increase brand awareness or otherwise meet marketing and communications goals. Because of the emerging nature of social media platforms, this policy does not attempt to name every current and emerging social media platform. However, this policy applies to all social media platforms cited and any other social media platform available and emerging including social networking sites and sites with user-generated content. Examples include but are not limited to the following: YouTube; Facebook; LinkedIn; Twitter; Blogs; Flickr; De.li.ci.ous, etc.

IV. POLICY STANDARDS

A. Representation of UMHS or the College of Pharmacy/Authorization Required. Any representation of UMHS or the College of Pharmacy using a social media platform must be initiated and authorized through the UMHS Department of Public Relations and Marketing Communications (PRMC) or if it pertains to the College of Pharmacy authorization must be obtained from the Associate Dean for Academic Affairs. Development of any social media site or page and/or posting of any digital media that represents UMHS or COP in any manner is prohibited, unless developed with and/or authorized by PRMC or the College of Pharmacy.

Any existing sites or pages that have been developed prior to approval of this policy without prior authorization by PRMC or the College of Pharmacy will be subject to review when discovered and may be amended or removed by PRMC or the College of Pharmacy.

B. Guidelines for Online Professional or Personal Activity.

1. Online social media platforms allow UMHS and College of Pharmacy workforce members and students to engage in professional and personal conversations and to post content such as digital media. These guidelines apply to workforce members and students who identify or associate themselves as a representative of UMHS or the College of Pharmacy in a social media platform for deliberate professional engagement or casual conversation. These guidelines apply to private and password protected social media platforms as well as public/open social media platforms.
2. Follow the College Code of Conduct as well as all University and UMHS policies (including but not limited to patient privacy, information security, photography and video, Conflict of Interest, behavior guidelines, computer/email usage, political activity, and U of M Standard Practice Guides (including but not limited to those respecting copyrights and disclosures, and not revealing proprietary financial, intellectual property, patient care or similar sensitive or private content.)
3. College of Pharmacy students receive many educational experiences outside of the College of UMHS as part of their learning. These sites may have their own social media policies. Students should obey these policies as well as the College's policies with matters relating to those educational sites. In general, all considerations of patient privacy, information security, proprietary information, behavior guidelines, sensitive and private content, etc., contained in this policy apply to the use of information obtained at these sites as well.

4. If workforce members identify themselves as members of the College of Pharmacy (or UMHS) workforce (whether as faculty, staff, student, etc.) in any online social media forum, faculty/staff/students make it clear that they are not speaking for or on behalf the College of Pharmacy or UMHS, and what they say is only representative of their individual personal views and opinions and not necessarily the views and opinions of College of Pharmacy or UMHS. This can be done by posting a disclaimer. The following is sample disclaimer language:

“The views and opinions expressed here are not necessarily those of the University of Michigan College of Pharmacy or University of Michigan Health System, and they may not be used for advertising or product endorsement purposes.”

5. When identifying themselves as a workforce member (faculty/staff/student) in online social media, workforce members should do so carefully and thoughtfully because they connect themselves to, and reflect upon, College of Pharmacy colleagues, UMHS colleagues, managers and even patients and donors.
 6. Remember, online content is permanent. Content contributed online in any format and on any social media platform may immediately become searchable. Once information is posted online and indexed by a search engine, it can be accessed by anyone with access to the Internet forever. Information you post online, even if privacy settings are restricted, may still remain housed in databases and be retrievable long after it has been deleted from the account of the individual who posted the information. Workforce members are discouraged from posting anonymously or posting using a username or profile other than their own under the assumption that they cannot be identified. Cyber tracing investigations are common to identify posters of malicious Internet libel, and anything posted online may be admissible in court. If any workforce member is offered payment to participate as a College of Pharmacy or UMHS representative, or offered payment for an endorsement as a College of Pharmacy or UMHS representative of an online social media forum, acceptance of such offers could constitute a conflict of interest. The Outside Interests and Conflicts of Interest policy applies and must be followed.
 7. If any workforce member is contacted by someone from the media or press about posts made in online social media forums that relate to the College of Pharmacy in any way, the faculty/staff/student must not respond, and instead, must immediately contact the Dean’s Office in the College of Pharmacy (*by calling 734-764-7144*).
 8. Job postings must follow College of Pharmacy Human Resources (HR) established processes. Social media platforms may not be used in place of HR processes.
 9. Postings for any research subject purpose, for example, subject recruitment, must follow the University of Michigan Medical School Intuitional Review Board (IRBMED) policies and procedures.
- C. Reporting Violations of this Policy.** Violation of this and/or any UM policies may result in disciplinary action, up to and including termination of employment. Any violation of this policy should be immediately reported to faculty/staff/student’s supervisor/manager or to the Associate Dean for Academic Affairs.

STUDENTS WITH DISABILITIES

It is the policy of the College of Pharmacy to maintain an academic and work environment free from discrimination and harassment for all students, faculty and staff. The College's commitment to diversity and inclusiveness extends to students with disabilities. The College is committed to the academic success, professional development and general well-being of all students.

The College has developed Technical Standards that describe the essential non-academic requirements that every student must satisfactorily demonstrate in order to earn a Pharm.D. degree.

Students with disabilities who require reasonable accommodations from the College to assist them in meeting the requirements of their degree program must first register with the Office for Services for Students with Disabilities (SSD). The College, through its faculty, staff and administrators, reserve the right to do determine if the accommodations recommended by SSD are reasonable. Reasonable accommodations are those that (1) do not fundamentally alter the academic program, academic standards or professional standards of the College; or (2) do not cause an undue burden on the College. Only those reasonable accommodations first approved by SSD and timely submitted to the appropriate instructor or administrator will be provided. The College does not provide retro-active accommodations.

Information regarding SSD, the services available to students with disabilities, and the rights and responsibilities of students with disabilities are available at the following web site:

<http://www.umich.edu/~sswd/>

Required steps to secure a reasonable accommodation:

1. Register with SSD as a student with a disability and receive a Verified Individualized Services and Accommodations form ("VISA form").
2. For **each** course in which you need an on-going accommodation, present the VISA form to the Director of no later than the second class of the course or as soon as possible after learning of the need for accommodation.
3. Because the decision to request reasonable accommodations due to a disability is a matter of individual choice, students have the responsibility to request reasonable accommodations in a timely manner. As a result, we do not assume that an accommodation provided in one course is appropriate or desired in another situation. Similarly, the College treats such request in as confidential a manner as possible. Therefore, do not assume that because one faculty or staff member is aware of your need for an accommodation that others are also aware. You should request a reasonable accommodation each time you determine that one is needed.

Questions:

If you have questions about getting authorized accommodations, please contact the Office of Student Services. (email: cop.studentservices@umich.edu).

Complaints:

If you have a complaint regarding disability accommodations or discrimination issues within the College, follow the procedures outlined in the College's Student Grievance Policy

Policy adopted June 2011

TECHNICAL STANDARDS

One of the primary missions of the College of Pharmacy is to prepare students to become licensed pharmacists who strive to enhance the health and quality of life of the people where they practice. The Doctor of Pharmacy (Pharm.D.) degree signifies that an individual is prepared for entry into the practice of pharmacy within diverse settings. The Pharm.D. degree is, and must remain, a broad undifferentiated degree attesting to the mastery of general knowledge and skills in all fields requisite for the practice of pharmacy. Thus, graduates of the University of Michigan College of Pharmacy must possess the knowledge and skills necessary to function in a broad variety of clinical and professional situations.

The College of Pharmacy seeks to graduate effective and competent pharmacists who will be best able to serve the needs of society. Specifically, the Doctor of Pharmacy program and subsequent licensure as a pharmacist requires a certain level of cognitive, behavioral and technical skills and ability intrinsic to the pharmacy profession. Because students who graduate from the program are eligible to become pharmacists without restrictions on their license/practice, the curriculum requires students to successfully complete all core components of the program and does not allow students to take part in a limited set of required activities.

Students will be judged not only on their scholastic accomplishments but also on their physical and emotional capacities to meet the full requirements of the College's curriculum and to graduate as skilled and effective pharmacists. Each applicant will be asked to certify that he or she is able to meet the technical standards of the College.

Applicants or students matriculating in the program who have questions or concerns about their ability to meet these standards are encouraged to contact the Associate Dean for Academic Affairs.

This Technical Standards policy is designed to set forth the essential non-academic requirements that every student must satisfactorily demonstrate in order to earn a Pharm.D degree. This Technical Standards Policy applies to both the academic environment and the clinical setting. Technical Standards refer to criteria that go beyond academic requirements for admission (e.g. PCAT scores, GPA, reference letters, essays) and are essential to meeting the degree requirements of the program. The following principles and technical standards will be implemented to achieve this goal. These principles and standards apply to admission, progression, retention and completion of the degree program.

Principles

1. Commitment to preparing licensed pharmacists capable of supporting safe and healthy academic and practice environments.

The primary role of a pharmacist is to provide safe and effective health care to the patients served and, therefore, patient safety must be considered in the selection and education of pharmacy students. In addition, the College of Pharmacy has a responsibility to maintain as safe an environment as possible for the academic community and the pharmacy practice settings in which they receive their education. Students must reasonably contribute to a safe environment through their professional and personal behaviors. Students

must also be able to obtain a pharmacist intern license during their first year of the program and maintain the intern license throughout the program.

2. Commitment to diversity, inclusiveness and non-discrimination.

The University of Michigan College of Pharmacy acknowledges section 504 of the Rehabilitation Act of 1973 (Public Law 93-112), Title II of the Americans with Disabilities Act (Public Law 101-336), and the Michigan Handicappers Civil Rights Act, and ascertains that candidates for the Doctor of Pharmacy (Pharm.D.) degree must possess certain minimum technical capabilities. Students with or without disabilities applying to the College of Pharmacy are expected meet the same requirements and fundamental standards. Any applicant who demonstrates the ability to acquire the knowledge necessary for the practice of pharmacy, as well as the ability to perform or to learn to perform the skills as described in this document will be considered for admission to the College of Pharmacy. Although not all students should be expected to gain the same level of all technical skills, mastery of some skills is so essential that it must be achieved, with the assistance of reasonable accommodation, where necessary.

Reasonable accommodations will be provided to assist in learning, performing and satisfying the fundamental standards. Every reasonable attempt will be made to facilitate the progress of students where it does not compromise the College of Pharmacy's academic and professional standards or interfere with the rights of others. Technological accommodations can be made for some disabilities in certain areas of the curriculum, however, a candidate must meet the essential technical standards so that he or she will be able to perform in a reasonably independent manner. The need for personal aids, assistance, caregivers, readers, and interpreters, therefore, may not be acceptable in certain phases of the curriculum, particularly during the experiential years. When not the responsibility of the student or otherwise funded, costs of necessary accommodations should be reasonable and will be properly borne by the University, as recommended by the Office of Services for Students with Disabilities.

Applicants and matriculates who believe that they have not received adequate consideration because of a disability may file an as outlined in the College's Student Grievance Policy

Technical Standards

Candidates for the Pharm.D. degree must possess abilities and skills including those that are observational, communicational, motor, intellectual-conceptual (integrative and quantitative) and behavioral and social. The use of a trained intermediary is not acceptable in many clinical/experiential situations in that it implies that a student's judgment must be mediated by someone else's power of selection and observation.

Observation:

Observation requires the functional use of visual, auditory as well as somatic senses. Students must have the ability to observe and evaluate demonstrations, and experiments in classroom, laboratory and patient care settings. In addition, students must have the ability to observe and evaluate patients, including performing physical assessments. Observation of the technical quality of manufactured, as well as compounded, medications is essential. In any case where a candidate's ability to observe or acquire information through these sensory modalities is compromised, the candidate must demonstrate alternative means and/or abilities to acquire and demonstrate the essential information conveyed in this fashion. If the alternatives are acceptable, it is expected that obtaining and using such alternate means and/or abilities will be the responsibility of the student.

Communication:

Students must be able to speak, to hear and to observe patients by sight in order to elicit information, describe changes in mood, activity and posture and perceive nonverbal communications. Communication includes speech, reading and writing. A candidate must be able to communicate in oral and written English with patients and health care professionals in an effective, efficient and sensitive manner and also have proper recognition of nonverbal communication cues.

Motor:

It is required that a candidate possess the motor skills necessary to undertake the preparation of all routine forms of medication orders, use of diagnostic equipment for patient assessment and direct delivery of patient therapies. These actions require coordination of gross and fine muscular movements, equilibrium and functional use of the senses of touch and vision.

Intellectual-Conceptual (Integrative and Quantitative) Abilities:

As appropriate for their stage of education, students must be able to demonstrate a fundamental and continuing ability to measure, calculate, reason, analyze, integrate and synthesize independently and in collaboration with a health care team. Problem solving, the critical skill demanded of pharmacists, requires all of these intellectual abilities. The candidate must be able to perform these skills in an efficient and timely manner. Students must be able to demonstrate good judgment in patient care and assessment and have the ability to integrate new and changing information obtained from the practice environment.

Behavioral and Social Attributes:

Students must possess the emotional health required for full utilization of his/her intellectual abilities, the exercise of good judgment, and the prompt completion of all responsibilities attendant to the care of patients. Students must demonstrate appropriate professional and ethical demeanor including, but not limited to, compassion, integrity and concern for others. The student must be able to tolerate physically taxing workloads and to function effectively under stress and be able to adapt to changing environments and situations. Students must be able to function within the regulatory and institutional limits of the educational environment and modify behaviors based on criticism and self-reflection.

Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that will be assessed during the admissions and educational processes. On an annual basis students will be required to attest that they can meet the technical standards.

TRANSPORTATION

Students are required to have reliable transportation available to them by the beginning of the first (P1) year, to facilitate travel to experiential training sites. Transportation-associated expenses, including the cost of gasoline and parking fees where necessary, are the responsibility of the student.

TRAVEL

Students may request partial financial support to attend professional meetings using the College Travel Web Request form located on the College website (located on Current Student Webpage at: http://pharmacy.umich.edu/pharmacy/current_students). Funding is limited and thus prioritized based on the type of activity: a) representing the College in a national competition; b) poster or platform presentation; c) national committee representative; d) College activity (e.g., rotation); and e) other.

Students sponsored in any way for international travel must 1) abide by the University Travel policy (<http://globalportal.umich.edu/travel-policy.php>); 2) register their trip prior to traveling on the UM travel registry (<http://globalportal.umich.edu/register-travel.php>); 3) meet with the Director of Experiential Training if travel pertains to pharmacy practice experience (i.e., rotation); (4) obtain travel insurance (<http://www.uhs.umich.edu/tai/>); and 5) recognize that travel may be canceled per University policy if College or University has concerns regarding the safety of such travel or if the student is having academic difficulty.

USE OF COLLEGE LOGO

In keeping with the University of Michigan's effort to create a strong, cohesive, university-wide visual identity, the College of Pharmacy has created a logo. The logo incorporates the Block M and should be used in College communications. The usage guidelines, which are designed to assist in maintaining the consistency and integrity of the College's visual identity can be obtained from the College Communications Director, Dennis Gilbert (gilberto@umich.edu).

UNIVERSITY OF MICHIGAN STUDENT POLICIES

The University of Michigan policies for students apply to Doctor of Pharmacy students participating in professional practice experiences. A comprehensive guide to these policies is available at <http://www.studentpolicies.dsa.umich.edu>. Preceptors and students should take special note of the following policies.

Non-Discrimination. The University of Michigan is committed to a policy of nondiscrimination and equal opportunity for all persons regardless of race, sex, color, religion, creed, national origin or ancestry, age, marital status, sexual orientation, disability, or Vietnam-era veteran status in employment, educational programs and activities, and admissions.

Religious Holidays and Academic Conflicts. Although the University of Michigan, as an institution, does not observe religious holidays, every reasonable effort should be made to help students avoid negative academic consequences when their religious obligations conflict with academic requirements. Absence from classes or examinations (or in this case, professional practice experiences) for religious reasons does not relieve students from responsibility for any part of the course work required during the period of absence. It is the obligation of students to provide faculty (or in this case, preceptors) with reasonable notice of the dates of religious holidays on which they will be absent.

Sexual Harassment. It is the policy of the University of Michigan to maintain an academic and work environment free of sexual harassment for students, faculty, and staff. Sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, education, living environment, or participation in a University activity;
2. Submission to or rejection of such conduct by an individual is used as the basis for or a factor in decisions affecting that individual's employment, education, living environment, or participation in a University activity; or
3. Such conduct has the purpose or effect of unreasonably interfering with an individual's employment or educational performance or creating an intimidating, hostile, offensive, or abusive environment for that individual's employment, education, living environment, or participation in a University activity.

COLLEGE OF PHARMACY RESOURCES

Curriculum and Academic Advising

The Office of Student Services works with the Curriculum and Assessment Committee, the Associate Dean for Academic Affairs and the University Registrar's Office to create and to schedule courses within the University system and to inform students of curricular requirements. Academic counseling may be scheduled in the Office of Student Services for Student Services. (email: cop.studentservices@umich.edu.)

Facilities

College of Pharmacy facilities include offices, labs, classrooms, meeting rooms and the Student Lounge. The Student Lounge includes computers and printers maintained by the University ITCS department. The computers in the Lily Classroom - Room 1570 CCL are also available to students when classes are not in session.

The building is closed at 5 p.m. each day and a card reader at the front door provides access to the building. Access to the Student Lounge after normal business hours can be arranged with the facilities office, located in Room 1013 Pharmacy. The student ID numbers for all first year students are entered in the College card-reader system for access to the external doors. For after-hours access to the Student Lounge (1540 CCL) or the Lilly Classroom (1570 CCL), students must send their 16 digit card number to LD Hieber (ldhjr@umich.edu) or stop by 1013 Pharmacy.

The Facilities Office also handles room reservations for meetings and events. Requests for room reservations can be directed to the facilities manager, Pat Greeley (patg@umich.edu) or by visiting the facilities office at 1013 Pharmacy.

Financial Aid and Scholarships

Students should apply for financial aid through the Office of Financial Aid (see University Office listing). Students are eligible to borrow funds at the graduate student level if they are admitted after earning a bachelor's degree or are in the third or fourth year of the Pharm.D. program. Consult with the advisor in the Financial Aid office regarding the application process. The name of the contact there for Pharmacy students is Sharon Blumenfeld (bluemensm@umich.edu).

Dean's Scholarships. The Dean's Scholarships are awarded to second-, third-, and fourth-year Pharm.D. students:

Scholarships for Highest Distinction in Academic Performance. To qualify, a Pharm.D. student must have a GPA of 3.9-4.0. This scholarship provides \$2,000 to students on completion of one year at the College, \$3,000 to students on completion of two years; and \$4,000 to students on completion of three years.

Scholarships for High Distinction in Academic Performance. To qualify, a Pharm.D. student must have a GPA of 3.750-3.899. This scholarship provides \$1,000 to students on completion of one year at the College; \$1,500 to students on completion of two years; and \$2,000 to students on completion of three years.

Scholarships for Distinction in Academic Performance. To qualify, a Pharm.D. student must have a GPA of 3.6-3.749. This scholarship provides \$500 to students upon completion of one year at the College; \$750 to students on completion of two years; and \$1,000 to students on completion of three years.

Study Areas

There are study areas located in various locations throughout the College. Meeting rooms 1551 CCL and 1561 CCL can be used as study areas if they have not been reserved for a meeting. There are tables located at the end of the hallways on the second, third, and fourth floors in the south wing of the Pharmacy building that can also be used as study areas. Students may reserve conference rooms for group study sessions. Please visit the facilities office (1013 Pharmacy) if you wish to reserve a meeting room.

Student Lounge

The student lounge is located in Room 1540 CCL. The Lounge includes: computers, printers, kitchen and office supplies, a photocopier, TV, and comfortable furniture.

Vending Machines

Vending machines are located in Room 1560 CCL. The vending machine room can be found by following the hallway across from the Walgreen Lab – 1552/1558 CCL.

Student Lockers

Student lockers are available on a first come, first served basis in the hallway near the vending machines. See Pat Greeley in the Facilities office (1013 CCL) to reserve a locker. As the number is limited, please consider sharing with 1 or 2 other students.

Student Mailboxes

Students are assigned an individual folder in a file cabinet located in the second-floor hallway for use as an inter-College mailbox. The folders are maintained by the Office of Student Services. Each class year has their own file drawer in the cabinet. Students are encouraged to check their folders on a regular basis as a courtesy to other students. The mailboxes are cleaned out each summer, before the beginning of the academic year.

COLLEGE EVENTS**White Coat Ceremony**

The College of Pharmacy holds a white coat ceremony each fall, usually scheduled on the Wednesday following Fall Break and held in Rackham Auditorium. A reception is held after the ceremony and all students and faculty are required to attend. P1 students are encouraged to invite family members to this event. The Office of Student Services and Dean's Office work together to coordinate the White Coat Ceremony.

Career Gateway

The College holds a Career Gateway (career fair) each November in the Michigan Union Ballroom. This event is held each November, usually on the first or second Tuesday of the month. Representatives from community and hospital pharmacies, residency programs and industry are represented. The Office of Student Services coordinates this event with the help of members of the student groups.

Awards Banquet and Rho Chi Ceremony

An Awards Banquet is scheduled each April to recognize superior student achievement and leadership. The Office of Student Services coordinates this event

Graduation Ceremony and Student Pictures

A graduation ceremony is held each April at Rackham Auditorium on the Saturday immediately following the last scheduled rotation or the following Saturday. The exact date is determined each year based on the University's

Commencement Schedule. The Dean's Office coordinates this event. Graduating students' pictures are taken for individual purchase and for the graduation composite, which is displayed at the College.

RESOURCES AND UNIVERSITY STUDENT SERVICES

Career Center

The Career Center supports the development of students' future plans through coaching and advising, assessments, connections to next step opportunities and career information. Employers' emphasis on internships should prompt students to participate in The Career Center's internship and experiential learning programs and fairs, and to discover opportunities through the Career Center Connector. Those seeking employment will find resources and guidance through on-line tools, complemented by the staff's expertise. The Center also guides students pursuing graduate/professional school.

3200 Student Activities Building
515 East Jefferson Street
(734) 764-7460

www.careercenter.umich.edu
careercenter@umich.edu

Counseling and Psychological Services (CAPS)

Counseling and Psychological Services (CAPS) is committed to providing multicultural and multidisciplinary expert and caring therapeutic support at no charge for currently enrolled University of Michigan-Ann Arbor campus students. Services include crisis intervention, and brief personal therapy for individuals, couples, and groups. Common reasons students go to CAPS are: anxiety, depression, relationship issues, academic concerns, and eating disorders. Consultation and workshops on various informational and skill-building topics are also available.

Staff are also available for consultation and support for family members, friends, and U-M staff or faculty members.

CAPS offers these services in an atmosphere that is welcoming and comfortable for all students, regardless of race, gender, ethnic background, age, sexual orientation, citizenship, or physical status.

For further information, online screenings for depression, anxiety, eating issues, and alcohol concerns visit their website at www.umich.edu/~caps.

3100 Michigan Union
530 South State Street
(734) 764-8312

www.umich.edu/~caps

Financial Aid

The Pharmacy Student Contact at the Financial Aid Office is Sharon Blumenfeld (blumensm@umich.edu).

The Office of Financial Aid (OFA) administers financial aid programs and assists students with budgeting. Most aid is awarded on the basis of financial need. Students may take advantage of financial counseling services even if

they are not receiving aid. Emergency and/or short-term loans are available to students for educationally related expenses.

Students must apply for financial aid each year that they wish to receive aid. Students must comply with deadline dates to be considered for all aid programs.

To apply, all students must submit to the federal processor a Free Application for Federal Student Aid (FAFSA), available at www.fafsa.ed.gov. Students should submit the FAFSA as soon as possible after January 1 each year. OFA must receive the student's processed FAFSA from the federal processor by April 30 in order to consider him/her for all aid programs. The University of Michigan's School Code is: 002325.

For specific information about procedures and deadlines, see www.finaid.umich.edu/apply_and_receive_aid/genapply.asp or [contact OFA](mailto:contact@ofo.umich.edu):

2500 Student Activities Building
515 East Jefferson Street
(734) 763-6600
Website: finaid.umich.edu
e-mail: financial.aid@umich.edu

International Center

The International Center provides information, programs and services, including advice about visa and immigration issues for University of Michigan's international students. The International Center offers educational and social activities throughout the year and hosts a number of cultural events for American and international students.

The Center also provides information, advice, and referrals for those who are participating in or considering an international educational experience. Members of the UM community may obtain information on study, work, volunteer, and travel abroad, including information on study, work, volunteer, and travel abroad, including information on the Peace Corps, through individual advising informational program, and reference materials.

603 East Madison
(734) 764-9310
www.internationalcenter.umich.edu
email: icenter@umich.edu

Services for Students with Disabilities (SSD)

Services for Students with Disabilities (SSD) provides services to students with visual impairments, learning disabilities, mobility impairments, or hearing impairments. SSD also works with students who have chronic health or mental health conditions. SSD offers services which are not provided by other University offices or outside organizations. SSD provides such services as accessible campus transportation, adaptive technology, sign language interpreting, guidance for course accommodations, and more, all free of charge.

Before and after a student enrolls at the University, SSD is available to answer questions or provide referrals concerning admission, registration, services available, or financial aid. In addition, SSD can help assess the need for modified housing, attendants, interpreters, transportation, classroom accommodations, note-takers, or adaptive equipment.

G664 Haven Hall
505 South State Street
(734) 763-3000
www.umich.edu/~sswd
AIM: SSDFRONTDESK

Sexual Assault Prevention and Awareness Center

The Sexual Assault Prevention and Awareness Center (SAPAC) offers a number of services to the University of Michigan community, including crisis intervention, prevention education, advocacy, and activism on issues of sexual assault, intimate partner violence (emotional, sexual, and physical), stalking, and sexual harassment in the University community. In addition, SAPAC offers rewarding volunteer opportunities in the Networking/Publicity/Activism, Peer Education, and Men’s Programs.

SAPAC staff can assist survivors, friends, family members, or non-offending partners of survivors. The Crisis Line is staffed by professional staff who provide crisis intervention and information and referral over the phone. Outreach assistance at hospitals, police stations, and residence halls, in the event of an emergency is available. All services are strictly confidential and free. Come by or call for an appointment of more information.

715 North University, Suite 202
(734) 998-9368
24-hour Crisis Line: (734) 936-3333
www.umich.edu/~sapac

Student Legal Services

Student Legal Services, which is supported by student fees, provides legal advice and representation to currently enrolled University Students in the following areas: landlord/tenant disputes, divorce and family law, criminal defense, consumer issues, and wills. Notary and true copy services are also available. Student Legal Services cannot assist in disputes with the University or other enrolled students. Call to schedule an appointment to meet with an attorney because legal advice is not given over the phone.

2304 Michigan Union
530 South State Street
(734) 763-9920
studentlegalservices.dsa.umich.edu

University Health Service (UHS)

UHS is students’ campus health resource and is staffed by licensed medical professionals. UHS is an outpatient clinic that offers extensive services including primary health care, gynecology, allergy treatment, nutrition clinic, specialty clinics, physical therapy, radiology, pharmacy, eye care, optical shop, laboratory, travel health services, advice by phone, and health education on sexual health, alcohol and other drugs, eating issues and more.

Appointments are recommended or students can walk in without an appointment, usually for conditions that need to be treated as soon as possible. UHS is open Monday through Saturday. When UHS is closed, students can consult a clinician by phone for urgent health matters. Language interpretation is available. Services are confidential.

Enrolled students pay a health service fee as part of tuition, which covers most UHS services, including clinic visits, physical therapy, radiology, and most laboratory tests. Therefore currently enrolled U-M students have few additional expenses at UHS.

The health service fee does not cover fees for allergy antigens, routine eye exams, glasses, contact lenses, immunizations, medications and certain laboratory tests. Health care received outside UHS (including dental care and hospitalization) is not covered. Students are responsible for paying any costs not covered by the health service fee.

Students are required to have health insurance. Health insurance helps to cover the cost of services not covered by the health service fee (for example, ambulance, emergency room visits, medicine or hospitalization). Students who need insurance (or supplemental coverage) may be eligible to purchase the Domestic Student Health Insurance Plan (DSHIP), in collaboration with the Michigan Student Assembly. Students should carry proof of insurance and know how to use their insurance.

207 Fletcher
(734) 764-8320
www.uhs.umich.edu

APPENDIX B: PHARMACY CURRICULUM

Pharm.D. Curriculum - Class of 2012

<i>Fall</i>	<i>Credit</i>	<i>Winter</i>	<i>Credit</i>
<i>P1 Curriculum</i>			
PharmaSci 462	3	PharmaSci 463	3
Pharmacy 351	3	Pharmacy 330	2
MedChem 409	3	Pharmacy 352	2
Statistics 350	4	Pharmacy 420	2
BioChem 415	3	MedChem 410	3
Elective		Physiology 502	4
<i>P2 Curriculum</i>			
PharmaSci 464	4	PharmSci 465	2
Pharmacy 431	3	Pharmacy 432	3
Pharmacy 451	1	Pharmacy 452	1
MedChem 411	3	Pharmacy 476	2
Pharmacology 659	3	MedChem 412	3
Elective		Pharmacology 660	4
		Elective	
<i>P3 Curriculum</i>			
Pharmacy 531	3	Pharmacy 520	2
Pharmacy 540	2	Pharmacy 532	3
<i>Pharmacy 551*</i>	(2)	<i>Pharmacy 551*</i>	(2)
<i>Pharmacy 561*</i>	(2)	<i>Pharmacy 561*</i>	(2)
	or		or
<i>Pharmacy 552*</i>	(1)	<i>Pharmacy 552*</i>	(1)
<i>Pharmacy 562*</i>	(2)	<i>Pharmacy 562*</i>	(2)
Pharmacy 565	1	Pharmacy 569	1.5
Elective(s)		Elective(s)	
<i>P4 Curriculum</i>			
<i>Courses in the fourth year of the program will be completed during the Fall and Winter Terms</i>			
Rotations (9 required, 3 credits each)			
Pharmacy 687 - 695	27		
Pharmacy 680 (fall and winter terms)	2		
Investigations Research Report			
Pharmacy 569 (fall term only)	1.5		
		A minimum of 13 elective credits must be completed in residence, including 8 health-relevant course credits. (one required elective rotation in the 4th year counts toward the 8).	
A minimum of 128 Credits are required for graduation.			

*Courses in italics are taken by 1/2 the class each semester

Pharm.D. Curriculum - Class of 2013

<i>Fall</i>	<i>Credit</i>	<i>Winter</i>	<i>Credit</i>
P1 Curriculum			
PharmaSci 462	3	PharmaSci 463	3
Pharmacy 351	3	Pharmacy 330	2
MedChem 409	3	Pharmacy 352	2
Statistics 350	4	Pharmacy 420	2
BioChem 415	3	MedChem 410	3
Elective		Physiology 502	4
P2 Curriculum			
PharmaSci 464	4	PharmSci 465	2
Pharmacy 431	3	Pharmacy 432	3
Pharmacy 451	1	Pharmacy 452	1
MedChem 411	3	Pharmacy 476	2
Pharmacology 659	3	MedChem 412	3
Elective		Pharmacology 660	4
		Elective	
P3 Curriculum			
Pharmacy 531	3	Pharmacy 520	2
Pharmacy 540	2	Pharmacy 532	3
<i>Pharmacy 551*</i>	(2)	<i>Pharmacy 551*</i>	(2)
<i>Pharmacy 561*</i>	(2)	<i>Pharmacy 561*</i>	(2)
		or	
<i>Pharmacy 552*</i>	(1)	<i>Pharmacy 552*</i>	(1)
<i>Pharmacy 562*</i>	(2)	<i>Pharmacy 562*</i>	(2)
Pharmacy 565	1	Pharmacy 569	1.5
Elective(s)		Elective(s)	
P4 Curriculum			
<i>Courses in the fourth year of the program will be completed during the Spr/Su, Fall and Winter Terms</i>			
APPE Rotations (8 Required)	32		
Seminar			
Pharmacy 680 (fall and winter terms)	2		
Investigations Research Report			
Pharmacy 569 (fall term only)	1.5		
		A minimum of 13 elective credits must be completed in residence, including 8 health-relevant course credits. (one required elective rotation in the 4th year counts toward the 8).	
A minimum of 128 Credits are required for graduation.			

*Courses in italics are taken by 1/2 the class each semester

PharmD Curriculum - Class of 2014

<i>Fall</i>	<i>Credit</i>	<i>Winter</i>	<i>Credit</i>
P1 Curriculum			
PharmaSci 462 - Drug Delivery & Solutions	3	PharmaSci 463 - Dispersed/Solid Form	3
Physiology 502 - Human Physiology	4	MedChem 415 - Principles of Drug Action I	5
Pharmacy 404 - Community Pharmacy	2	Pharmacy 416 - Pharmaceutical Care	1
Pharmacy 406 - Communications	2	Pharmacy 420 - Health Care Systems	2
Pharmacy 402 - Intro to Profession	2	Pharmacy 430 - Self-Care	3
Elective(s)		Pharmacy 401 - Life Long Learning	.25
		Elective(s)	
P2 Curriculum			
PharmSci 464 - Pharmacokinetics Concepts	4	Pharmacy 476 - Research Methods	2
MedChem 417 - Principles of Drug Action II	5	MedChem 419 - Principles of Drug Action III	5
Pharmacy 431 - Therapeutic Problem Solv I	3	Pharmacy 432 - Therapeutic Problem Solv II	3
Pharmacy 515 - Evidence Based Medicine (Pharmacy 562 - Community IPPE)*	2 (2) or	Pharmacy 422 - Health Systems (Pharmacy 562 - Community IPPE)*	3 (2)
Elective(s)		Pharmacy 501 - Life Long Learning	.25
		Elective(s)	
P3 Curriculum			
Medicinal Chemistry 517	3	Pharmaceutical Sciences 563	2
Pharmacy 531 - Therapeutic Problem Solv III	3	Pharmacy 532 - Therapeutic Problem Solv IV	3
Pharm/MC/PS 565 - Research Proposal	1	Pharm/MC/PS 575 - Research Data	2
(Pharmacy 551 - Direct Patient Care)*	(2) or	(Pharmacy 551 - Direct Patient Care)*	(2)
(Pharmacy 561 - Institutional IPPE)*	(2) or	(Pharmacy 561 - Institutional IPPE)*	(2)
(Pharmacy 552 - Disease Management)*	(1)	(Pharmacy 552 - Disease Management)*	(1)
Pharmacy 522 - Health Care Systems	2	Pharmacy 530 - Law	1
Pharmacy 535 - Ethics/EBM	1	Pharmacy 545 - Ethics/EBM	1
Elective(s)		Pharmacy 601 - Life Long Learning	.25
		Elective(s)	
P4 Curriculum (over a 52 week period)			
APPE Rotations (8 Required)	32	<i>Rotation Courses:</i>	
Pharmacy 680 - Seminar	2	Pharmacy 687-694	
Pharm/MC/PS 585 - Research Report	1		
Pharmacy 701 - Life Long Learning	.25		
		A minimum of 12 elective credits must be completed by the end of the third year, including 6 health-relevant course credits.	
A minimum of 128 Credits are required for graduation.			

*Courses in italics are taken by 1/2 the class each semester

Pharm.D. Curriculum - Class of 2015 and Beyond

<i>Fall</i>	<i>Credit</i>	<i>Winter</i>	<i>Credit</i>
P1 Curriculum			
PharmaSci 462 - Drug Delivery & Solutions	3	PharmaSci 463 - Dispersed/Solid Form	3
Physiology 502 - Human Physiology	4	MedChem 415 - Principles of Drug Action I	5
Pharmacy 404 - Community Pharmacy	2	Pharmacy 416 - Pharmaceutical Care	1
Pharmacy 406 - Communications	2	Pharmacy 420 - Health Care Systems	2
Pharmacy 402 - Intro to Profession	2	Pharmacy 430 - Self-Care	3
<i>(Pharmacy 425 - Service Learning)*</i>	(1) <i>or</i>	<i>(Pharmacy 425 - Service Learning)*</i>	(1)
Elective(s)		Pharmacy 401 - Life Long Learning	.25
		Elective(s)	
P2 Curriculum			
PharmSci 464 - Pharmacokinetics Concepts	4	Pharmacy 476 - Research Methods	2
MedChem 417 - Principles of Drug Action II	5	MedChem 419 - Principles of Drug Action I	5
Pharmacy 431 - Therapeutic Problem Solv I	3	Pharmacy 432 - Therapeutic Prob. Solv II	3
Pharmacy 515 - Evidence Based Medicine	2	Pharmacy 422 - Health Systems	3
<i>(Pharmacy 562 - Community IPPE)*</i>	(2) <i>or</i>	<i>(Pharmacy 562 - Community IPPE)*</i>	(2)
Elective(s)		Pharmacy 501 - Life Long Learning	.25
		Elective(s)	
P3 Curriculum			
Medicinal Chemistry 517	3	Pharmaceutical Sciences 563	2
Pharmacy 531 - Therapeutic Prob. Solv III	3	Pharmacy 532 - Therapeutic Prob. Solv IV	3
Pharm/MC/PS 565 - Research Proposal	1	Pharm/MC/PS 575 - Research Data	2
<i>(Pharmacy 551 - Direct Patient Care)*</i>	(2) <i>or</i>	<i>(Pharmacy 551 - Direct Patient Care)*</i>	(2)
<i>(Pharmacy 561- Institutional IPPE)*</i>	(2) <i>or</i>	<i>(Pharmacy 561 - Institutional IPPE)*</i>	(2)
<i>(Pharmacy 552 - Disease Management)*</i>	(1) <i>or</i>	<i>(Pharmacy 552 - Disease Management)*</i>	(1)
Pharmacy 522 - Health Care Systems	2	Pharmacy 530 - Law	1
Pharmacy 535 - Ethics/EBM	1	Pharmacy 545 - Ethics/EBM	1
Elective(s)		Pharmacy 601 - Life Long Learning	.25
		Elective(s)	
P4 Curriculum (over a 52 week period)			
APPE Rotations (8 Required)	32	<i>Rotation Courses:</i>	
Pharmacy 680 - Seminar	2	Pharmacy 687-694	
Pharm/MC/PS 585 - Research Report	1		
Pharmacy 701 - Life Long Learning	.25	A minimum of 11 elective credits must be completed by the end of the third year, including 6 health-relevant course credits.	
A minimum of 128 Credits are required for graduation.			

*Courses in parentheses (and italics) are taken by 1/2 the class each semester

APPENDIX C: HEALTH RELEVANT COURSES

Approved Health-Relevant (HR) Elective Courses Offered at the University of Michigan

These courses are not necessarily recommended and may not be offered any given term. Contact the course instructor for clarification regarding prerequisites. Contact Rosemary Laczko (rlaczko) to petition for credit for other courses found in the University list of course offerings.

School or College and Subject	Course #	Course Title	Credits
Public Health, Nursing, Med School		all courses	
LS&A			
American Culture	206	Only section entitled, "AIDS and America"	3
AnthroBiological	161	Intro to Biological Anthropology	4
AnthroCulturall	344	Medical Anthropology	4
AnthroCultural	416	Global Heath: Anthro	3
Asian Studies	370	Acupuncture	3
Biology	118	AIDS	4
Biology	208	Embryology	3
Biology	222	Neurobiology	3
Biology	230	Plant Biology	4
Classic Civilization	217	Origins of Medical Terminology	1
Ecology and Evolutionary Biology	315	Ecology and Evol. of Infectious Diseases	3
Economics	432	Government Regulation of Industry	3
History	284	Sickness and Health in Society	
Molecular, Cellular & Dev. Biology	306	Genetics lab	3
Molecular, Cellular & Dev. Biology	418	Endocrinology	3
Molecular, Cellular & Dev. Biology	426	Molecular Endocrinology	3
Molecular, Cellular & Dev. Biology	427	Molecular Biology	4
Molecular, Cellular & Dev. Biology	435	Intracellular Trafficking	3
Molecular, Cellular & Dev. Biology	436	Introduction to Immunology	3
Psychology	230	Intro Biopsychology	4
Psychology	240	Introduction to Cognitive Psychology	4
Psychology	250	Developmental Psychology	4
Psychology	270	Intro to Psychopathology	4
Psychology	345	Intro to Human Neuropsychology	4
Psychology	355	Cognitive Development	3
Psychology	359	Psychology of Aging	3
Psychology	436	Drugs of Abuse, Brain and Behavior	3
Psychology	438	Hormones and Behavior	3
Psychology	498	Gender and the Individual	3
Psychology	533	Sleep Neurobiology	3
Sociology	205	Poverty, Race and Health	3
Sociology	230	Health and Population in South Africa	3
Sociology	475	Introduction to Medical Sociology	3
Women's Studies	112	Gender and Health Issues	1
Woman's Studies	220	Women's Health	3
Woman's Studies	300	Men's Health	3
Woman's Studies	400	Reproductive Health	3
Woman's Studies	402	Gender and Health Policy	3
Business School			
Accounting & Information Analysis	271 & 272	Principles of Accounting I and/or II	3
Accounting & Information Analysis	471	Accounting Principles	3
Accounting & Information Analysis	712	Finance Stat Analysis	3
Business Administration	518	The Business of Biology	2.5
Business Economics & Public Policy	300	Applied Economics	3
Business Economics & Public Policy	501	Applied Microeconomics	3

Business Economics	608	Health Care Markets and Public Policy	3
Corporate Strategy	395	Entrepreneurial Mgt.	3
Law, History & Communication	305	Legal Environment of Business	3
Law, History & Communication	517	Law Business Organization	1
Law, History & Communication	524	Persuasive Management Communication	1
Marketing	300	Marketing Management I	3
Operations Management	311	Operations Management	3
Organizational Behavior & HRD	315	Management of Personnel	3
Organizational Behavior & HRD	317	Teamwork in Organizations	3

College of Engineering			
Biomedical Engineering		all courses	
Pharmaceutical Engineering		all courses	
Technical Communication	498	Technical & Professional Writing	3
Kinesiology			
Kinesiology	545	Metabolic Responses to Exercise	3
Movement Science	240	Introduction to Fitness and Health	3
Movement Science	241	Exercise, Nutrition and Weight Control	3
Physical Education	216	Basic First Aid	2
Kinesiology/Movement Science	443	Exercise and Successful Aging	3
Social Work			
Soc. Welfare and Policies and Services	643	Drug Policy	3
Soc. Welfare and Policies and Services	644	Policies and Services for the Elderly	3

One course outside of the University of Michigan has been approved for HR credit. It is a 2-credit online course offered by the University of Florida College of Pharmacy on Veterinary Medicine – PHA 6935.

For more information: <http://www.cop.ufl.edu/education/student-affairs/academics/class-schedules-and-registration/electives-all-semesters/pha6935-veterinary-pharmacy/>. If this course is completed, transfer credit will be awarded when the transcript has been received in the Academic Service Office.

(7/11)

APPENDIX D: COLLEGE OF PHARMACY COURSES

Pharmacy 401

Life Long Learning I .25 credits

The Life-Long Learning (IPPE/APPE) course promotes professional development, commitment to self-improvement, accountability for one's learning as well as work and commitment to excellence. Over the course of the term, students are required to independently complete a variety of professional development IPPE activities.

Independent study.

Pharmacy 402

Introduction to Pharmacy 2 credits

This course explores the profession of pharmacy and evolution of pharmacy. The course also evaluates and discusses the role of pharmacy as it relates to patient care, other health professionals, and the role in state and federal health care issues. Concept of professionalism will be explored and reflected upon during the course. Students have the opportunity to participate in different activities in the clinical setting and to engage with other health professionals.

Pharmacy 404

Community Pharmacy 2 credits

This course is the first in the pharmaceutical care series and focuses on interpretation of prescriptions, principles of compounding and dispensing of medications, pharmaceutical calculations, pharmacy management, top 50 medications, patient counseling, and introduction to manual blood pressure.

Pharmacy 406

Patient Communications 2 credits

Students will engage in activities reinforcing key communications skills, including patient interviewing and counseling. The role of cultural influences on communication of health information is explored. Students also work on these skills outside the classroom with a community partner. The skills learned in this course will be reinforced throughout the Pharm.D. curriculum.

Medicinal Chemistry 415

Principles of Drug Action I 5 credits

This course introduces the concepts required to understand drugs as organic chemicals whose biological activities derive from their chemical structures and physicochemical properties. The course includes a survey of specific drug classes, covering their structure activity relationship, mechanism of action and issues related to their clinical use.

Prerequisites: Chemistry 215, Biochemistry 415 and Physiology 502

Pharmacy 416

Pharmaceutical Care 1 credit

This course continues the process of developing skills needed for pharmaceutical care, including gathering information to complete a patient database using the medication history, comprehensive drug therapy assessment, identification of medication related problems, creation of the pharmacist's care plan, and enhancement of both written and verbal communication skills, focusing on communication with patients and health care providers.

Prerequisites: Pharmacy 402, 404 and 406

Medicinal Chemistry 417**Principles of Drug Action II** 5 credits

This course is a continuation of Medicinal Chemistry 415 and includes a survey of drugs acting on the central nervous system, hormones, vitamins, anti-inflammatory agents and steroids, covering their structure activity relationship, mechanism of action and other issues related to their pharmacology and clinical use.

Prerequisites: MedChem 415

Medicinal Chemistry 419**Principles of Drug Action III** 5 credits

This course is a continuation of Medicinal Chemistry 415 and 417 and includes a survey of antibiotics, antiviral and anticancer agents, pharmaceutical biotechnology and immunotherapy, covering structure activity relationship, mechanism of action and other issues related to the pharmacology and clinical use of related agents.

Prerequisites: MedChem 417

Pharmacy 420**Pharmacy and the US Health Care Systems I** 2 credits

The purpose of this course is to understand and analyze the various components of the United States Health care system with attention to the role of cost, access, pharmaceuticals, and the health care organization, government and health care professionals. This knowledge allows pharmacists to effectively navigate the health system for themselves, their patients, and society.

Pharmacy 422**Health-System Pharmacy Practice, Leadership and Management** 3 credits

This course is taught and assessed to establish best practices in health-system pharmacy and is designed to develop tomorrow's practitioners and leaders in health-system pharmacy practice. Class discussions and laboratory assignments will provide active learning opportunities for students to practice health-system skills and techniques.

Prerequisites: Second-year standing in Pharm.D. program

Pharmacy 425**Service Learning for Health Professionals** 1 credit

An interdisciplinary service-based course required for all pharmacy students. Learning experiences will focus on social justice and professional responsibilities for civic engagement. Through participation, reflection, and guided discussions, students will explore issues of health disparities, poverty, and the medically underserved. Students participate in community service activities in addition to regular classroom discussion sessions.

Pharmacy 426**Immunization Advocacy and Administration for Health Care Practitioners** 2 credits

This course is an interdisciplinary skills based elective course for pharmacy, nursing, and medical students. Through active participation in didactic community outreach projects, students engage in opportunities necessary for establishing an immunization service or clinic in various healthcare settings. Students receive a certificate of immunization training upon completion of the course.

Prerequisites: Second-year standing

Pharmacy 430**Nonprescription Therapeutics and Self-Care** 3 credits

This course is the first in a five-semester sequence on therapeutic problem solving, and emphasizes nonprescription therapies for the self-treating patient. Students learn a systematic approach to assessing, triaging and treating self-treatable conditions and about over-the-counter medications. Active learning strategies are employed.

Prerequisites: First year Pharm.D. fall-term coursework

Pharmacy 431

Therapeutic Problem Solving I 3 credits

Second in a five-part sequence which integrates the pathophysiology and therapeutics of diseases. The focus is on drug therapy and applied pharmacokinetics of common chronic and acute conditions, including hypertension and diabetes. The role of evidence-based medicine in regard to therapeutic decisions is emphasized, and builds upon basic biological, pharmacological and pharmaceutical sciences. Developing pharmaceutical care plans that build skills of recommending therapy and evaluating and monitoring the efficacy and safety of medications for individual patients is also emphasized.

Prerequisites: MedChem 415 and concurrent with MedChem 417 and PharmSci 464

Pharmacy 432

Therapeutic Problem Solving II 3 credits

Third of a five-part course sequence which integrates the pathophysiology and therapeutics of diseases. The focus is on drug therapy and applied pharmacokinetics of common and acute conditions in areas such as women's health and pediatrics among others. Class time is devoted to discussion and a laboratory. A team based interactive approach to teaching is an essential part of the course series. Since class time is devoted to discussion and a lab, it is essential that students come prepared for class. Outside classroom assignments will be an essential component of the course.

Prerequisites: MedChem 417 and Pharmacy 431 and concurrent with MedChem 419

Social and Administrative Sciences 445

Special Topics in Pharmacy Administration 2 credits

In-depth study of selected topics in pharmacy administration.

Pharmaceutical Sciences 462

Introduction to Drug Delivery 3 credits

Basic principles of drug delivery are developed with respect to identifying and characterizing biological and physical-chemical barriers to the bioavailability of drugs. Routes of drug delivery and related dosage forms are also introduced. Specific emphasis is placed on building principles and solving problems in equilibria, transport, and chemical kinetics of drug solutions as they relate to liquid dosage form performance.

Prerequisites: Chemistry 216 and Physics 216

Pharmaceutical Sciences 463

Drug Delivery and Drugs in Dispersed Systems and Solid Forms 3 credits

Course content includes the formulation, development and approval process of dosage forms comprised of dispersed phases (suspensions and emulsions) and solid phases (amorphous and crystalline). The course integrates physicochemical and concepts with quality and performance of topical, oral and inhalation dosage forms.

Prerequisites: Pharmaceutical Sciences 462

Pharmaceutical Sciences 464**Pharmacokinetic Concepts and Applications** 4 credits

This course is the third of four required courses in the pharmaceutical sciences curriculum. Course content includes the absorption, distribution, metabolism, and excretion of drugs and drug-related species by the body. Emphasis is placed on the use (not the derivation) of pharmacokinetic/dynamic models and equations. Additional emphasis is placed on designing suitable dosage regimens for the treatment and prevention of disease in humans.
Prerequisites: Pharmaceutical Sciences 463

Pharmacy 476**Principles of Research and Problem Solving** 2 credits

This is an introductory course in research methods and proposal writing. The course is designed to give students experience in hypothesis and specific aims development and an overview of scientific study design. The course objectives will be accomplished through didactic lecture and small group and individual assignments. Ultimately, each student will write a brief research proposal that follows a similar format to the Pharm.D. Investigations proposal. In addition, students will present their research idea to peers in a poster/abstract format.

Medicinal Chemistry 501**Chemical Biology I** 3 credits

This course provides a high-level overview on the structure, function and chemistry of biological macromolecules including proteins, nucleic acids and carbohydrates. Topics include: molecular forces, structure, and dynamics: understanding macromolecular folding, energetics of macromolecular interactions (kinetics and thermodynamics), ligand binding and mechanistic enzymology. Using specific examples from current literature, each topic stresses how chemists have used molecular level tools and probes to help understand the specific systems under study. The overarching theme is that biological structure and function are interconnected.

Pharmacy 501**Life Long Learning II** .25 credits

The Life-Long Learning (IPPE/APPE) course promotes professional development, commitment to self-improvement, accountability for one's learning as well as work and commitment to excellence. Over the course of the term, students are required to independently complete a variety of professional development IPPE activities.
Independent study.

Medicinal Chemistry 502**Chemical Biology II** 3 credits

This course is a continuation of Chemical Biology 501. The basic concepts obtained in Chemical Biology 501 will be applied to and demonstrated in three broad areas of interest to both chemists and biologists. The first topic discusses protein homeostasis (both biosynthesis and degradation). The second topic focuses on signal transduction, emphasizing general concepts (at the molecular level) and how small molecules have been used to probe and modulate signal transduction pathways. The final topic covers chemical biology tools and approaches (selections, screens, small molecule libraries, genomics, proteomics, directed evolution and catalytic antibodies).
Prerequisites: Chemical Biology 501

Medicinal Chemistry 505**Exploring Pharmacy; Past, Present and Future** 2 credits

A survey of the past, present and future of pharmacy in the context of drug discovery, including such topics as the

history of pharmacy, pharmaceutical biotechnology and personalized medicine. The course examines the current state of global healthcare and its impact on drug discovery and the future of pharmacy.

Prerequisites: Third year Pharm.D. students or permission of instructor

Medicinal Chemistry 507

Biochemical Pharmacology of Cancer Chemotherapy 2 credits

A drug-oriented approach to cancer chemotherapy. Current research on established and developmental drugs is discussed, including experimental approaches to investigating drug metabolism and the cellular and biochemical mechanisms of action. Drugs discussed include antimetabolites (such as nucleosides and antifolates), mitotic blockers, and DNA-interactive agents.

Prerequisites: Biochemistry 415 or 580, Medicinal Chemistry 411 or 533

Pharmacy 515

Evidenced Based Medicine 2 credits

This course teaches the principles of drug information and literature evaluation using the concepts of evidence based practice. Skills include identifying resources to answer clinical questions, developing search strategies, and critically evaluating scientific literature allowing students to identify and utilize the best evidence to make decisions regarding patient care.

Pharmaceutical Sciences 519

Pharmaceutical Engineering 3 credits

[Cross-listed with Chemical Engineering 519.] Offered in conjunction with the interdisciplinary Masters of Engineering in Pharmaceutical Engineering (M.Eng.) program, this course covers the concepts necessary to adapt engineering principles to pharmaceutical and life sciences related industries. Topics include process engineering in the drug discovery, high throughput characterization and optimization of new chemical entities, solid-state engineering, and intelligent pharmaceutical manufacturing systems. Lectures, problems, and Internet and library study will be used to develop the ideas presented.

Prerequisites: Senior or graduate standing, permission of instructor.

Pharmacy 520

Pharmacy Law and Professional Ethics 2 credits

This course emphasizes the application of pertinent laws, rules and regulations to the practice of pharmacy. It considers both the legal and ethical issues surrounding different practice situations. Also emphasized is where and how to obtain reliable and accurate information as laws, rules and regulations change. Two hours lecture a week.

Prerequisites: Third-year standing

Medicinal Chemistry 528

Protein Cofactors [cross-listed with Chemistry 528.] 2 credits

This course explores the roles of organic and organometallic cofactors in biology. Topics covered are cofactor assembly, cofactors as sensors, and cofactors in enzyme chemistry, with an emphasis on modulation of cofactor reactivity by complexation with the protein.

Prerequisites: Biochemistry 452 or Chemistry 452, or equivalent, or permission of instructor

Pharmacy 531

Pathophysiology and Therapeutics III 3 credits

This course focuses on principles of immunology, infectious disease, respiratory diseases, oncology, and transplantation

Prerequisites: Concurrent enrollment or prerequisite: Pharmacology 660; Pharmacy 431, 432, 486, 510; Medicinal Chemistry 412

Medicinal Chemistry 532

Bioorganic Principles of Medicinal Chemistry 2 credits

A mechanistic organic chemistry/biochemistry approach to medicinal chemistry, emphasizing macromolecular targets of drug action. The first of six sections focuses on receptors and ligand-receptor interactions, stressing energetics and stereochemical considerations. Section two deals with enzymes as drug targets, with emphasis on inhibitors of enzyme action. Section three explores metabolic pathways and mechanisms for xenobiotic transformation. Section four discusses DNA as a target for drug action and includes agents that interact with DNA directly and those that inhibit its synthesis. Section five covers the rationale behind pro-drug approaches as well as design strategies based on routes of bioactivation. Section six is a brief overview of biotechnology approaches with important benefits for drug discovery.

Prerequisites: Chemistry 540, Biochemistry 550, or permission of instructor

Pharmacy 532

Pathophysiology and Therapeutics IV 3 credits

This course focuses on the principles of cardiology, endocrinology, hematology, and rheumatology.

Prerequisites: Pharmacy 432, 486, 510, 531

Medicinal Chemistry 533

Survey of Medicinal Chemistry 3 credits

Offered alternate Winter Terms. A general survey of therapeutic agents in principal use today, with emphasis on their origin, chemistry, and mechanisms of action. For students having completed a one year course in organic chemistry.

Prerequisites: Medicinal Chemistry 532 or permission of instructor

Medicinal Chemistry 534

Drug Discovery 3 credits

Survey of methods used in contemporary pharmaceutical research including computational and combinatorial approaches, and high-throughput analysis of drug efficacy and metabolism.

Prerequisites: Medicinal Chemistry 532, or permission of instructor

Pharmacy 536

Community Health Service 2 credits

This course is an interdisciplinary community service-based elective. Pharmacy students work with other health discipline students, including those in nursing, dental hygiene, public health, and social work, to assess and provide service to a geographically defined community within the greater Ann Arbor community.

Prerequisites: Permission of instructor

Pharmacy 540**Managing the Medication Use System** 2 credits

This course provides students with insight to the design and management of a medication-use system. Topics include: drug formulary decision making; drug use evaluation; adverse drug-related event monitoring systems; medication error prevention; and quality improvement methods. An emphasis is placed on the integration of clinical and managerial skills to optimize the safety and quality of the medication-use system.

Prerequisites: Third-year standing

Pharmacy 542**Parenteral and Enteral Nutrition** 1 credit

An introduction to the principles and concepts of parenteral and enteral nutrition. Focus is on the specialized role of the hospital pharmacist in formulation, administration, and patient monitoring.

Prerequisites: Pharmacy 531

Pharmacy 544**Vascular Access: Introduction to Principles and Practice** 1 credit

This course focuses on options for vascular access and devices; advantages and disadvantages of each route; indications; mechanical and clinical complications; protocol driven vascular access; and care of vascular access sites in the hospital and at home. Half-term course. Two hours lecture a week.

Prerequisites: Pharmacy 531

Pharmacy 547**Pediatric Pharmacotherapy** 2 credits

This course provides disease-oriented, pharmacy-oriented insight into the pathophysiology, diagnosis, and rational drug treatment of diseases primarily encountered in the pediatric age group. Emphasis is on the pharmacist's role in selecting drug products, individualizing dosages, and monitoring patients.

Prerequisites: Pharmacy 531

Pharmacy 548**The Aging Patient** 2 credits

Sensitization to health and social status of the elderly. The course is designed to facilitate successful interaction with the aged on personal and professional levels through discussion of: physiologic changes and normal and pathologic aging; important medical conditions most common among the aged; the impact of chronic illness; issues in death and dying; modifications in drug therapy for the aged person; and the role of the pharmacist in caring for the elderly.

Prerequisites: Third- and fourth-year Pharm.D., or graduate student standing

Pharmacy 550**Opportunities in Pharmacy** 2 credits

This course explores a variety of topics, including unique opportunities for pharmacists in industry, government, professional writing; the pros and cons of post-graduate training (fellowships, residencies, Ph.D., etc.); how to get the "perfect job"; job interview techniques; pros and cons of board certification; how to become professionally active; and balancing both professional and personal demands.

Prerequisites: Second- or third-year Pharm.D. standing

Pharmacy 551**Direct Patient Care Introductory Pharmacy Practice Experience** 2 credits

This course builds upon the skills learned earlier in the Pharmaceutical Care series. It facilitates the development of pharmaceutical care skills through students' participation in patient care initiatives that contribute to the role of pharmacists in health care. Emphasis is on developing these skills: patient data collection, medication assessment, pharmaceutical care plans involving evidence-based recommendations, chart notes, case presentations, journal club, and written and verbal communications skills.

Prerequisites: Concurrent enrollment in Pharmacy 561 and Pharmacy 531 or 532.

Pharmacy 552**Disease Management** 1 credit

This course develops and enhances skills related to Pharmacy 562, Community Introductory Pharmacy Practice Experience, including self-care triage and disease state management using point-of-care testing. Students also hone other pharmaceutical care skills such as medication histories, medication assessment, case presentations, pharmaceutical care plans involving evidence-based recommendations, and written and verbal communication skills.

Prerequisites: Concurrent enrollment in Pharmacy 562 and Pharmacy 531 or 532.

Pharmacy 561**Institutional Introductory Pharmacy Practice Experience** 2 credits

This course is designed to enhance the pharmacy skills learned earlier in the program by providing hands-on experience (8 hours/week) in the hospital pharmacy setting dispensing medications, conducting drug therapy assessments, counseling patients about prescription medications, communicating with other health care practitioners, and completing special written projects or presentations.

Prerequisites: Concurrent enrollment in Pharmacy 551

Pharmacy 562**Community Introductory Pharmacy Practice Experience** 2 credits

This course is designed to enhance pharmacy skills learned earlier in the program through hands-on experience (8 hours/week) in the community pharmacy setting dispensing medications, drug therapy assessments, counseling patients about prescription and nonprescription medications, communicating with other health care professionals, and completing special written projects or presentations.

Prerequisites: Concurrent enrollment in Pharmacy 552.

Medicinal Chemistry 565**Pharm.D. Investigations Proposal** 1 credit

This course includes the proposal-writing component of the Pharm.D. investigations project. A grade will be submitted upon the successful submission and final approval of the proposal by the Pharm.D. Investigations Committee.

Prerequisites: Third-year standing

Pharmaceutical Sciences 565**Pharm.D. Investigations Proposal** 1 credits

This course includes the proposal-writing component of the Pharm.D. investigations project. A grade will be submitted upon the successful submission and final approval of the proposal by the Pharm.D. Investigations

Committee.

Prerequisites: Third-year standing

Pharmacy 565

Pharm.D. Investigations Proposal 1 credits

This course includes the proposal-writing component of the Pharm.D. investigations project. A grade will be submitted upon the successful submission and final approval of the proposal by the Pharm.D. Investigations Committee.

Prerequisites: Third-year standing

Pharmacy 567

Introduction to Critical Care Pharmacotherapy 2 credits

This course provides a basic overview of key concepts in critical care. Course content includes the principles of hemodynamic monitoring and the pathophysiology and management of selected diseases affecting major organ systems and requiring intensive care therapy.

Prerequisites: Third-year standing

Pharmaceutical Sciences 568

Investigations in Pharmaceutics 1-6 credits

Original investigation of a laboratory or library problem to be selected after consultation with the instructor. A paper is required.

Prerequisites: Permission of instructor

Medicinal Chemistry 569

Pharm.D. Investigations 1.5 credits

Original investigation of scientific and clinical practice problems, selected after consulting with the instructor. A paper is required.

Prerequisites: Third-year standing. Permission of instructor.

Pharmaceutical Sciences 569

Pharm.D. Investigations 1.5 credits

Original investigation of scientific and clinical practice problems, selected after consulting with the instructor. A paper is required.

Prerequisites: Third-year standing. Permission of instructor.

Pharmacy 569

Pharm.D. Investigations 1.5 credits

Original investigation of scientific and clinical practice problems, selected after consulting with the instructor. A paper is required.

Prerequisites: Third-year standing. Permission of instructor.

Medicinal Chemistry 570

Research 1-6 credits

The experiences will vary depending on the specific faculty member's project but may include: conducting clinical or basic science research, performing an extensive review of the literature and preparing a summary report/manuscript, analyzing data that has previously been collected. Students may work on a single project or be

exposed to several types of projects during the course. For specific details of the course, students should contact individual faculty.

Prerequisites: Pharm.D. students. Permission of instructor.

Pharmaceutical Chemistry 570

Research 1-6 credits

The experiences will vary depending on the specific faculty member's project but may include: conducting clinical or basic science research, performing an extensive review of the literature and preparing a summary report/manuscript, analyzing data that has previously been collected. Students may work on a single project or be exposed to several types of projects during the course. For specific details of the course, students should contact individual faculty.

Prerequisites: Pharm.D. students. Permission of instructor

Pharmaceutical Sciences 570

Research 1-6 credits

The experiences will vary depending on the specific faculty member's project but may include: conducting clinical or basic science research, performing an extensive review of the literature and preparing a summary report/manuscript, analyzing data that has previously been collected. Students may work on a single project or be exposed to several types of projects during the course. For specific details of the course, students should contact individual faculty.

Prerequisites: Pharm.D. students. Permission of instructor

Pharmacy 570

Research 1-6 credits

The experiences will vary depending on the specific faculty member's project but may include: conducting clinical or basic science research, performing an extensive review of the literature and preparing a summary report/manuscript, analyzing data that has previously been collected. Students may work on a single project or be exposed to several types of projects during the course. For specific details of the course, students should contact individual faculty.

Prerequisites: Pharm.D. students. Permission of instructor

Social and Administrative Sciences 570

Research 1-6 credits

The experiences will vary depending on the specific faculty member's project but may include: conducting clinical or basic science research, performing an extensive review of the literature and preparing a summary report/manuscript, analyzing data that has previously been collected. Students may work on a single project or be exposed to several types of projects during the course. For specific details of the course, students should contact individual faculty.

Prerequisites: Pharm.D. students. Permission of instructor

Pharmaceutical Chemistry 571

Investigations in Pharmaceutical Analysis 1-6 credits

Original investigation of a laboratory or library problem to be with the instructor. A paper is required.

Prerequisites: Permission of instructor

Pharmacognosy 572

Investigations in Pharmacognosy 1-6 credits

Original investigation of a laboratory or library problem to be selected after consultation with the instructor. A paper is required.

Prerequisites: Permission of instructor

Medicinal Chemistry 573

Investigations in Medicinal Chemistry 1-6 credits

Original investigation of a laboratory or library problem to be selected after consultation with the instructor. A paper is required.

Prerequisites: Permission of instructor

Social and Administrative Sciences 574

Investigations in Pharmacy Administration 1-6 credits

Original investigation of a laboratory or library problem to be selected after consultation with the instructor. A paper is required.

Prerequisites: Permission of instructor

Pharmacy 580

Special Topics 1-6 credits

An in-depth discussion of selected pharmacy- and medication-related issues. Students will be expected to provide in-class presentations and write a paper.

Pharmaceutical Sciences 596

Pharmaceutical Engineering Seminar 1 credits

Offered in conjunction with the interdisciplinary Master of Engineering (M.Eng.) in Pharmaceutical Engineering program. The seminar features invited speakers from pharmaceutical and life science-related industries and academic institutions.

Prerequisites: [Cross-listed with Chemical Engineering 596.]

Pharmacy 597

Regulatory Issues for Scientists, Engineers, and Managers 2 credits

Science- and technology-based rationale behind various regulatory issues involved in pharmaceutical and related industries.

Medicinal Chemistry 608

Topics in Cancer Chemotherapy 2 credits

This course introduces a study of how basic biological mechanisms have aided in the design and use of cancer chemotherapeutic agents. The chemistry and biochemical pharmacology of the various classes of agents are considered in detail. Two hours lecture a week.

Prerequisites: Medicinal Chemistry 411 or Medicinal Chemistry 533.

Medicinal Chemistry 625

Drug Discovery and Development: From Test Tube to Pharmacy Shelf 2 credits

An account of the various steps involved in taking a new drug from concept to pharmacy shelf. Covers discovery research, preclinical development, clinical research and operations, regulatory affairs, patents and trademarks,

project management, and marketing. Guest speakers from industry give two-hour presentations.

Prerequisites: Third-year Pharm.D. or graduate student standing

Medicinal Chemistry 635

Advanced Topics in Medicinal Chemistry 2 credits

Lectures and discussion on one or more topics of current investigational importance. Two hours lecture and discussion a week. For the Fall Term 2011: This course surveys the strategies and techniques used to transform biologically active molecules into potential therapeutic agents. Topics include: sources of molecular leads, structure-activity relationship analysis, improving pharmacokinetics and reducing toxicity. The course concludes with case histories of successful drug development illustrating the application of design principles taught in the class.

Prerequisites: Medicinal Chemistry 532 and 533 or permission of instructor

Medicinal Chemistry 640

Short Course in Pharmacological Sciences 1 credits

This course, presented by the Medical School Department of Pharmacology, details a given area of pharmacological research. Guest speakers give two-hour presentations, the first hour of which is an introductory overview of a topic; the second, a more detailed presentation of current research in the area. Past topics have included opiate and opiate-related peptides and control of neurotransmitter release. Ten hours lecture a week.

Pharmacy 680

Pharm.D. Seminar 1 credits

A formal seminar is presented by each student to the fourth-year Pharm.D. class and selected faculty on topics ranging from patient case studies to the analysis of pharmacy practice problems. Each seminar topic is directed by a faculty preceptor and includes a question and answer period and discussion questions.

Prerequisites: Fourth-year Pharm.D. standing

Pharmacy 685

Elective Advanced Pharmacy Practice Experience (APPE) 3 credits

Students may choose from a variety of advanced pharmacy practice experiences in ambulatory care, inpatient care, institutional pharmacy, community pharmacy, and non-traditional practice settings. This course cannot be elected on a pass/fail basis and should only be elected as a tenth rotation. See course description for Pharmacy 687.

Prerequisites: Fourth-year standing

Pharmacy 687-695

Advanced Pharmacy Practice Experience (APPE) 3 credits each

Each of the eight required advanced pharmacy practice experiences provide four weeks of supervised pharmacy practice for at least 40 hours per week. The advanced pharmacy practice experiences are conducted in community, institutional, inpatient care, ambulatory care, drug information, and nontraditional care practice settings throughout southeast Michigan, or at select out-of-state sites.

Prerequisites: Fourth-year standing and successful completion of Pharmacy 531 and 532

Pharmaceutical Sciences 700

Biopharmaceutics and Drug Disposition 3 credits

This entry level course is designed for 1st or 2nd year graduate students in the pharmaceutical or related

biomedical sciences. The course focuses on the ADME concepts of absorption, distribution, metabolism, excretion, and basic pharmacokinetic/dynamic modeling, along with transport, transporters, drug metabolism, and pharmacogenomics. One and one-half hour lectures are held twice a week.

Pharmaceutical Sciences 701

Pharmaceutical Design, Delivery and Targeting – Physical-Chemical Concepts 3 credits

This course focuses on the physical-chemical concepts of drug design, delivery and targeting. The fundamental principles of drug molecules in physical pharmacy, formulation, and drug delivery technologies are covered in this course.

Prerequisites: Graduate student standing

Pharmaceutical Sciences 702

Pharmaceutical Design, Delivery and Targeting – Biomolecular Concepts 3 credits

This course focuses on the biological and molecular concepts of drug design, delivery and targeting. The fundamental principles of cell biology and molecular biology will be applied to drug design, targeted drug delivery, and cellular drug delivery.

Prerequisites: Graduate student standing

Social and Administrative Sciences 710

Pharmacist Roles and Pharmaceutical Products 2 credits

This course addresses two key areas related to pharmacists and pharmaceutical products: (1) the roles and functions of pharmacists and pharmaceutical products; and (2) the regulation, distribution, and pricing of pharmaceutical products.

Prerequisites: Graduate students

Social and Administrative Sciences 720

Drug Utilization Review 2 credits

The first part of this course addresses quality assurance in the American health care delivery system, with particular focus on professional services. The second part examines a specialized quality assurance methodology, called drug utilization review, that focuses on the prescribing and use of prescription drug therapy.

Prerequisites: Graduate students

Social and Administrative Sciences 722

Work-Related Attitudes and Behaviors of Pharmacists 2 credits

An in-depth analysis of the various social, organizational and psychological factors that influence job satisfaction, commitment, stress, turnover, etc. Course readings and discussions explore related theories and concepts and how these theories and concepts influence pharmacists in the workplace. A course project is required.

Prerequisites: Graduate students and third-year Pharm.D. students

Social and Administrative Sciences 725

Managing the Medication Use System 2 credits

This course examines the medicine use system within the framework of continuous quality improvement. Students will gain familiarity with the basic concepts of quality improvement and learn how these concepts can be used to improve the quality of medication use in collaboration with patients, physicians, pharmacists, administrators and regulators.

Prerequisites: Graduate or third-year Pharm.D. students

Social and Administrative Sciences 726

Pharmaceutical Health Services Research 2 credits

This course is an advanced-level seminar on the concepts, methods and problem areas addressed by pharmaceutical/health services research as a field of inquiry. The focus of the course is on the development and critique of a health services research proposal.

Prerequisites: Graduate student standing

Pharmaceutical Sciences 734

Pharmacogenomics and Drug Discovery 2 credits

Introduction to the basic principles of pharmacogenomics, and discussion of its impact on the biotechnology and pharmaceutical industry. Lectures and student-led presentations of current, relevant developments.

Prerequisites: Permission of instructor. Offered alternate years.

Medicinal Chemistry 740

Seminar in Medicinal Chemistry 1 credits

Presentation of topics from the original literature by students.

Prerequisites: Medicinal Chemistry 533 or equivalent

Pharmaceutical Sciences 752

Controlled Drug Delivery 2 credits

general overview of important topics and mechanisms in controlled drug delivery systems will be discussed. Fundamental principles in physical chemistry and engineering will be applied toward solving controlled drug delivery problems with accompanying graded problem sets. Approaches to examining experimental problems will be also be covered.

Prerequisites: Math 216, or equivalent, or permission of instructor.

Pharmaceutical Sciences 753

Current Topics in Biotechnology 2 credits

A broad spectrum of topics related to biotechnology and biomedical engineering are covered, including the production, isolation, purification, monitoring, and formulation of biotechnologically derived protein and peptide components, as well as the delivery systems and potential application of these biomedical compounds. Many state-of-the-art biotechnology techniques such as recombinant DNA, the ELISA assays, and biosensors also will be discussed. Two hours lecture a week.

Prerequisites: Biochemistry 515 or permission of instructor.

Pharmaceutical Sciences 754

Fundamental Physical Properties of Solids 2 credits

The properties of solids and their influence on the dosage form are discussed. Powder and compaction technology is described. Two hours lecture and discussion a week.

Prerequisites: Chemistry 463

Pharmaceutical Sciences 755

Advanced Topics in Pharmaceutics 2 credits

The application of recently developed concepts and techniques to pharmaceutical research.

Prerequisites: Chemistry 463.

Pharmaceutical Sciences 757**Transport Phenomena in Pharmaceutical Systems** 2 credits

This course covers both classical transport phenomena and molecular membrane transport. Topics will focus on application of basic equations of convection and diffusion to problems of pharmaceutical interest. Topics include: convection and diffusion in drug dissolution and oral drug absorption; mass transfer with chemical reaction, especially acid/base; membrane carrier transport. Two hours lecture a week. Taught every second year.

Prerequisites: Chemistry 463, Mathematics 450 or permission of instructor

Pharmaceutical Sciences 760**Advanced Pharmacokinetics and Biopharmaceutics** 3 credits

A continuation of the basic concepts introduced in PharmSci 464 or 700. The course emphasizes the derivation and use of pharmacokinetic and pharmacodynamic equations, methods of data analysis, and computer applications including the use of WinNonlin and NONMEM.

Prerequisites: Math 216 (Differential Equations) and PharmSci 464 or 700 (Basic Pharmacokinetics); or permission of instructor. A course in statistics would be helpful.

Pharmaceutical Sciences 761**Population Pharmacokinetics** 2 credits

An interdisciplinary graduate course offered through the M.Engin. in Pharmaceutical Engineering program. Material covers both the theoretical and practical aspects of population pharmacokinetics and pharmacokinetic/pharmacodynamic modeling. In addition to lectures, students work with invited speakers from the FDA and the pharmaceutical industry to solve problems using case studies; receive hands-on training in relevant software; and are provided data sets to practice coding control streams, running various models, and evaluating the results in plots as well as in text.

Prerequisites: Graduate students, Pharm.D. students and senior undergraduate students with a background in pharmaceutical sciences, clinical pharmacy, pharmaceutical engineering, chemical and biomedical engineering, or biostatistics.

Pharmaceutical Sciences 762**Fundamentals of Drug Delivery** 2 credits

This course offers an introduction to the advanced topics for the mechanisms of various drug delivery systems. The following topics will be covered: identifying and characterizing physical/biological barriers to drug transport in various routes of drug administrations; dosage form and stability considerations to optimize systemic and drug target-site availability; in vitro and in vivo delivery assessments; the role of drug delivery in drug discovery and development; and regulatory considerations of drug delivery systems.

Prerequisites: Pharmaceutics 465, or permission of instructor

Pharmaceutical Sciences 763**Cellular and Molecular Approaches to Drug Delivery** 2 credits

Discussion on the molecular mechanism of cellular processes, such as cellular uptake and transport, that are relevant to the rational design of drug delivery systems, which will be followed by survey of the cellular and molecular basis and technical design of contemporary drug carrier systems.

Prerequisites: Third-year Pharm.D. or graduate student standing

Social and Administrative Sciences 780

Advanced Topics in Social and Administrative Sciences 1-3 credits

An indepth discussion of selected pharmacy and medication related issues. Students will be expected to provide in-class presentations and/or write a paper.

Prerequisites: Graduate students or permission of instructor

Medicinal Chemistry 799

Roundtable on Selected Topics in Medicinal Chemistry 1 credits

Topics researched by students and presented to a class of not more than 12 members. Group discussion is encouraged. Students may write critiques of presentations. One area of medicinal chemistry is covered each semester the course is taught. Pass/fail grading system.

Prerequisites: Medicinal Chemistry 532 and 533, Pharmacology 500, or permission of instructor

Pharmaceutical Sciences 838

Seminar in Pharmaceutics 1 credits

Reports on current studies in the field of pharmaceutics. May be elected by candidates for the master of science degree with permission of instructor but will not be credited toward the 28-hour minimum requirement for the degree. Satisfactory/unsatisfactory grading system.

Prerequisites: Graduate student standing or permission of instructor

Pharmacy 839

Seminar in Pharmacy 1 credits

Reports on current studies in the field of pharmacy. May be elected by candidates for the M.S. degree with permission of the instructor, but will not be credited toward the 28-hour minimum requirement for this degree.

Social and Administrative Sciences 839

Seminar in Social and Administrative Sciences 3 credits

Reports on current studies in social and administrative sciences in pharmacy.

Medicinal Chemistry 840

Seminar in Medicinal Chemistry or in Pharmaceutical Analysis 1 credits

Reports on current studies in medicinal chemistry or pharmaceutical analysis.

Social and Administrative Sciences 870

Research Methods in the Behavioral Sciences 3 credits

Advanced methods in behavioral research focusing on the use of structural equation models.

Prerequisites: Graduate students

Medicinal Chemistry 990

Dissertation/Precandidacy 1-4 credits

Election for dissertation work by doctoral students not yet admitted to candidacy.

Prerequisites: Advanced doctoral student status

Pharmaceutical Chemistry 990

Dissertation/Precandidacy 1-4 credits

Election for dissertation work by doctoral student not yet admitted to candidacy.

Prerequisites: Advanced doctoral-student status

Pharmaceutical Sciences 990

Dissertation/Precandidacy 1-4 credits

Election for dissertation work by doctoral students not yet admitted to candidacy

Pharmacy 990

Dissertation/Precandidacy 2-8 credits

Election for dissertation work by doctoral student not yet admitted to candidacy.

Prerequisites: Advanced doctoral-student status

Social and Administrative Sciences 990

Dissertation/Precandidacy 2-8 credits

Election for dissertation work by doctoral students not yet admitted to candidacy. This course is elected through the Pharmacy degree program in the Rackham School of Graduate studies.

Prerequisites: Advanced doctoral student status

Medicinal Chemistry 995

Dissertation/Candidacy 4 credits

Election for dissertation work by doctoral student admitted to candidacy.

Prerequisites: Doctoral candidacy

Medicinal Chemistry 995

Dissertation/Candidacy 4 credits

Election for dissertation work by doctoral students admitted to candidacy.

Prerequisites: Doctoral candidacy

Pharmaceutical Sciences 995

Dissertation/Candidacy 4 credits

Election for dissertation work by doctoral students admitted to candidacy.

Prerequisites: Doctoral candidacy

Pharmacy 995

Dissertation/Candidacy 8 credits

Election for dissertation work by doctoral student admitted to candidacy.

Prerequisites: Admission to candidacy

Social and Administrative Sciences 995

Dissertation/Candidacy 8 credits

Election for dissertation work by doctoral student admitted to candidacy. This course is elected through the Pharmacy degree program in the Rackham School of Graduate studies.

Prerequisites: Admission to candidacy