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INTRODUCTION

College of Pharmacy Mission

Our Mission—The College of Pharmacy educates pharmacists and scientists and engages in research and practice to improve the health of the people of Minnesota and society.

Professional Program Mission Statement—
The mission of the professional program is to educate pharmacists with superior knowledge and skills to provide pharmaceutical care.

Our Vision—The College of Pharmacy excels in innovation and leadership in all aspects of our mission while serving the health care needs of Minnesota. Our Doctor of Pharmacy graduates deliver essential pharmaceutical services and lead the profession. Our research, scholarship, and practice result in the development of new drugs and drug delivery systems, the optimization of drug use, and the advancement of pharmaceutical care and education. Our Masters and Doctor of Philosophy graduates are outstanding researchers in academia, industry, government, and practice settings.

Supporting Statements—The program teaches students through a common patient-care process how to meet the drug-related needs of society at a patient-specific level. Emphasis is placed on preparing a generalist practitioner with the knowledge, skills, and values required to provide patient care. The program provides knowledge of the chemical, biological, physical, social, and clinical sciences that underlie pharmacy. Students in the program develop skills such as problem solving, communication, and analytical thinking, as well as the ability to adapt to change and challenges in health care. Professional ethics, social responsibility, professional citizenship, and commitment to lifelong learning are values emphasized by the program.

University of Minnesota Mission Statement

The University of Minnesota, founded in the belief that all people are enriched by understanding, is dedicated to the advancement of learning and the search for truth; to the sharing of this knowledge through education for a diverse community; and to the application of this knowledge to benefit the people of the state, the nation, and the world.

The University's mission, carried out on multiple campuses and throughout the state, is threefold:

Research and Discovery—Generate and preserve knowledge, understanding, and creativity by conducting high-quality research, scholarship, and artistic activity that benefit students, scholars, and communities across the state, the nation, and the world.

Teaching and Learning—Share that knowledge, understanding, and creativity by providing a broad range of educational programs in a strong and diverse community of learners and teachers, and prepare graduate, professional, and undergraduate students, as well as non-degree-seeking students interested in continuing education and lifelong learning, for active roles in a multiracial and multicultural world.

Outreach and Public Service—Extend, apply, and exchange knowledge between the University and society by applying scholarly expertise to community problems, by helping organizations and individuals respond to their changing environments, and by making the knowledge and resources created and preserved at the University accessible to the citizens of the state, the nation, and the world.

In all of its activities, the University strives to sustain an open exchange of ideas in an environment that embodies the values of academic freedom, responsibility, integrity, and cooperation; that provides an atmosphere of mutual respect, free from racism, sexism,
and other forms of prejudice and intolerance; that assists individuals, institutions, and communities in responding to a continuously changing world; that is conscious of and responsive to the needs of the many communities it is committed to serving; that creates and supports partnerships within the University, with other educational systems and institutions, and with communities to achieve common goals; and that inspires, sets high expectations for, and empowers the individuals within its community.

Overview

The College of Pharmacy at the University of Minnesota is one of the outstanding pharmacy education and research institutions in the world. *U.S. News and World Report* ranks it as the third best college of pharmacy in the United States. Graduates of the four-year doctor of pharmacy (Pharm.D.) program enter the profession as well-qualified, highly sought-after pharmacists.

The college’s programs are supported by centers of excellence in diverse areas—such as geriatrics, pharmacy management and economics, rural pharmacy, pharmaceutical care, and drug design and delivery. The teaching, research, and service activities of the 80 full-time faculty members and hundreds of volunteer faculty are focused in five departments: medicinal chemistry, pharmaceutics, pharmaceutical care and health systems, experimental and clinical pharmacology, and pharmacy practice and pharmaceutical sciences (Duluth).

The Twin Cities campus of the college is housed in the Academic Health Center on the Minneapolis campus. The Duluth campus is located at the University of Minnesota, Duluth (UMD), and is housed in the Life Sciences Building, renovated in 2007 for the college and adjacent to the Medical School, Duluth. Both campuses are designed for health education, research, and practice.

Pharmacy students have access to modern classrooms, laboratories, and more than 350,000 volumes of pharmacy resource materials. In addition, students have unique opportunities to experience rural/small town and urban pharmacy practice, interprofessional activities, and outreach to the community.

The college is fully accredited by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500 Chicago, IL 60602-5109 (312-664-3575).

History

Throughout the college’s history, its programs have evolved to meet the needs of the pharmacy profession. In 1892, the college initiated a program consisting of two years of professional studies leading to the doctor of pharmacy degree. To accommodate new knowledge and technology, the period of formal instruction was extended to a four-year baccalaureate degree (B.S.) in 1927 and increased to five years in 1954. A clinical component was added to the B.S. program in 1967; a doctor of pharmacy (Pharm.D.) program was established in 1971. The college added a six-year Pharm.D. program in 1981 and, in 1987, revised the professional education curricula and introduced career-tracking options. In 1995, the college introduced a new Pharm.D. program and phased out the former Pharm.D. and B.S. programs. The college extended its program to the Duluth campus in fall 2003.

Commitment to Diversity

Students at the University of Minnesota College of Pharmacy will learn to assess and address the drug-related needs of patients from many different cultures who might speak a number of different languages and possess different value systems. This creates a need for students, our future pharmacy practitioners, who are themselves ethnically, racially, socioeconomically,
and geographically diverse, having varied life experiences and academic backgrounds. A diverse student body benefits the education of all students in our college and supports the College of Pharmacy’s commitment to educating pharmacists who will serve the health needs of a diverse society.

Consistent with University of Minnesota Regents policy, the College of Pharmacy Admissions Committee will consider the following diversity factors in the admissions review process:

- Diversity of academic / professional background
- Race/ethnicity
- Geographic diversity
- First generation college student
- Challenging or disadvantaged background
- Ability in multiple languages

**Services for Students with Disabilities**

The University’s mission is to provide optimal educational opportunities for all students, including those with disabilities. The University recognizes that reasonable accommodations may be necessary for students with disabilities to have access to campus programs and facilities. In general, University policy calls for accommodations to be made on an individualized and flexible basis. Students are responsible for seeking assistance at the University and making their needs known.

One of the first places to seek assistance is Disability Services (DS). This office is provided by the University of Minnesota to promote access, which means ensuring the rights of students with disabilities (e.g., physical, learning, psychiatric, sensory, systemic) and assisting the University in meeting its obligations under federal and state statutes.

Disability Services has an Academic Health Center liaison who provides direct assistance such as securing documentation of disability conditions, determining and implementing reasonable accommodations, referral, and consultation for enrolled and prospective students. The liaison also provides consultation and training for faculty and staff to ensure access to their programs, facilities, and services. All services are confidential and free. For more information or to arrange reasonable accommodations, contact the DS Academic Health Center Liaisons, McNamara Alumni Center, Suite 180 (612-626-1333, voice or TTY). For the Duluth campus, contact Disability Resources, 258 Kirby Student Center (218-726-6130, TTY 218-726-7380).

**Programs of Study**

**Doctor of Pharmacy (Pharm.D.) Program** — The Pharm.D. program prepares students to identify, resolve, and prevent drug-related problems. Students learn to provide patient care to achieve positive drug-therapy outcomes that improve the quality of a patient’s life. Before enrolling in the college, students complete pre-pharmacy coursework at an accredited college. The required PharmD. coursework listed in the curricula section is offered on a full-time, day-school basis only.

**Postgraduate Fellowship and Residency Programs** — The postgraduate fellowship programs in pharmacy practice prepare clinical scientists to become leaders in drug research. The residency programs provide advanced training in general pharmacy practice, pharmaceutical care, and specialty practices such as cardiology, nephrology, infectious disease, transplant, and pediatrics.

Candidates for fellowships and most residencies must have a Pharm.D., M.S., or Ph.D. and equivalent clinical experience, be eligible for licensure to practice pharmacy in Minnesota, and meet other qualifications specific to the program for which application is made. Some residencies are available to
candidates who have a B.S. in pharmacy. For information, call 612-625-1900.

Graduate Programs—College of Pharmacy graduate programs for the M.S. and Ph.D. degrees are offered in medicinal chemistry, pharmaceutics, and social, administrative, and clinical pharmacy. Details about these programs are in the Graduate School Catalog. Visit www.pharmacy.umn.edu/graduate/ for more information on graduate programs in the College of Pharmacy.

Continuing Pharmacy Education—The College of Pharmacy offers high-quality continuing education programs for pharmacists in the Upper Midwest who provide services to patients and health care organizations. These programs are offered through various media: live programs, correspondence courses, home-study videotapes, teleconferencing, computer-assisted instruction, and Web-based instruction. The college offers noncredit as well as University-credit programs. For more information, call the Office of Outreach Education at 612-625-8616 or 1-800-633-6638 or visit ce.pharmacy.umn.edu/.

ADMISSION

Admission to the Doctor of Pharmacy (Pharm.D.) Program

Pre-pharmacy Advising

The college’s Office of Student Services (OSS) provides pre-pharmacy advising and answers questions about admission requirements and application procedures for the Pharm.D. program. Student services staff can also refer students to pre-pharmacy advisers in all Minnesota and nearby Wisconsin colleges. Students may contact the Office of Student Services at two locations:

Twin Cities—College of Pharmacy, Office of Student Services, University of Minnesota, 3-160 Weaver-Densford Hall, 308 Harvard Street S.E., Minneapolis, MN 55455, 612-624-9490, pharmacy@umn.edu.

Duluth—College of Pharmacy, Duluth, 232 Life Science, 1110 Kirby Drive, Duluth, MN 55812, 218-726-6038, copd@d.umn.edu

Admission Requirements

Candidates must have a PharmCAS GPA of at least 3.00 or a GPA of 3.20 over the last 60 semester credits to qualify for admission. The required pre-pharmacy courses (listed below) may be taken at any regionally accredited U.S. college. While the pre-pharmacy courses alone are sufficient to prepare a student for the Pharm.D. curriculum, most applicants admitted to the College of Pharmacy obtain a bachelor’s degree before entering the Pharm.D. program. Pre-pharmacy courses must be taken A–F and completed with a grade of at least C- before enrollment.

In addition to required pre-pharmacy courses, students must complete at least 30 semester (45 quarter) credits of academic general education (non-science, non-mathematics, non-professional/vocational, non-physical education) courses. Pre-pharmacy credits earned in behavioral sciences, English composition, economics, and public speaking apply toward the general education requirement. It is recommended that this requirement be completed before entering the Pharm.D. program. General education courses that do not fulfill pre-pharmacy requirements may be taken S-N (pass/fail).

Transfer Students—Students wishing to transfer from another pharmacy college must fulfill all Pharm.D. admission requirements. Transfer or postbaccalaureate students may be admitted if space is available. Professional courses completed at another college of pharmacy are evaluated for equivalency to University of Minnesota College of Pharmacy coursework. Transfer students must spend at least one year at the University before qualifying for a degree. Transfer students must apply through PharmCAS.
Application Procedures

Applicants complete one application for entry into both the Twin Cities and Duluth campuses and indicate their campus choice if invited for an interview. Application materials are available from PharmCAS (www.pharmcas.org). Supplemental applications are available at www.pharmacy.umn.edu/pharmd/admissions.

The college operates a rolling admissions process, which means that applications are processed in the order they are received. Under rolling admissions, positions in the college become limited closer to the deadline. Hence applicants are encouraged to submit applications well in advance of the deadline. Applications must be received by PharmCAS by February 1. The highest-ranking applicants according to admissions criteria will be invited to interview with a faculty member. Students are admitted into the college in the fall semester only.

Required Documents

- Application submitted to PharmCAS (www.pharmcas.org)
- Fee submitted to PharmCAS
- Official transcript from each college attended (submitted to PharmCAS)
- Pharmacy College Admission Test (PCAT) score report sent to PharmCAS (code 104)
- TOEFL score (if international student whose native language is not English) submitted to PharmCAS (code 8246)
- Three recommendations (forms available from and submitted to PharmCAS)
- College of Pharmacy Supplemental Application
- $75 nonrefundable application processing fee (submitted to College of Pharmacy)

International Applicants and International Coursework

English Language—The TOEFL is required of all international applicants whose native language is not English, except those who will have completed 16 semester credits (within the past 24 months) in residence as a full-time student at a recognized institution of higher learning in the United States before entering the University of Minnesota. For information about the TOEFL, refer to www.ets.org/toefl, or call 609-771-7760 or 1-877-863-3546. An official report of the TOEFL score should be sent to PharmCAS; the TOEFL institutional code is 8246. TOEFL scores are valid within two years of the testing date.

Prerequisites

For more information on prerequisites, visit www.pharmacy.umn.edu/pharmd/admissions.

General biology, including lab .................................................................1 course
Microbiology, including lab ...................................................................1 course
Human anatomy, including lab ..............................................................1 course
Human physiology ..................................................................................1 course
Calculus ....................................................................................................1 course
Statistics ..................................................................................................1 course
General chemistry, including labs .............................................. sufficient to qualify for organic chemistry
Organic chemistry, including labs .................................................. entire sequence
General physics, including labs ....................................................... entire sequence
Courses dealing with human behavior in society (psychology or sociology courses) .......... 2 courses
English composition-advanced level ................................................. 1 course
Economics ..............................................................................................1 course
Public speaking .....................................................................................1 course
Financial Certification—Immigration Naturalization Services require international students (students residing in the U.S. with a temporary or student visa) to submit a Financial Certification Statement to show they are able to pay tuition at the University for one academic year. This document must be submitted to the college within two weeks of receiving an acceptance letter from the college. Students on a temporary or student visa are ineligible for federally-sponsored financial aid and are required to secure their own funding to cover tuition, fees, and cost of living.

Foreign Transcript Evaluation—All foreign postsecondary coursework completed by applicants must be evaluated by a foreign credentials evaluation service. The evaluation must be sent to PharmCAS to be included in the application. For detailed information for international applicants and international course evaluation, refer to www.pharmacy.umn.edu/pharmd/admissions/international.

Tuition Deposit
Applicants who are admitted pay a $500 nonrefundable tuition deposit to hold a place in the college. The deposit, along with a signed declaration of intent, is due in full within two weeks of admission and is applied to the fall semester tuition. The deposit is not refunded to applicants who do not enroll in the year admitted; nor is it transferable to another application cycle.

Evaluation of Applicants
The Admissions Committee uses the following criteria to evaluate all applicants (in no particular order of weight or importance):

• Academic achievement—GPA, PCAT, course selection, course load, bachelor’s degree (preferred)
• Work experience
• Three recommendations—Recommendations must be from individuals who know the applicant professionally or academically (no personal references). Examples of appropriate referees include supervisor, employer, professor, or volunteer position supervisor.
• Community service, volunteerism, extracurricular activities, and leadership experience
• Understanding of and motivation for profession of pharmacy
• Application essays
• On-campus interview
• Diversity factors including but not limited to academic background, professional background, race/ethnicity, geographic diversity, first-generation college student, challenging or disadvantaged background, and ability in multiple languages

Essential Capacities for Matriculation, Promotion, and Graduation
One of the primary missions of the College of Pharmacy is to educate pharmacists with superior knowledge and skills to provide contemporary patient care services both now and in the future. The faculty of the college strive to deliver an education that will, through the graduates of the doctor of pharmacy program, attain the highest levels of this goal.

Principles
The professional program leading to the doctor of pharmacy degree and eligibility for pharmacist licensure requires a certain level of cognitive, behavioral, and technical skill, and personal and professional integrity inherent in a professional education. These principles and standards hold for admission to, progression in, retention by, and completion of the program.
The primary role of the pharmacist is to provide safe and effective health care to patients. Patient safety must be considered in the selection and education of student pharmacists. The College of Pharmacy also has a responsibility to maintain a safe environment in the settings in which its students practice and receive an education. Student pharmacists must contribute to a safe environment through their personal, physical, and mental health or social behavior. Students must complete the academic program in a reasonable length of time, must be able to acquire a pharmacist intern license after their first year in the college and maintain the license during their educational program, and must be eligible for a pharmacist license after they complete the doctor of pharmacy program.

All students are expected to fulfill the same core educational requirements. Reasonable education-related accommodations are provided where possible, within University guidelines. Students need to possess the skills and abilities that, with or without accommodations, will allow successful fulfillment of program requirements. Graduates are eligible to become pharmacists without restrictions on their practice. The program does not allow students to take a partial set of required activities.

### Technical Standards

**Observation**—Observation requires the use of visual, auditory, and somatic senses, with reasonable accommodation if necessary. Students must have the ability to observe and evaluate, in classrooms and patient care areas, demonstrations, experiments, and patients; perform physical assessments; and observe the quality of pre-manufactured and compounded medications.

**Communication**—Student pharmacists must communicate effectively and efficiently in oral and written English and properly use and recognize nonverbal communication cues, with reasonable accommodation if necessary. They must be capable of completing professional communication activities in a timely manner.

**Motor**—Student pharmacists must have coordinated muscular movements, with reasonable accommodation if necessary, to prepare and evaluate all forms of medication orders, use diagnostic equipment for patient assessment, and directly deliver patient therapies.

**Intellectual, conceptual, integrative, and quantitative abilities**—Student pharmacists must demonstrate a fundamental and continuing ability to use analytical reasoning to independently and in collaboration with a health care team synthesize knowledge, solve problems, and explain health care situations. Information must be obtained, retrieved, evaluated, and delivered in an efficient and timely manner. Students must be able to demonstrate good judgment in patient care and assessment and have the ability to incorporate new and changing information obtained from the practice environment.

**Behavioral and social attributes**—Student pharmacists must demonstrate appropriate professional and ethical demeanor. Students must be able to function within the regulatory and institutional limits of the educational environment and modify behaviors based on criticism. Students must demonstrate compassion and integrity, a concern for others, and respect for the privacy of information about patients. This requires responsibility for personal action and emotional stability under the stressful conditions that may arise from their professional education.

Individuals with questions or concerns about their ability to meet these standards are encouraged to call the director of student services at 612-624-2649.

### Background Study Requirement

Minnesota law requires that any student who provides services that involve unsupervised direct contact with patients and residents at
hospitals, nursing homes, and other health care facilities licensed by the Minnesota Department of Health undergo a background study conducted by the state. The study covers civil agency findings related to maltreatment of children or vulnerable adults and a range of criminal convictions. A student who is disqualified from having direct patient contact as a result of the background study and whose disqualification is not set aside by the commissioner of health may not participate in a clinical placement in these licensed health care facilities. Failure to pass the background study is grounds for dismissal from the doctor of pharmacy program.

COSTS AND FINANCIAL AID

Tuition and Fees
For current information on tuition and fees, please visit www.pharmacy.umn.edu/pharmd/admissions/costs/.

As part of their required courses, students complete introductory and advanced pharmacy practice experiences at a variety of sites throughout the state. Students may be required to live in locations other than Duluth or the Twin Cities during summer Introductory Pharmacy Practice Experiences (IPPEs) and fourth-year Advanced Pharmacy Practice Experiences (APPEs). Students are responsible for living and travel arrangements and expenses.

Residency and Reciprocity
Because the University is a state subsidized institution, Minnesota residents pay lower tuition than nonresidents. To qualify for resident status, students must permanently reside in Minnesota and have been physically and continuously present in the state for at least one calendar year before the first day of class attendance at the University; and must, during this one-year period, have resided in Minnesota for some reason other than primarily to attend classes at a postsecondary education institution. The College of Pharmacy has reciprocity agreements with South Dakota, Wisconsin, and Manitoba. For more information, contact Residency and Reciprocity Office, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612-625-6330) or Office of the Registrar and Financial Aid, Student Assistance Center, 21 Solon Campus Center, 1117 University Drive, Duluth, MN 55812 (218-726-8000) or the residency office on your campus.

Financial Aid
Pharmacy students finance their education from a combination of sources, including personal or family funds, scholarships, loans, and employment. Applications for federal, state, and institutional loans are administered by the financial aid office on each campus. Students file a Free Application for Federal Student Aid (FAFSA) with the financial aid office on the campus of their enrollment. The FAFSA is available at www.fafsa.ed.gov and at financial aid offices.

Applications should be filed as soon as possible after January 1. Students may apply before they are admitted.

Twin Cities: Rockne Bergman, Financial Aid Counselor for Health Professions, Moos Tower 2-693 (office hours noon-4:00 pm, Monday, Wednesday, Thursday), 612-624-4138, r-berg@umn.edu.

Duluth: Office of the Registrar and Financial Aid, Student Assistance Center, 21 Solon Campus Center, 1117 University Drive, Duluth, MN 55812 (218-726-8000), umdhlp@d.umn.edu, www.d.umn.edu/fareg.

For questions about financial aid for international students, call International Student and Scholar Services (612-624-7100).

College of Pharmacy Scholarships
Students on either campus may apply for College of Pharmacy scholarships that range from $500 to $6,000. To be considered, students should have a complete financial aid application on file in the financial aid office.
on their campus of enrollment. Scholarship applications are available from the Office of Student Services. The college’s Student Affairs Committee selects scholarship recipients. Scholarships are disbursed by the financial aid office on each campus. If a fully funded student receives a scholarship, other forms of assistance are affected. Scholarships include the following:

**Abbie N. Larson Memorial Scholarship**—For a Minnesota resident, recognizing academic achievement and financial need.

**Ben M. Benson Scholarship**—For a first-year student who has shown academic achievement and financial need.

**Benjamin M. Cohen Memorial Scholarship**—For a student with academic excellence and financial need.

**Bert Supplee Memorial Scholarship**—For a student with academic excellence and with extracurricular involvement or community service.

**Cecil A. Krelitz Memorial Scholarship**—For a PD1 student from Minnesota who has interest in community pharmacy.

**Charles A Bowman Scholarship**—For a student with financial need.

**Claude A. Mather Memorial Scholarship**—For a student from Eveleth or the Iron Range.

**College Board Scholarship**—For a student with financial need.

**College of Pharmacy, Duluth Scholarship**—For a Duluth student with financial need and proven merit.

**Cub Pharmacies Scholarship**—For a PD2, PD3, or PD4 student with an interest in community pharmacy and a GPA above 2.00.

**CVS Scholarship**—For a student in good academic standing with an interest in community pharmacy.

**Dale and Ione Olson Family Scholarship**—For a deserving pharmacy student.

**Dean's Nonresident Scholarship**—For the highest-ranking nonresident applicants.

**Dohmen Scholarship**—Recognizing financial need and merit, one scholarship to a Duluth student and another to a Twin Cities student with interest in community independent retail pharmacy.

**Edward A. Brecht Scholarship**—For a student from Minnesota with sincere interest in pursuing pharmacy as a profession.

**F. J. Wulling Scholarship**—For a deserving pharmacy student.

**Frank Digangi Kappa Psi Scholarship**—For Kappa Psi members based on financial need, activity in Kappa Psi, and participation in community activities. In honor of Dr. DiGangi’s service to the fraternity.

**Frank E. Digangi Scholarship**—In recognition of leadership and professional promise.

**Fred and Harriet Multaler Scholarship**—For a deserving pharmacy student.

**Glen Einess Scholarship**—For a PD3 or PD4 student with financial need.

**Harold H. Carpenter Memorial Scholarship**—Based on interest and outstanding achievement in rural pharmacy.

**Harold Pratt Memorial Scholarship**—For a deserving pharmacy student.

**James J. Remes Scholarship**—For a deserving pharmacy student.

**Keith K. Keller Memorial Scholarship**—Based on interest in community pharmacy and financial need.

**Leslie and Carolyn Collins Scholarship**—For a deserving pharmacy student.

**Marvin L. and Joanell M. Drystad**—For first-year students who have shown leadership in community service or other leadership opportunities.

**Max and Rose Sadoff Memorial Scholarship**—Based on the strength of an essay on pharmacy law or ethics.
Melandy/Peters Summer Research Scholarship — For the top summer research proposals.

Michelle Mentzer Memorial Scholarship — For a third-year student who demonstrates spirit and enthusiasm and whose courage inspires colleagues to make changes in the profession.

MSHP Scholarship — For a PD3 MPSA or MSHP member with financial need. Applicants for this $1,000 scholarship submit a paper on the role of a health-system pharmacist with regard to patient safety.

NACDS Scholarship — For a deserving pharmacy student.

Paddock Laboratories Scholarship — In recognition of financial need of a student who is a single parent or from single-parent family.

Peters Academic Scholarship — For applicants with the highest rankings based on admissions criteria.

Peters Achievement Scholarship — In recognition of financial need and extracurricular activities.

Peters Leadership Scholarship — For PD2 and PD3 students with the most professional promise.

Peters Rural Scholarship — For a first-year student from rural Minnesota who shows academic excellence, financial need, and extracurricular involvement. To be maintained four years.

Peters Scholarship for Future Practitioners in Underserved Communities — For first-year students with the best and most feasible plans to practice in medically-underserved communities. To be maintained four years.

Pharmacists Mutual Insurance Scholarship — For a deserving pharmacy student.

Pharmacy Alumni Society Scholarship — For a deserving pharmacy student.

Pharmacy’s for Me Scholarship — For a deserving first-year student.

Robert W. Anderson Memorial Scholarship — To help students with financial need finish their pharmacy education.

Roy H. and Douglas J. Olson Scholarship — For a student with academic promise and interest in community pharmacy.

Sam Lavine Memorial Scholarship — For a student showing an interest in community pharmacy.

Sarah Lavintman Mark Scholarship — For a PD4 student with interest in hospital pharmacy.

ShopKo Scholarship — For a student from CA, IL, IA, MI, MN, MT, NE, SD, or WI with community interest and financial need.

Sidney B. Benson Scholarship — For a deserving pharmacy student.

Tom and Mary Dinndorf Scholarship — In recognition of financial need, academic excellence, or extracurricular involvement.

Virgil A. Vergin Scholarship — Need and merit based, to support new students enrolling in the College of Pharmacy who show academic promise.

Walgreens Scholarship — For a student with a minimum 2.00 GPA who has played an active role in educating others about cultural competence.

Walmart Scholarship — For a student who shows leadership qualities, financial need, a GPA of at least 3.00, and an interest in community practice.

William Trumm Scholarship — Merit based, to provide scholarships for new pharmacy students with an interest in rural pharmacy practice.
STUDENT LIFE

Office of Student Services
The mission of the Office of Student Services (OSS) is to serve professional students in meeting their educational goals. OSS staff provides advice, answers questions about admissions, processes applications, and coordinates events. In addition, staff members assist Pharm.D. students with academic problems and personal concerns, through counseling and/or referral. OSS also provides programming on student development topics, such as career planning and professionalism.

OSS Twin Cities—3-160 Weaver-Densford Hall, 308 Harvard Street S.E., Minneapolis, MN 55455, 612-624-9490, pharmacy@umn.edu.

OSS Duluth—131, 135, and 139 Life Science Building, 1110 Kirby Drive, Duluth, MN 55812, 218-726-6003, 218-726-6030, or 218-726-6038, copd@d.umn.edu.

Housing
Twin Cities—Housing & Residential Life Office assists students with on- or off-campus needs. Visit www.housing.umn.edu or call 612-624-2994.

Duluth—Off-campus housing listings are available at www.d.umn.edu/kirby/housing. For on-campus housing, call Housing and Residence Life at 218-726-8178 or visit www.d.umn.edu/housing.

Activities
Pharmacy students have opportunities for valuable experience and personal growth through activities outside the classroom. Students are encouraged to take an active part in a variety of student groups.

College Board—The Pharmacy College Board is the student government body. It acts as the students’ representative and liaison and sponsors many all-college activities. Its purpose is to advance students’ interest in the college through active student participation. It is composed of class representatives and leaders of all student organizations in the college.

Minnesota Pharmacy Student Alliance—The alliance promotes the professional needs of students at the local, state, regional, and national levels. It is actively involved in educational activities and legislative matters affecting the profession at the state and national levels.

Professional Societies—Three professional societies are active in the college: Kappa Epsilon, Kappa Psi, and Phi Delta Chi. The groups sponsor activities involving students, the college, the profession, and the public.

Honor Society—Rho Chi, the national honor society of pharmacy, is represented at the University of Minnesota by the Mu Chapter. During their second professional year, eligible students may be elected to membership by society members. Election to the society is based on scholarship, character, and conduct.

Leadership Society—Phi Lambda Sigma, the national pharmacy leadership society, promotes the development of leadership qualities in pharmacy students. After the first professional year, eligible students may be elected to membership by society members. Election to the society is based on dedication, service, and leadership in the advancement of pharmacy.

Faculty Committees—Students are appointed to most standing and ad hoc committees that govern the college.

Center for Health Interprofessional Programs (CHIP) and Council for Health Interprofessional Programs Duluth (CHIP-D)—These health sciences student organizations promote a team approach to health care delivery through student services and community programs.
UMD Pharm.D. Organization—This organization performs community projects that help pharmacy students grow as professionals, educates about the profession, and organizes activities to facilitate collegial relationships among students.

Multicultural Pharmacy Student Organization—This student group provides support to minority and majority pharmacy students and promotes cultural competence to enable all students to provide better patient care.

Career Development—The college offers a variety of career-oriented activities, including an annual career day on both campuses, internship and postgraduate job listings, and résumé writing and interview skills presentations.

Pharmacopa—The Epsilon Chapter of Kappa Psi Pharmaceutical Fraternity prepares the annual Pharmacopa, which contains articles of interest as well as pictures of members of the graduating class, faculty, and staff.

Pharmacy Day—This annual celebration is sponsored by the college’s College Board. Classes are excused for a day in April so students, faculty, and staff may attend a picnic.

Awards

The college’s Student Affairs Committee annually selects pharmacy students in good academic standing to receive the following awards:

APhA-ASP Senior Recognition Award—For advancing the profession of pharmacy through outstanding service to APhA ASP.

Award of Excellence in Nonprescription Medication Studies—For a student demonstrating excellence in patient care in a community practice.

Carol A. Beaty Memorial Award—For the student demonstrating the greatest capability or interest in the area of computer applications in pharmacy.

John Y. Breckenridge Memorial Award—For a Pharm.D. II student, in recognition of outstanding scholastic achievement, professional promise, and leadership ability.

Hallie Bruce Memorial Award—For a graduating student demonstrating outstanding achievement in hospital pharmacy.

Century Mortar Club Award—For a third- or fourth-year professional student who has exhibited a commitment to the promotion of the profession of pharmacy and the safe and appropriate use of medications.

College Board Pharm.D. III Award—For a Pharm.D. III student for outstanding contributions to and involvement in the profession, the college, and its students. Candidate must be active during the Pharm.D. III year.

Community Service Award—For a graduating student who has made significant contributions to community education.

Dean’s Award—For a student who has made significant contributions to the goals of the college. This one is used as the “wild card” award. Generally it is awarded to a graduating student.

Dean’s Research Award—For a Pharm.D. I, II, or III student in recognition of outstanding achievement in research activities.

Ole Gisvold Medicinal Chemistry Award—For a graduating student with an exceptional record in all chemistry-related courses in the professional curriculum and potential for graduate study in medicinal chemistry.
Awards

GlaxoSmithKline Patient Care Award — For a Pharm.D. IV student demonstrating superior achievement in patient care.

Kappa Epsilon Award — For the student member who has rendered outstanding service to the college.

Kappa Psi Activity Award — For first- or second-year student members of Kappa Psi Pharmaceutical Fraternity in recognition of their involvement in the Epsilon or Delta Psi Chapter of Kappa Psi, community involvement, and academic achievement.

Kappa Psi Pharmacopa Award — For the editors of the Pharmacopa.

Kasper (Deborah A.) Memorial Award (Duluth) — For the Pharm.D. I student who has contributed most to class esprit de corps in the course of everyday college studies.

Kasper (Deborah A.) Memorial Award (TC) — For the Pharm.D. I student who has contributed most to class esprit de corps in the course of everyday college studies.

Kolthoff (Izaak M.) Rho Chi Research Award — For a graduating student who has contributed to and shown promise of excellence in research in pharmaceutical sciences.

Lilly Achievement Award — For a graduating student who exemplifies scholastic and professional achievement, leadership ability, and ethical conduct.

Merck Award — For the Pharm.D. IV student with the highest GPA.

Metropolitan Professional Pharmacists Society Award — For the president of the College Board.

Michelle Mentzer Memorial Award — For a third-year College of Pharmacy student who demonstrates spirit and enthusiasm and whose courage inspires his or her colleagues to make changes in the profession.

MPhA Patient Education Award — For a graduating MPhA/Academy of Students of Pharmacy student for skill and ability in public health education.

MPhA/ASP President’s Award — For the presidents of the MPhA/Academy of Students of Pharmacy (MPSA) on the Duluth and Twin Cities campuses.

MSHP Outstanding Student Award — For a graduating student who has demonstrated scholastic excellence and leadership in health-system pharmacy.

Natural Medicines Database Recognition Award — To identify and recognize a graduating senior who has exhibited interest and expertise in natural medicines and to encourage an evidence-based approach to natural meds.

Pharmacy Alumni Society Graduating Student Award — For a graduating student for scholastic excellence and extracurricular involvement.

Pharmacy Alumni Society Mentee of the Year Award — For outstanding support of the mentoring program in the College of Pharmacy.

Pharmacy Alumni Society Student Award — For a Pharm.D. I, II, or III student demonstrating professional enthusiasm and the ability to stimulate personal and professional growth among others.

Pharm.D. Paper of the Year Award — For the best Pharm.D. IV paper.

Pharm.D. Seminar Award — For the best Pharm.D. IV seminars.

Phi Delta Chi Award — For a graduating student member for outstanding service to the fraternity and the college.

Phi Delta Chi Scholarship Award — For a student member for outstanding scholarship in the first professional year.

Phi Lambda Sigma Graduating Student Award — For the outstanding graduating member of Phi Lambda Sigma.

Phi Lambda Sigma Active Member of the Year Award — For the outstanding active member of Phi Lambda Sigma.
Phi Lambda Sigma Kudos Award—To acknowledge everyday leadership and those who go the extra mile.

Rho Chi Award—For the Pharm.D. I student who has earned the highest GPA.

Teva Pharmaceuticals Outstanding Student Award—For a Pharm.D. IV who, in the opinion of the college, excels in the study of pharmacy.

Carol Windisch Memorial Award—For a student member of the Alpha Chapter of Kappa Epsilon for service to the community and fraternity, scholastic achievement, extracurricular activities, and leadership ability.

F. J. Wulling Pharm.D. I Student Award—For the Pharm.D. I student with the second highest GPA.

F. J. Wulling Pharm.D. II Student Award—For the Pharm.D. II student with the highest GPA.

F. J. Wulling Pharm.D. III Student Award—For the Pharm D. III student with the highest GPA.

Policies and Requirements

Student Code of Academic Integrity and Professional Responsibility

Part I—The University of Minnesota College of Pharmacy Honor System—developed, assumed, and administered by students—is intended to provide a framework of expectations and responsibilities for members of the College of Pharmacy community. It is intended to promote a spirit of community, a spirit of professionalism, and a spirit of trust. It challenges pharmacy students to adopt principles of professional behavior and responsibility within the context of academic honesty, integrity, and community standards. It challenges college faculty and administration to uphold, demonstrate and profess those principles and standards. It encourages all members of the College of Pharmacy community to discuss expectations in the spirit of mutual trust and respect.

The essence of the Honor System is codified in the “Pharmacy Student Code of Academic Integrity and Professional Responsibility” (the Code), which specifies student responsibilities relative to academic honesty and clinical obligations. The spirit and intent of the Honor System is to prevent the occurrence of such violations through proper education, and appeal to individual conscience and mutual understanding of expectations among the members of the College of Pharmacy community. The Code is communicated, promoted and maintained by the Honor Council, a group of students elected by their peers. Reports of alleged Code violations are investigated and processed by the Honor Council in a manner that assures the anonymity of all parties involved, except in cases of appeal by either party.

The integrity of the Honor System and Code carries with it a twofold responsibility: first, to personally abide by the principles and rules of academic honesty and clinical obligations, and second, to ensure observance of its rules by all members. Both aspects of the twofold responsibility ultimately rely on the conscience of each individual. Understanding of these responsibilities is signified in the “Honor Code Affirmation” taken by students upon acceptance into the college community; action in accordance with these responsibilities is signified by the “Honor Code Reaffirmation,” made explicitly or implicitly on all college coursework submitted to fulfill requirements.

Part II—In addition to the general principles of academic integrity and professional responsibility mentioned above, each student is bound by the following specific provisions as part of the Code.

1. Each student will respect intellectual and physical property and will not use such property without the owner’s permission.
2. Each student recognizes that academic misconduct is unacceptable behavior for students in a professional school and is a violation of the code. Academic misconduct is any unauthorized act that may give a student an unfair advantage over other students, including but not limited to the following:

- **Falsification**—altering, forging or misusing a University academic record; willfully providing University offices or officials with false, misleading, or incomplete information; fabricating data.
- **Plagiarism**—use of work or ideas of others without crediting the source.
- **Misuse of test materials**—taking, acquiring, or using test materials without faculty permission; taking or damaging a posted examination or assignment key.
- **Receiving unauthorized assistance**—copying or consulting information during an exam provided by other individuals, notes, textbooks or other references except as specified by the evaluator; copying or collaborating on class work, lab reports or other assignments that require independent work; receiving questions, answers or a copy of an original exam before taking the makeup exam.
- **Giving unauthorized assistance**—sharing answers during an exam; writing a paper or completing an assignment for another; sharing exam questions or answers with a student before a make-up exam.

3. Each student recognizes the privacy rights of other students involved in an Honor Council proceeding. Any student who serves as an accuser, witness or Honor Council member will not discuss with other students outside the proceeding the identities of parties, nature of, specific details about, or disposition of allegations and cases.

4. Each student recognizes that his or her primary responsibility while on clinical rotations is the care of her or his patients and that the patients’ welfare has precedence over a student’s personal educational objectives. The student will respect each patient’s privacy and dignity and will maintain confidentiality with regard to information about patients. Each student recognizes his or her responsibility to consult with the house staff, preceptor, or attending physician regarding each patient’s management.

5. Each student recognizes that part of her or his clinical obligations includes providing coverage when assigned (e.g., at clinics, at night, or on weekends). When such an assignment is made, a student will abide by it or make suitable alternative arrangements with the faculty member who made the assignment. If a student is convinced that such an assignment is inappropriate, the matter must be discussed with the course coordinator.

Part III—Upon accepting an offer of admission to the University of Minnesota College of Pharmacy, each student will be asked to sign the following statement:

“I hereby affirm that I have read, understand and accept the provisions and stipulations of the University of Minnesota College of Pharmacy Student Code of Academic Integrity and Professional Responsibility.”

All signed Affirmations of the Honor Code shall be kept on file and maintained by the Office of Student Services. Students who are unwilling to sign this statement will not be permitted to register for courses at the college.

The Honor Council will administer an Honor Code orientation for all incoming degree-seeking students shortly after matriculation in the College of Pharmacy. At the conclusion of this orientation, students will be asked to affirm the Honor Code by writing and signing the **Honor Code Reaffirmation** in their own hand.

A reaffirmation of the code is required on all coursework submitted to fulfill course requirements in courses offered by the College of Pharmacy.
The reaffirmation must be explicitly made on examinations and may be required on other coursework, at the discretion of the instructor.

Part IV—Cases of suspected violations of the Honor Code will be reported or referred to the Honor Council, which will investigate and act on such reports. All Honor Council activities are conducted in a manner that honors confidentiality and fairness.

1. After reports of alleged violations of the code are made to the Honor Council, the case is investigated, discussed and subsequently the Honor Council votes to (i) “dismiss” or (ii) issue a “finding of violation” and recommend a sanction.

2. A violation of the code occurs if the majority of voting Honor Council members feel that the evidence and testimony met the standard of “more likely than not” that a violation did occur.

3. The Honor Council shall propose a recommended sanction if a student is found guilty of a violation of the code. Some possible sanctions include, but are not limited to: written warning, probation, assignment of “F” for the assignment or course, or dismissal from the college.

4. Honor Council decisions or recommendations that are subsequently challenged by either party to a case are referred to the College of Pharmacy Academic Standing Committee for a formal hearing conducted in accordance with “due process” considerations. These considerations include the right of the “accused” to face the “accuser” and hence, a loss of anonymity.

Academic Standing Policy and Progression

The Academic Standing Committee, a subcommittee of the Student Affairs Committee, consists of five faculty members and two students. The Academic Standing Committee meets regularly to monitor the academic progress of students on both campuses, consider petitions from students who wish to depart from the established program requirements or have a requirement waived, and adjudicates accusations of student misconduct. Accusations of student misconduct are handled by the Academic Standing Committee (i) if referred by the honor council after its review of alleged violations of the Student Code of Academic Integrity and Professional Responsibility or (2) for initial adjudication of alleged violations that fall under Part II below. The following is a list of the committee’s policies.

Part I: Academic Progress

The Academic Standing Committee periodically reviews the progress of students and can place students on probation at any time. Students on probation may be dismissed from the college if they are not making satisfactory progress. The committee informs students by mail of its actions.

Internship eligibility—Students who pass pharmacy practice courses (Phar 6111, 6112, 6171, 6172, 7001, and 7002) in the first year at the University of Minnesota and who are eligible to begin the second year of the Pharm.D. program are eligible to register as pharmacy interns with the Minnesota Board of Pharmacy. Students ineligible to register as an intern are not allowed to participate in Introductory Pharmacy Practice Experiences (IPPEs). For information on intern registration, visit the Minnesota Board of Pharmacy Web site, www.phcybrd.state.mn.us/mn_home.htm.

Academic probation—Students are automatically placed on Academic Probation in the following circumstances:

- Accumulating eight (8) or more credits of F, I, N, or D
- Failing a required course in the first semester of the Pharm.D. program
- Obtaining a cumulative GPA of 2.00 or below

Terms of academic probation—Students on Academic Probation are reviewed by the
Academic Standing Committee, and are required to abide by the following rules. Failure of the student to abide by the terms of Academic Probation will result in dismissal from the College of Pharmacy.

- Students on Academic Probation can be dismissed from the college if a grade below C- is earned.
- Students are removed from Academic Probation when they successfully repeat all courses indicated by the committee.
- Students may be required to seek academic assistance, complete incomplete courses within a certain time period, or pursue other forms of assistance to increase the likelihood of success.
- Students placed on Academic Probation should expect the duration of their education to exceed four years.

Dismissal from the College of Pharmacy—

Students will be dismissed from the college in the following circumstances:

- Failing a required course twice
- Violating the terms of Academic Probation as set by the Academic Standing Committee
- Accumulating eight (8) or more credits of F, I, N, or D in the first year of the Pharm.D. program
- Withdrawing from a required course without college permission

Failing a course—

- Students who fail a course must repeat that course. Students who fail a required course twice will be dismissed from the college.
- Students who repeat a course must re-register for the course.
- Courses are normally offered during a given semester. Hence students who fail a course offered only in the spring semester can expect to repeat that course the following spring.
- Since most courses are prerequisites for other courses in the program, students who fail a course should expect the duration of their education to exceed four years.
- All students who receive a grade below C- in Phar 6061—Systems Physiology for Pharmacy must successfully repeat that course before advancing to second-year courses. Students will assume the cost of retaking this course.

Withdrawal from a course and extension of academic program—
The Pharm.D. professional pharmacy program is a full-time continuous program. Students must request permission from the Academic Standing Committee to withdraw from a required course or depart from the curriculum of required courses in the Pharm.D. program. Failure to do so will result in dismissal from the college.

Leaves of absence—Students must petition the Academic Standing Committee to request a leave of absence. Students must request a leave of absence if they will not be enrolled for a period of time in which required classes are scheduled. When a part-time schedule is granted, the committee will determine the program of study the student must follow.

Advanced Pharmacy Practice Experiences—

Students must satisfactorily complete all required and elective courses and have an overall GPA in them of at least 2.00 before beginning Advanced Pharmacy Practice Experiences (APPEs).

Students who earn an F or I in more than one APPE will be placed on probation or dismissed from the college. Students cannot make further progress toward the degree until making up at least one of the failed or incomplete APPEs.

Appeals—Students who are dismissed from the college and wish to appeal must present information that was not available at the time of their dismissal and has a direct bearing on their academic performance. This information must be presented to the senior associate dean for professional education within four weeks of the dismissal.
decision. If the senior associate dean decides the information is new and substantial, the Academic Standing Committee will reconsider the dismissal decision. Students who wish to be considered for readmission after the four-week period must apply through the admission application process.

Part II: Student Misconduct

1. Any behavior by a pharmacy student that reflects on the student’s qualifications or potential to become a competent and ethical professional is within the jurisdiction of the Academic Standing Committee to review. Aside from matters of academic integrity and professional responsibility in the classroom/clinic setting that are handled through the student honor system, the following behaviors constitute ground for discipline of students:
   a. Conduct that violates professional and or ethical standards, disrupts the operations of the University, College of Pharmacy or clinical training sites, or disregards the rights or welfare of patients, fellow students, college/clinical staff or other individuals.
   b. Unlawful conduct or other improper behavior that impairs the student’s capacity to function as a health care professional.

2. When presented with an alleged violation of the above standards or when a matter of academic integrity/professional responsibility is referred by the Honor Council, the Academic Standing Committee will hold a hearing to determine whether the alleged misconduct occurred. This hearing will comply with University standards for due process or fundamental fairness in a student disciplinary matter. Students who are found guilty of a violation by a preponderance of evidence will be subject to sanctions imposed by the committee, including but not limited to warning, required compliance, probation, suspension, or dismissal.

3. The Academic Standing Committee’s decisions in matters of student misconduct may be appealed by the President’s Student Behavior Review Panel within 10 days of the decision.

Grading and Transcript Policy

1. This policy became effective fall 1997 for the Crookston, Morris, and Twin Cities campuses, replacing all previous grading policies. It may not be applied retroactively to any grades or symbols awarded before that time.

2. The University has two grading systems, A-B-C-D-F (with pluses and minuses) and S-N. Students may receive grades only from the grading system under which they have registered for a course. In addition, there are registration symbols that do not carry grade points or credit.

3. Instructors must clearly define for a class, at one of its earliest meetings, the performance necessary to earn each grade or symbol.

4. No student may receive a bachelor’s degree unless at least 75 percent of the degree-qualifying residence credits carry grades of A, B, C, or D (with or without pluses or minuses). Each campus, college, and department may choose not to accept academic work receiving a D (with or without a plus or minus).

Each campus, college, and department determines to what extent and under what conditions each grading system is used, may specify what courses or proportion of courses must be on one system or the other, and may limit a course to either system.

5. When both grading systems are available, students must choose one when registering for a course. The choice may not be changed after the end of the second week of classes (the first week in summer terms).
6. The University’s official transcript, the chronological record of the student’s enrollment and academic performance, is released by the University only at the student’s request or in accord with state or federal statutes; mailed copies have the University’s official seal printed on them. Students may obtain an unofficial transcript, except when they have a transcript hold on their record.

7. The University calculates for each student, both at the end of each grading period and cumulatively, a grade point average (GPA), the ratio of grade points earned divided by the number of credits earned with grades of A–F (including pluses and minuses). Both the periodic and cumulative GPA appear on each student’s record.

8. When a student repeats a course, all grades for the course appear on the transcript, the course credits may not be counted more than once toward degree and program requirements, and only the last enrollment for the course counts in the student’s GPA.

9. Students may petition the college scholastic committee or other appropriate body about this policy.

10. The following grades (with grade points as indicated) and symbols are used on transcripts.

   A .... 4.00 ... Represents achievement that is outstanding relative to the level necessary to meet course requirements.

   A- ... 3.00

   B+ ... 3.33

   B .... 3.00 ... Represents achievement that is significantly above the level necessary to meet course requirements.

   B- ... 2.67

   C+ .. 2.33
Incomplete, a temporary grade that indicates coursework has not been completed. The instructor assigns an I when, due to extraordinary circumstances, the student was prevented from completing coursework on time. An I requires a written agreement between the instructor and student specifying the time and manner in which the student will complete the course requirements during the student’s next term of enrollment. For undergraduates and adult special students, work to make up an I must be submitted within one year of the last final examination of the student's next term of enrollment; if not submitted by that time, the I will automatically change to an F (if A–F registration) or N (if S-N registration). The instructor is expected to turn in the new grade within four weeks of the date work is submitted. When an I is changed to another symbol, the I is removed from the record. Once an I has become an F or N, it may be converted to any other grade by petition of the instructor (or department if the instructor is unavailable).

Visitor, indicates registration as an auditor or visitor; does not carry credit or grade points.

Withdrawal, indicates a student has officially withdrawn from a course. Students in the College of Pharmacy may not withdraw from any course without action by the Academic Standing Committee.

Indicates a student may continue in a sequence course in which a grade cannot be determined until the full sequence of courses is completed. The instructor submits a grade for each X when the student completes the sequence.

Attendance and Absence Policy

Attendance

Students are expected to attend every class for which they are registered. Students are expected to attend classes on the campus where they are enrolled. Instructors may choose to take attendance.

Absences

1. Students should contact the Office of Student Services (OSS) if they experience an illness or family emergency that prevents them from attending class. Twin Cities students should contact Peter Haeg at 612-624-2649 or OSS at 612-624-9490. Duluth students should contact Ruth Leathers at 218-726-6003 or Katie Vukelich at 218-726-6038.

2. The Office of Student Services, in turn, informs the student’s instructors of the absence.

3. It is the student’s responsibility to make arrangements with instructors to reschedule missed coursework or exams.
4. Only course directors have the prerogative of excusing absences. Therefore students need to procure documentation (e.g., a note from a physician) if the course director requires it.

5. Course directors should have clear and reasonable policies regarding absences on the course syllabus.

**Campus Transfer Policy**

Students admitted to the College of Pharmacy accept placement on a specific campus. The college expects students to honor the commitment they have made to the campus when they sign their letter of intent. Furthermore, the college admits the maximum number of students its facilities allow every year. It cannot be assumed that space is available on either campus. Transferring within the college from one campus to another is therefore rarely permitted.

The college realizes that under rare, specific circumstances, it may be in a student’s and the college’s best interests for a student to switch campuses. The following criteria must be met for a campus transfer request to be approved:

1. The enrollment maximum* is not met nor has been exceeded in a specific class and campus.
2. Neither campus would drop below its enrollment minimum* in the event of a transfer.
3. The student who requests a campus transfer must have completed at least one semester in the College of Pharmacy.
4. An opportunity exists in which at least one student from each campus desires to transfer to the other campus (so that there is a “trade” of students); OR the student requesting a transfer has serious, unforeseen circumstances that provide a compelling reason for a campus transfer.

Should there be multiple requests for transfers to a specific campus and class, and the above criteria are met, the administrators on both campuses will select the student for whom a transfer would most improve their ability to complete their education. All decisions regarding transfers will be made after each semester is over and cannot be appealed. The campus transfer request form must be submitted to the Office of Student Services by the last day of final exams.

The campus transfer request form and examples of transfer requests that have been approved and of those that have not been approved may be found at [www.pharmacy.umn.edu/pharmd/admissions/policies](http://www.pharmacy.umn.edu/pharmd/admissions/policies).

*Enrollment maximum and enrollment minimum are determined by the dean in consultation with the senior associate dean for professional education and the senior associate dean on the Duluth campus.

**Chemical Dependency Policy**

The College of Pharmacy supports the efforts of chemically dependent students to become free of their dependency problems. In dealing with chemically dependent students, the college’s procedure involves intervention and requires students to join treatment and rehabilitation programs. The procedure ensures the safety of patients with whom students may come in contact and protects the interests of patients, students, the college, and faculty.

The following steps are taken as soon as a student is identified as having chemical dependency problems.

1. The student is granted a medical leave of absence by the Academic Standing Committee if he or she is participating in educational activities that involve direct patient contact (e.g., clinical clerkships or externships). The request for a leave may be initiated by the student or the senior associate dean for professional education. Students participating in educational
activities that do not involve direct patient contact are not required to take a medical leave of absence.

2. The senior associate dean advises the student to enroll in a chemical dependency treatment program or a different mode of treatment contingent on the senior associate dean's approval. The student must provide evidence of successful completion of the treatment.

3. The senior associate dean advises the student to join a sobriety support group, (e.g., Pharmacists Aiding Pharmacists) after completion of the treatment program.

4. The student is asked to give the senior associate dean permission to solicit letters of reference from counselors, employers, or members of the sobriety support group to monitor the progress of the student’s rehabilitation program.

5. The student is asked to agree to give urine samples at any time, without prior notification, for detection of drug abuse.

6. The senior associate dean makes recommendations to the Academic Standing Committee to terminate the student’s medical leave of absence and allow the student to participate in educational activities that do not involve direct patient contact after obtaining evidence that the student has completed the treatment program and is participating in the rehabilitation program.

7. The senior associate dean makes recommendations to the Academic Standing Committee to permit the student to participate in educational activities involving direct patient contact after obtaining evidence that the student has been chemically free for at least 10 weeks.

8. If the student is a licensed pharmacist and her or his license was suspended because of chemical dependency, the State Board of Pharmacy lifting the suspension may be used as evidence of sobriety and is a prerequisite for participation in educational activities involving direct patient contact. The license suspension being lifted does not obligate the college to allow the student to participate in educational activities that involve direct patient contact.

9. Office of Student Services staff members are not required to report to the Academic Standing Committee on students who initiate information about a personal chemical dependency problem while being counseled. Staff may report such information to the senior associate dean.

10. The Academic Standing Committee may dismiss from the college students who have a recurrence of chemical dependency problems after completing the treatment and rehabilitation program described above.

11. If the student and the senior associate dean do not reach an agreement on a treatment and rehabilitation program, either may request a hearing by the Academic Standing Committee. The committee carefully considers all relevant factors, using procedural due process as a guide to its action. The student may appeal the Academic Standing Committee’s decisions to the President’s Student Behavior Review Panel within 10 days of the decision.

Complaint Policy

Students are encouraged to make every effort to solve problems informally, by working with their class representatives and class advisers, faculty members, and the Office of Student Services staff. If such efforts are not successful, students may submit a complaint to the college in accordance with the Accreditation Council for Pharmacy Education (ACPE) Complaint Policy. For a statement of the ACPE complaint policy and procedures on how to file a complaint, refer to www.pharmacy.umn.edu/pharmd/admissions/policies/complaint.
Course Waiver Policy

A student may request a waiver of a course in the required curriculum by obtaining a Course Waiver Form from the Office of Student Services and then engaging in a discussion with the course director and section director (when appropriate) to identify supporting documents or other performance-related evidence (challenge exam, writing exercise, practice demonstrations, etc.) required to demonstrate competency in the subject area. A student’s request for a course waiver should begin well in advance of the beginning of the semester. In general, a course waiver must be initiated five days prior to the start of a course. Course directors can, however, grant specific exceptions. Students may have no more than four special examinations in pre-pharmacy coursework or course waivers in required pharmacy coursework. A course waiver remains in effect for six years from the date the course waiver form was signed.

University of Minnesota Sexual Harassment Policy

Definitions—“Sexual harassment” means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature when:

1. submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic advancement in any University activity or program;
2. submission to or rejection of such conduct by an individual is used as the basis of employment or academic decisions affecting this individual in any University activity or program; or
3. such conduct has the purpose or effect of unreasonably interfering with an individual’s work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program.

“Member of the University community” or “University member” means any University of Minnesota faculty member, student, or staff member, or other individual engaged in any University activity or program.

Prohibition—Sexual harassment by or toward a member of the University community is prohibited.

Responsibility to Report—Department heads, deans, provosts, chancellors, vice presidents, and other supervisors and managers must take timely and appropriate action when they know or should know of the existence of sexual harassment. Other persons who suspect sexual harassment should report it to an appropriate person in their unit or to the University equal opportunity officer.

Administrative Responsibility—Each campus must adopt procedures for investigating and resolving complaints of sexual harassment in coordination with the director of equal opportunity and affirmative action.

Disciplinary Action—A violation of this policy may lead to disciplinary action up to and including termination of employment or academic dismissal.

Information and Reporting Procedures—For more information and reporting procedure, contact:


CPR Training Requirement

The University of Minnesota College of Pharmacy requires all Pharm.D. students to have valid CPR certification upon entering the Pharm.D. program and to maintain that certification through graduation from the program. This certification must be either Basic Life Support for Health Care Providers (American Heart Association—two-year certification) or CPR for the Professional Rescuer (American Red Cross—one-year certification). This qualification ensures all students have demonstrated the skills necessary to respond during emergencies while participating in Early, Introductory, and Advanced Pharmacy Practice Experiences (EPPEs, IPPEs, APPEs) and internships. The Office of Student Services verifies all certificates of CPR training completion. Students who do not have current certification will have a registration hold placed on their record and will not be allowed to participate in required EPPEs, IPPEs, and APPEs.

Health Insurance Requirement

All Academic Health Center (AHC) students are automatically enrolled in the AHC Student Health Benefit Plan (AHC-SHBP). The plan may be waived for students who are enrolled in one of the following insurance plans: a United States-based employer-sponsored health plan, First Plan of Minnesota (for graduate students), or Minnesota Care. For more information, visit www.bhs.umn.edu/insurance/ahc.

Immunization Requirement

All College of Pharmacy students must be compliant with the Academic Health Center (AHC) immunizations policy. All students must submit immunization documentation, signed by a qualified health service provider, showing immunization of or immunity to Hepatitis B, Measles/Mumps/Rubella, Tetanus/Diptheria, Varicella (Chicken Pox), and Tuberculosis (with an initial two-step procedure). For more information, visit www.bhs.umn.edu/services/immunizationservices.htm#AHC.

Long Term Disability Coverage Requirement

All Academic Health Center (AHC) students are automatically enrolled in the AHC Long Term Disability Coverage plan. No waivers are allowed. For information visit http://www.shb.umn.edu/index.htm.

Health Insurance Portability and Accountability Act (HIPAA) Training Requirement

The Health Insurance Portability and Accountability Act (HIPAA) privacy regulations, passed by Congress in 1996, present standards to protect the privacy and security of individual health information and require health care organizations to create policies and procedures to implement the HIPAA regulations. In the Academic Health Center (AHC), students, faculty, and staff are required to complete HIPAA training. New students must complete HIPAA training upon entering the College of Pharmacy, before classes start in September. New students are notified by email to their University email accounts of HIPAA training assignments and how to access them. For more information, visit www.ahc.umn.edu/privacy/hipaa.
GRADUATION FROM THE PHARM.D. PROGRAM

Graduation Requirements

Degrees from the University of Minnesota are granted by the Board of Regents on the recommendation of the College of Pharmacy faculty. To be granted a degree, a student must:

1. Meet all pre-pharmacy course requirements
2. Complete all required courses and 10 credits of elective courses
3. Earn minimum overall GPA of 2.00 in required and elective courses
4. Have no more than 7 credits of F, I, N, or D grades
5. Complete 30 credits in general education courses
6. Earn at least 30 credits at the University of Minnesota
7. Meet all financial obligations to the University

Time Limit for Earning the Pharm.D. Degree

1. Students in the Pharm.D. program must complete all degree requirements within eight years of the time they first register for a required or elective course.
2. Students granted a leave of absence of two continuous semesters or less are entitled to meet only those graduation requirements for their original graduating class.
3. Students granted a leave of absence of more than two continuous semesters or more than one leave of absence of two continuous semesters or less must meet the graduation requirements in effect at the time of graduation.

Graduating with Distinction

College of Pharmacy students have the option of graduating with distinction if a cumulative GPA of at least 3.75 in the required College of Pharmacy curriculum coursework is attained at the time of graduation. Students with a cumulative GPA of at least 3.90 have the option of graduating with high distinction. Students who have completed the Honors Program will have the option of graduating with both the summa cum laude designation and the appropriate with distinction or with high distinction designation. For transfer students, the GPA must be based on at least 45 credits taken in the College of Pharmacy, University of Minnesota.

Graduating with Honors

The honors program provides Pharm.D. students with opportunities to interact with faculty, develop specialized skills, learn about research, and enhance their professional development. Specific activities called “honors options” include special projects and honors courses. Special projects are defined by a student and faculty member. They may be laboratory research projects, directed research readings, term papers or seminar preparation on research topics, community service projects, leadership projects, or other appropriate activities. There is no financial remuneration for honors options.

Honors courses available in the college are designated by “honors course” following the course number.

Admission to the honors program is granted to students in the professional program who self-identify and expect to graduate with a GPA of 3.50 or higher. Graduating students who have completed at least five honors options, including at least one honors project, and earned a qualifying GPA, graduate with the honors designation of cum laude (overall and required GPA of 3.50 to 3.65), magna cum laude (overall and required GPA of 3.66 to 3.74), or summa cum laude (overall and required GPA of 3.75 to 4.00) based on at least 60 credits taken in the college. A memo on the student’s transcript indicates completion of the honors option.
Pharmacy Licensure

Graduates of the Pharm.D. program are eligible to take the licensure examination to practice pharmacy. For more information about licensure, call the Minnesota Board of Pharmacy at 651-201-2825 or visit www.phcybrd.state.mn.us/mn_home.htm.

PHARM.D. CURRICULUM

The professional program’s graduates are prepared to enter pharmacy practice, advanced professional training programs, graduate education, and research. The program covers the chemical, biological, physical, social, and clinical sciences that underlie pharmacy. A common patient-care process is used to teach students how to meet drug-related needs at a patient-specific level. Students develop skills in problem solving, communication, and analytical thinking. The program emphasizes professional ethics, social responsibility, professional citizenship, and commitment to lifelong learning.

The first three years of the curriculum provide the fundamental components of pharmacy education needed to practice in a variety of settings. Beginning in the second year, students can take elective courses in specific areas of interest to round out their required courses. Students may focus on research.

Experiential Education

Experiential education refers to the practice component of the Pharm.D. program; it is where students apply what they learned in the didactic curriculum to pharmacy practice settings. The goal of experiential education is to enhance students’ attitudes, skills, and knowledge to prepare them to provide pharmaceutical care.

Experiential education is made up of Early and Introductory Pharmacy Practice Experiences (EPPEs and IPPEs); and Advanced Pharmacy Practice Experiences (APPEs). The components of EPPEs and IPPEs are:

- Early Pharmacy Education with Community Teachers (EPhECT)—Phar 7001, 7002, 7003, 7004
- Pharmacist mentoring program—Phar 7001, 7002
- Introductory Community-Practice Pharmacy Experience—Phar 7005
- Introductory Institutional-Practice Pharmacy Experience—Phar 7006
- Pharmaceutical Care Clinic (PCC)

APPEs are completed in the fourth year of the Pharm.D. program. Eight five-week experiences are required in which students learn and apply advanced practice skills in clinical and non-clinical settings, ranging from hospitals and community pharmacies to government agencies and ambulatory clinics.

Sites for IPPEs and APPEs are available throughout Minnesota. Students have the opportunity to experience pharmacy practice in both urban and rural settings.

The curriculum is subject to change.

First professional year (credits in parentheses)

**Fall semester (18)**
- Phar 6061—Systems Physiology for Pharmacy (5)
- Phar 6111—Practice of Pharmaceutical Care I (3)
- Phar 6141—Medical Microbiology and Immunizations (1)
- Phar 6151—Biochemistry of Medicinals I (3)
- Phar 6161—Drug Delivery I (3)
- Phar 6171—Pharmaceutical Care Skills I (2)
- Phar 7001—Early Pharmacy Practice Experience I (1)

**Spring semester (19.5)**
- Phar 6112—Practice of Pharmaceutical Care II (3)
- Phar 6152—Biochemistry of Medicinals II (3)
Second professional year

Fall semester (18.5)
Phcl/Phar 5101—Pharmacology I (3)
Phar 6121—Pharmacotherapy I: Patient-Centered Pathophysiologic Approach (5)
Phar 6132—Biostatistics and Drug Literature Evaluation (2)
Phar 6154—Medicinal Agents I (3)
Phar 6163—Pharmacokinetics (3)
Phar 6173—Pharmaceutical Care Skills III (2)
Phar 7003—Early Pharmacy Practice Experience III (5)

Spring semester (17)
Phcl/Phar 5102—Pharmacology II (2)
Phar 6122—Pharmacotherapy II: Patient-Centered Pathophysiologic Approach (5)
Phar 6131—Pharmacy and the Health Care System (3)
Phar 6155—Medicinal Agents II (2)
Phar 6174—Pharmaceutical Care Skills IV (2)
Phar 7004—Early Pharmacy Practice Experience IV (5)
Phar 7006—Introductory Institutional-Practice Pharmacy Experience (2.5)*
Elective courses

Third professional year

Fall semester (15)
Phar 6123—Pharmacotherapy III: Patient-Centered Pathophysiologic Approach (5)
Phar 6156—Medicinal Agents III (4)
Phar 6164—Biopharmaceutics (3)
Phar 6175—Pharmaceutical Care Skills V (2)
Phar 6181—Pharm.D. Paper and Seminar (1)
Elective courses

Spring semester (15)

Fourth professional year

The College of Pharmacy requires eight 4-credit Advanced Pharmacy Practice Experiences (APPEs) taken over summer session, fall semester, and spring semester of the fourth professional year.

In addition to APPEs, students take Phar 6183—Pharm.D. Paper (2 credits) fall semester; and Phar 6182—Pharm.D. Seminar (1 credit) spring semester.

*The work for this course is completed during the summer immediately following the spring semester.

Leadership Emphasis

The profession of pharmacy is transforming the role of the pharmacist from a product-oriented practitioner to a patient-centered professional able to meet the complex drug therapy needs of individuals and society. To create the change that will allow this transformation to occur, the profession must prepare pharmacists to lead change, both at the level of an individual practice as well as on a larger scale. To educate pharmacists who will seek to lead change, the college offers an 18-credit emphasis in leadership development:

Phar 6237, 6238—Leading Change in Pharmacy I, II (4)
Phar 6227—Leading Change Project (2)
Phar 6228—Leadership Portfolio (2)
Directed Study—Leadership Best Sellers Readings (2)
Management course elective (2)

Research project through Phar 6183—
Pharm.D. Paper or Directed Research (2)

Management or leadership Advanced
Pharmacy Practice Experience (APPE)
elective (4)

Research Emphasis

The research emphasis provides students the opportunity to participate in research and prepares them for graduate education. Students plan individualized programs with faculty advisers.

Pharm.D./M.B.A. Dual Degree

The Pharm.D./M.B.A. dual degree program was developed for students who are enrolled in the University of Minnesota Pharm.D. program. It serves students who wish to earn a Master of Business Administration (M.B.A.) as well as the Pharm.D. The dual degree program enables students to complete two degrees in less time than pursuing the Pharm.D. and M.B.A. degrees separately.

The dual degree program is completed in five years. Students in the program carry a very demanding course load. Students must be in good standing academically. Students apply to the full-time M.B.A. program in the Carlson School of Management (CSOM) during fall semester of their third year in the Pharm.D. program, but do not begin the M.B.A. until the fourth year. After acceptance to the dual degree program, students meet with a Pharm.D. adviser and an M.B.A. adviser to ensure their study plans satisfy both degree requirements.
COURSE DESCRIPTIONS

The college’s courses are offered by five departments: medicinal chemistry, experimental and clinical pharmacology, pharmaceutical care and health systems, pharmacy practice and pharmaceutical sciences (Duluth), and pharmaceutics. Medicinal chemistry courses (biochemistry of medicinals, medicinal agents, biotechnology, immunology) and pharmacology courses focus on understanding the actions and therapeutic uses of various types of medications that affect organ systems, immune functions, and infectious disease related problems. Pharmaceutics courses (drug delivery, pharmacokinetics, biopharmaceutics) concentrate on principles involved in drug dosage formulations, dosage form design, and how drugs are absorbed, distributed, and eliminated from the body. Experimental and clinical pharmacology courses include the pharmacotherapy sequence that applies basic and clinical science principles to the patient by focusing on the nature and cause of various disease states and the treatment of these disorders. Pharmaceutical care and health systems encompasses a pharmaceutical care sequence that examines the various roles of the pharmacist, current and future pharmacy practice, and a pharmacy management and public policy sequence. All of the above courses are offered by the pharmacy practice and pharmaceutical sciences department on the Duluth campus.

College of Pharmacy Courses

PHAR 0001. Community Engagement. (0 cr; No grade.) Volunteer opportunities in pharmacy patient care.


Course Symbols

,......The comma, used in prerequisite listings, means “and.”

§......Credit will not be granted if credit has been received for the course listed after this symbol.

¶......Concurrent registration is required (or allowed) in the course listed after this symbol.

#......Approval of the instructor is required for registration.

A prerequisite course listed by number only (e.g., prereq 5246) is in the same department as the course being described.

A class rank prerequisite (e.g., 3rd yr) states the minimum class standing a student must hold to register for a course without special permission from the Academic Standing Committee.

PHAR 1002. Health Sciences Terminology. (2 cr; Stdnt Opt.) How to analyze/build words by using combining forms, suffixes, and prefixes. Course information is sent to U e-mail addresses of registered students. Partially Internet-delivered course.


PHAR 3800. Pharmacotherapy for the Health Professions. (3 cr; A-F or Aud. Prereq: Anatomy/physiology, enrolled [nursing or respiratory care] student) Online course. Drug therapy, its implications in patient care. Students use WebVista. Course information is sent to U of M e-mail addresses of registered students.

PHAR 4200W. Drugs and the U.S. Health Care System. (3 cr; A-F only. §PHAR 5200) Online course. How to be informed/responsible user of medications. Medication development, regulation, distribution. Business, political, and legal/ethical issues. Weekly writing assignments, self-reflections, final paper.

PHAR 4294. Directed Study I for Undergraduates. (1-6 cr [max 6 cr]; A-F only) Individualized study. Students work with faculty on special projects.

PHAR/PHCL 5101. Pharmacology for Pharmacy Students. (3.0 cr; Prereq: 2nd yr pharmacy student or #; A-F or Aud, fall) Action/fate of drugs. Lectures, lab.

PHAR/PHCL 5102. Pharmacology for Pharmacy Students. (2.0 cr; Prereq: 5101 or #; A-F or Aud, spring) Action/fate of drugs.


PHAR 5201. Health Sciences Applied Terminology. (2 cr; Stdnt Opt. Prereq: Basic knowledge of human anatomy/physiology) Self-study course. Medical terms, how to apply them when documenting/reporting patient care procedures. Course information is sent to U of M e-mail addresses of registered students. Partially Internet-delivered course.

PHAR 5210. Diminishing Health Disparities Through Cultural Competence. (2 cr; A-F only) Various dynamics of health disparities, cultural competencies. Uses sociological framework.

PHAR 5270. Therapeutics of Herbal and Other Natural Medicinals. (2 cr; A-F or Aud. Prereq: Phsl 6051, organic chemistry, pathophysiology of disease states, [3rd or 4th yr pharmacy student]) Herbal products/supplements. Pharmacology, clinical indications, and drug interactions of most commonly used products in nontraditional complementary health care. Historical significance and evidenced-based role of these products in health care. Case studies of clinical applications.

PHAR 5700. Applied Fundamentals of Pharmacotherapy. (3 cr; A-F only. Prereq: [Medical terminology, admission to grad program] or #) Online course. Recognition of brand/generic drug names, their therapeutic classes, common uses. Use of drug information resources.

PHAR 5800. Pharmacotherapy for the Health Professions. (3 cr; A-F only. Prereq: Nursing grad program) Introduction to drug therapy. Medication safety, medication administration. Monitoring medication use.

PHAR 6061. Systems Physiology for Pharmacy. (5 cr; A-F only) Physiology/neurophysiology systems. How they relate to pharmacy.

PHAR 6111. The Practice of Pharmaceutical Care I. (3 cr; A-F only. Prereq: 1st yr pharmacy student, ¶Phar 6171) The practice of pharmaceutical care, the pharmacy profession, drug information retrieval, professional communications, problem-solving skills, introductory clerkship.

PHAR 6112. The Practice of Pharmaceutical Care II. (3 cr; A-F only. Prereq: 1st yr pharmacy student, 6111, ¶6172) Comprehensive pharmaceutical care, health belief model, legal issues, prescription processing, clerkship continued and introduction to pharmacotherapy issues.


PHAR 6131. Pharmacy and the Health Care System. (3 cr; A-F only. Prereq-1st yr pharmacy student) Delivery of pharmaceuticals and pharmacy services in the U.S. health care system, issues in hospital and community practice, characteristics of the pharmaceutical industry, economic and financial issues in delivering pharmaceutical services.

PHAR 6132. Biostatistics and Drug Literature Evaluation. (2 cr; A-F only. Prereq-6111, ¶6173) Biostatistical methods for data analysis and principles of study design for clinical research. Use of small computers to analyze and present data. Methods of searching for and evaluating drug-related information.

PHAR 6133. Pharmacy Practice Management. (3 cr; A-F only. Prereq-2nd or 3rd yr pharmacy student) Principles of pharmacy management, including inventory control, purchasing, pricing, financial analysis, and personnel management.

PHAR 6134. Law and Ethics in Pharmacy Practice. (2 cr; A-F only) Minnesota and federal laws, rules, regulations and court decisions affecting pharmacy practice. Moral and ethical considerations that affect and influence pharmacy practice.

PHAR 6135. Pharmacy Outcomes. (2 cr; A-F only. Prereq-6123, 6175) How to integrate knowledge of basic sciences, pharmacotherapy, pharmacy practice management, pharmaceutical care, written communication, literature evaluation, drug information retrieval, law/ethics, and pharmacoconomics to manage patients with multiple medical conditions.

PHAR 6141. Medical Microbiology and Immunizations. (1 cr; A-F only) Background knowledge in medical microbiology. Evaluating information on emerging infectious diseases, recommending immunization schedules for childhood/adult vaccines.

PHAR 6150H. Honors Course: Medicinal Chemistry Seminar. (1 cr [max 2 cr]; S-N only) Current topics in medicinal chemistry.

PHAR 6151. Biochemistry of Medicinals I. (3 cr; A-F only. Prereq-1st yr pharmacy student, ¶6171) Biochemistry topics required for understanding pharmacodynamic action and therapeutic use of medicinal agents.

PHAR 6152. Biochemistry of Medicinals II. (3 cr; A-F only. Prereq-6151, ¶6172) Intermediary metabolism of carbohydrates, lipids, amino acids and nucleic acids and how these pathways are affected by therapeutic agents. Introduction to bioenergetics and drug metabolism.


PHAR 6154. Medicinal Agents I. (3 cr; A-F only. Prereq-6152, ¶Phcl 5101) Basic principles of drug design, metabolism of action, and receptor interaction. Chemical/biological properties and therapeutic uses of autonomic, antihistaminic, renal, and cardiovascular drugs.

PHAR 6155. Medicinal Agents II. (2 cr; A-F only. Prereq-6154, ¶6174 and Phcl 5102) Chemical/biological properties and therapeutic uses of drugs affecting central nervous, endocrine, and intermediary metabolism systems.
Course Descriptions

PHAR 6156. Medicinal Agents III. (4 cr; A-F only. Prereq-6152, 6154) Therapeutic properties and uses of antiviral, anti-infective, and antineoplastic agents.

PHAR 6157. Human Nutrition and Drug Therapy. (3 cr; A-F only. Prereq-6152) Basic concepts of human nutrition and clinical application.

PHAR 6158. Recombinant DNA-Derived Drugs. (1 cr; A-F only. Prereq-6151) Biotechnology as it relates to basic/clinical pharmaceutical sciences. Emphasizes recombinant DNA techniques and preparation/use of biotechnology-derived agents in diagnosing/treating disease.


PHAR 6160H. Experimental and Clinical Pharmacology Seminar. (1 cr; A-F only) Selected topics in experimental and clinical pharmacology.

PHAR 6161. Drug Delivery I. (3 cr; A-F only. Prereq-¶6171) Mathematics associated with drug dispensing; technology of common pharmaceutical dosage forms. Phenomenological and theoretical basis of equilibrium and steady-state processes controlling drugs and dosage forms.

PHAR 6162. Drug Delivery II. (3 cr; A-F only. Prereq-6161, ¶6172) Phenomenological and theoretical basis of kinetic and dynamic processes controlling drugs and dosage forms.

PHAR 6163. Pharmacokinetics. (3 cr; A-F or Aud. Prereq-Calculus II (quarter), calculus I (semester) or equiv, 6162) Physiological basis for drug absorption, distribution, metabolism and excretion; use of mathematical principles and equations to describe these processes as well as design dosage regimens for individual patients.


PHAR 6165. Pharmaceutical Calculations. (1 cr; A-F only. Prereq-1st yr pharmacy student) Performing pharmaceutical calculations for patient care in all pharmacy practice environments.

PHAR 6171. Pharmaceutical Care Skills I. (2 cr; A-F only. Prereq-¶6151, ¶6111, ¶6161) Integrating basic/clinical science curriculum in a lab setting.

PHAR 6172. Pharmaceutical Care Skills II. (2 cr; A-F only. Prereq-¶6112, ¶6152, ¶6162, 6171) or #) Basic/clinical science curriculum in lab setting. Longitudinal care in lab setting.

PHAR 6173. Pharmaceutical Care Skills III. (2 cr; A-F only. Prereq-¶6121, ¶6132) Integrating basic/clinical science curriculum in a lab setting.

PHAR 6174. Pharmaceutical Care Skills IV. (2 cr; A-F only. Prereq-¶6122, 6171, 6172, 6173) or #) Basic/clinical science curriculum in lab setting. Longitudinal care in lab setting.

PHAR 6175. Pharmaceutical Care Skills V. (2 cr; A-F only. Prereq-¶6123, ¶6164, 6171, 6172, 6173, 6174) or #) Integrates basic/clinical science curriculum in lab setting.

PHAR 6177. Patient Assessment. (1 cr; A-F only. Prereq-1st yr pharm student) How to obtain accurate health histories and perform systemic physical assessments of adult patients in pharmacy practice.

PHAR 6181. Pharm. D. Paper & Seminar. (1 cr; A-F only. Prereq-3rd yr pharmacy) How to write a research paper. Students present research project plan. Professional behavior, patient confidentiality, universal precautions.

PHAR 6182. Pharm.D. IV Seminar. (1 cr; S-N only. Prereq-4th yr pharmacy student, 6181) Students present thesis topics to peers and faculty evaluators.
PHAR 6183. Pharm.D. IV Paper. (2 cr; S-N only. Prereq-4th yr pharmacy student, 6181)
Final paper describing a hypothesis-driven research project, patient-care oriented project, management project, drug-usage evaluation, or extensive literature review.

PHAR 6200. Drugs and the U.S. Health Care System. (2 cr; A-F only. Prereq-Pharmacy student)
Controversial issues surrounding medications and U.S. health care system. Students develop written statements to communicate ideas, persuade others, and defend viewpoints.

PHAR 6205. Interprofessional Teamwork for the Health Professions. (1 cr; A-F only. Prereq-Major in [public health or nursing or medicine or dentistry or social work or pharmacy])
Interprofessional education that provides an introductory experience to interprofessional teamwork skills with a focus on patient-centered care, especially end of life care.

PHAR 6208. Community-based Immunization Delivery. (1 cr; S-N only)
Students will learn about, plan, and implement influenza immunization clinics.

PHAR 6209. Operation Immunization. (1 cr; S-N only. Prereq-Up-to-date CPR certification)
Students partner with local pharmacist to plan/implement influenza vaccination program at pharmacist’s practice setting.

PHAR 6210. Immunization Tour. (1 cr; A-F or Aud. §NURS 4430. Prereq-[6175 or ¶6175], 3rd yr pharm student)
Role that health care practitioners play with respect to population based disease prevention. Students work collaboratively with students from another health discipline in planning/delivering influenza vaccination clinics. Student-led collaborative public health intervention.

PHAR 6211. Non-Prescription Drug Therapy: Focus on Patient Self-Care. (2 cr; A-F only. Prereq-6112, [2nd or 3rd yr pharm student])
Over-the-counter medications. Diagnostic/durable medical equipment available in community pharmacies. Use of alternative medications.

PHAR 6212. Dermatology. (1 cr; A-F or Aud. Prereq-2nd or 3rd yr pharmacy student)
Pathophysiology and pharmacotherapy of dermatologic disorders.

PHAR 6215. Applied Pharmacokinetics. (2 cr; A-F or Aud. Prereq-6163)
Applying clinical pharmacokinetics and assay methodologies to patient care. Assessing drug therapy outcomes.

PHAR 6217. Advanced Pharmaceutical Care Clinic. (1-2 cr [max 2 cr]; Stdnt Opt. Prereq-[6230] or 3rd yr pharmacy student)
Expanded, direct patient care opportunities. Students conduct comprehensive pharmaceutical care assessments in presence of practitioners. Weekly student case presentations/discussions.

PHAR 6219. Building a Pharmaceutical Care Practice. (2 cr; A-F or Aud. Prereq-6111)
Initiating a pharmaceutical care practice. Building a personal practice plan.

PHAR 6220. Pediatric Drug Therapy. (2 cr; A-F or Aud. Prereq-3rd or 4th yr pharmacy student)
Pathophysiology/therapeutics of disease states. Common issues encountered in providing pharmaceutical care to pediatric patients.

PHAR 6221. Geriatric Pharmacotherapy. (2 cr; A-F or Aud. Prereq-3rd or 4th yr pharmacy student)

PHAR 6222. Advanced Pharmaceutical Compounding. (2 cr; A-F or Aud. Prereq-2nd or 3rd yr pharmacy student)
Expands compounding skills beyond those gained in pharmaceutical care lab.

PHAR 6223. Pharmacokinetics Research Seminar. (1 cr [max 2 cr]; A-F or Aud. §PHM 8150. Prereq-Phar 6163 with a grade of “B” or better)
Students critically evaluate literature in pharmacokinetics, pharmacodynamics, and drug metabolism.

PHAR 6224. Pharmacogenomics: Genetic Basis for Variability in Drug Response. (2 cr; A-F or Aud. Prereq-2nd or 3rd yr pharmacy)

PHAR 6225. Diabetes Experience. (1 cr; A-F only)
Diabetes mellitus. Student presentations, hands-on learning.
PHAR 6227. Leading Change Project. (2 cr; S-N only)
Hands-on experience leading a change initiative. Students create a vision for change, plan an approach, implement their plan, and evaluate outcomes. Project focuses on area of pharmacy practice or education.

PHAR 6228. Leading Change Portfolio. (2 cr; S-N only)

PHAR 6230. Ambulatory Pharmaceutical Care Clinic. (2 cr; Stdnt Opt. Prereq-Enrolled pharmacy student)
How to conduct pharmaceutical care assessments, for patients with actual drug-related needs, in a controlled clinic setting.

PHAR 6231. Community Pharmacy Management. (2 cr; A-F only)
Management techniques needed in community pharmacy practice. Emphasizes marketing/service.

PHAR 6232. Institutional Pharmacy Management. (2 cr; A-F only. Prereq-2nd or 3rd yr pharmacy student)
Management techniques needed in various institutional pharmacy settings. Integrating distributive/clinical components of institutional practice.

PHAR 6233. Drug Use Review and Management. (2 cr; A-F or Aud. Prereq-3rd yr pharmacy)
Principles of drug use review in various health care settings. Optimizing quality, minimizing cost.

PHAR 6234. Pharmaceutical Economics and Public Policy. (2 cr; A-F only)
Economic and public policy aspects of the U.S. health care system. Health economic principles and trends applied to the pharmaceutical market.

PHAR 6235. Pharmaceutical Industry: Business and Policy. (2 cr; A-F or Aud)
Developing, manufacturing, distributing, economically evaluating, purchasing, managing, and ordering pharmaceuticals in health sector. Unique market characteristics, complex regulatory processes, rapid technological change, high expense growth, public policy issues.

PHAR 6236. Clinical/Pharmacy Management in Modern U.S. Health-Care and Regulatory Landscape. (2 cr; A-F only)
U.S. Food and Drug (FDA) law, civil liability of malpractice, duty of pharmacy professionals, implications of intellectual property rights of others. Business law topics ranging from contracts to non-compete agreements.

PHAR 6237. Leading Change in Pharmacy I. (2 cr; S-N only)
Mini-curriculum. Leadership development, its relation to advancing the profession of pharmacy.

PHAR 6238. Leading Change in Pharmacy II. (2 cr; S-N only)
Mini-curriculum. Leadership development, its relation to advancing the profession of pharmacy.

PHAR 6247H. Honors Course: Advanced Concepts in Drug Design. (2 cr; A-F or Aud. §CHEM 8700, MEDC 8700. Prereq-#)
Current approaches to rational design of drugs.

PHAR 6248. Drugs of Abuse. (2 cr; A-F only. Prereq-Organic chemistry I/II or [organic chemistry I, biochemistry I])
Basic medicinal chemistry of substances of abuse, associated paraphernalia.

PHAR 6249. Addiction Medicine, Substance Abuse, and Chemical Dependency. (2 cr; A-F or Aud)
Addiction, chemical abuse, and chemical dependency. How pharmacists can impact those affected.

PHAR 6250H. Honors Course: Social and Administrative Pharmacy Seminar. (1 cr; A-F or Aud. Prereq-#)
Current topics in hospital pharmacy.

PHAR 6255. Medicating the Soul: Advanced Issues in Psychopharmacology. (2 cr; A-F only. Prereq-6155, PHCL 5101, PHCL 5102)
New developments in study of major psychiatric disorders. Potential of findings for development of novel pharmacological treatments.

PHAR 6260H. Honors Course: Pharmaceutics Seminar. (1 cr; A-F or Aud. Prereq-#)
Contemporary topics in pharmaceutics research.

PHAR 6270H. Honors Course: Critical Care Seminar. (2 cr; A-F or Aud. Prereq-$: ECP 8900; #)
Research/topics of importance to experimental/clinical pharmacology.

PHAR 6293. Directed Research I. (1-5 cr [max 5 cr]; Stdnt Opt. Prereq-#)
Directed research in pharmacy practice, pharmaceutics, medicinal chemistry, or experimental and clinical pharmacology.

PHAR 6294. Directed Study I. (1-5 cr [max 5 cr]; Stdnt Opt. Prereq-#)
Directed studies in pharmacy practice, pharmaceutics, medicinal chemistry, and experimental or clinical pharmacology. 
PHAR 6393. Directed Research II. (1-5 cr [max 5 cr]; Stdnt Opt. Prereq-#) Directed research in pharmacy practice, pharmaceutics, medicinal chemistry, or experimental and clinical pharmacology.

PHAR 6394. Directed Study II. (1-5 cr [max 5 cr]; S-N only. Prereq-#) Directed studies in pharmacy practice, pharmaceutics, medicinal chemistry, or experimental and clinical pharmacology.

PHAR 6493. Directed Research III. (1-5 cr [max 5 cr]; Stdnt Opt. Prereq-#) Directed research in pharmacy practice, pharmaceutics, medicinal chemistry, or experimental and clinical pharmacology.

PHAR 6494. Directed Study III. (1-5 cr [max 5 cr]; Stdnt Opt. Prereq-#) Directed studies in pharmacy practice, pharmaceutics, medicinal chemistry, or experimental and clinical pharmacology.

PHAR 6501. Ethics in Pharmacy Practice. (2 cr; A-F only. Prereq-3rd yr pharmacy student or #) Ethical principles, selected schools of ethical thought. Students discuss/debate ethical dilemmas in pharmacy practice and health care.


PHAR 7001. Early Pharmacy Practice Experience I. (1 cr; A-F only. Prereq-Criminal bkgr chk, BLS CPR cert for infants/child/adults, [proof of negative Mantoux test or explanation of positive test], proof of chicken pox immunity) First in a series of four courses. Focuses on patient's perspective in managing and living with chronic conditions and chronic medication use. Includes community-based instruction, mentor program.

PHAR 7002. Early Pharmacy Practice Experience II. (1 cr; A-F only. Prereq-[Phar 7001 or #], criminal bkgr chk, BLS CPR cert for infants/child/adults, [proof of negative Mantoux test or explanation of positive test], proof of chicken pox immunity) Second in a series of four courses. Focuses on patient's perspective in managing and living with chronic conditions and chronic medication use. Includes community-based instruction, mentor program.

PHAR 7003. Early Pharmacy Practice Experience III. (5 cr; A-F only. Prereq-[7002 or #], criminal bkgr chk, BLS CPR cert for infants/child/adults, [proof of negative Mantoux test or explanation of positive test], proof of chicken pox immunity) Third in a series of four courses. Focusing on patient's perspective in managing and living with chronic conditions and chronic medication use. Includes community-based instruction. Emphasizes mentoring.

PHAR 7004. Early Pharmacy Practice Experience IV. (5 cr; A-F only. Prereq-[7003 or #], criminal bkgr chk, BLS CPR cert for infants/child/adults, [proof of negative Mantoux test or explanation of positive test], proof of chicken pox immunity) Fourth in a series of four courses. Focuses on patient's perspective in managing and living with chronic conditions and chronic medication use. Includes community-based instruction. Emphasizes mentoring. Upcoming patient care opportunities.

PHAR 7005. Introductory Community-Practice Pharmacy Experience. (2.5 cr; S-N only. Prereq-6111, 6171, 7001, 1st-yr pharm student) Experience in patient care at community practice setting. Three weeks, 40 hrs/week.

PHAR 7006. Introductory Institutional-Pharmacy Practice Experience. (2.5 cr; S-N only. Prereq-Phar 6121, 6132, 6173, ¶7003, Pharmacy students who completing their second year of the curriculum,) Experience in patient care in hospital setting. Three-week, 40 hours/week.

PHAR 7120. Community Practice Experience. (4 cr; A-F or Aud. Prereq-Pharm. D. IV, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Students assigned to participating community pharmacies and involved in community practice activities full-time for 5 weeks.

PHAR 7121. Institutional Practice Exper. (4 cr; A-F or Aud. Prereq-Pharm. D. IV, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test] and proof of chicken pox immunity) Students are assigned to participating hospital pharmacies. Student participate in drug distribution, IV compounding, clinical services, and administrative activities. Full-time for 5 weeks.
PHAR 7122. Acute Patient Care Practice Experience I. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience in an inpatient setting. Students are responsible for all drug-related needs of individual patients. Full-time for five weeks.

PHAR 7123. Ambulatory Patient Care Practice Experience. (4 cr; A-F or Aud. Prereq-Pharm. D. IV, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test] and proof of chicken pox immunity) Experience in an ambulatory setting. Students responsible for drug-related needs of individual patients. Full-time for five weeks.

PHAR 7126. Patient Care Practice Experience. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Patient care experience in any setting. Students responsible for drug-related needs of individual patients. Full-time for five weeks.

PHAR 7128. Acute Patient Care Practice Experience II. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience in an inpatient setting. Students are responsible for all drug-related needs of individual patients. Full-time for five weeks.

PHAR 7211. Elective Practice Experience I. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Patient care experience in any patient care setting. Students are responsible for drug-related needs of individual patients full-time. Full-time for five weeks.

PHAR 7212. Elective Practice Experience II. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Patient care experience in any setting. Students are responsible for drug-related needs of individual patients. Full-time for five weeks.

PHAR 7213. Elective Practice Experience III. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Patient care experience in any setting. Students are responsible for drug-related needs of individual patients. Full-time for five weeks.

PHAR 7216. Elective Practice Experience IV. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience in an inpatient setting. Students responsible for all drug-related needs of individual patients full-time for five weeks.

PHAR 7217. Elective Practice Experience V. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience in an inpatient setting. Students responsible for all drug-related needs of individual patients full-time for five weeks.

PHAR 7231. Research Practice Experience I. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience using research techniques in basic or clinical sciences or pharmacy practice. Full-time for five weeks.

PHAR 7232. Research Practice Experience II. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience using research techniques in basic or clinical sciences or pharmacy practice. Full-time for five weeks.

PHAR 7233. Research Practice Experience III. (4 cr; A-F or Aud. Prereq-Pharm.D. I-III, Minn Board of Pharm intern, criminal bkgr chk, BLS CPR cert for infants/child/adults, proof of negative Mantoux test [or explanation of positive test], proof of chicken pox immunity) Experience using research techniques in basic or clinical sciences or pharmacy practice. Full-time for five weeks.

PHAR 7732. Directed Studies. (1-5 cr [max 5 cr]; A-F or Aud) Directed studies in pharmacy practice.
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Boynton health Service Building
625-8400
www.bhs.umn.edu

Child Care Center
1600 Rollins Avenue S.E.
627-4014
http://education.umn.edu/ChildCareCenter/

College of Continuing Education Evening Classes
101 Wesbrook Hall
624-4000
www.cce.umn.edu

Counseling and Consulting Services
109 Eddy Hall
624-3323
www.ucs.umn.edu

Financial Aid (Health Professions Office)
2–693 Moos Tower
624-4138
www.onestop.umn.edu

Housing & Residential Life
Comstock Hall–East
624-2994
www.housing.umn.edu

One Stop Student Services Center
200 Fraser Hall
624-1111
www.onestop.umn.edu

Student Accounts Receivable
200 Fraser Hall
624-1111
www.onestop.umn.edu

UMNTC Information
625-5000

Duluth Campus (Area code is 218.)

Children’s Place (child care center)
260 Kirby Plaza
726-6727
www.d.umn.edu/cehsp/childrens_place/

Continuing Education
Darland Administration Building
726-8113
www.d.umn.edu/ce

Counseling Services
104 Health Services
726-8155
www.d.umn.edu/hlthserv/counseling

Disability Resources
258 Kirby Student Center
726-6130
www.d.umn.edu/access

Financial Aid/Student Assistance Center
21 Campus Center
726-8000
www.d.umn.edu/fareg

Health Services
104 Health Services
726-8155
www.d.umn.edu/hlthserv

Housing (on-campus)
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726-8178
www.d.umn.edu/housing

Office of Cultural Diversity
270 Kirby Student Center
726-6522
www.d.umn.edu/mlrc/msc

Student Accounts Receivable
Windows 15/16 Darland Administration Building
726-7190
www.d.umn.edu/umdbo/sar.html

UMD Information
726-8000
www.d.umn.edu
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This catalog is available online at www.catalogs.umn.edu/phar.
**Class Schedule**—This online publication, available through onestop.umn.edu, is updated every semester. It lists day school courses complete with hours, rooms, instructors, prerequisites, registration instructions, examination fees, maps, grading definitions, and other useful information.

**Other Catalogs**—Evening and summer courses are listed in the College of Continuing Education Catalog and Summer Session Catalog, respectively. Catalogs are also published for other University colleges.