

PHARMACY AND PHARMACY PROGRAMS

The modern pharmacist is responsible for the quality of drugs compounded for and dispensed to a patient. The pharmacist is also responsible for helping to ensure that a drug treatment program is appropriate for a patient. The government requires pharmacists to monitor the effectiveness of drug therapy in certain patients and to make recommendations about continuance or change.

Pharmacy Education requirements for the Doctor of Pharmacy degree (Pharm. D.):

- Three years to four years of pre-professional course work
- PCAT (Pharmacy College Admissions Test)
- Four years of professional pharmacy course work and training

Accredited pharmacy schools in the Midwest include:

Search tool for these schools, www.collegenet.com

Illinois

University of Chicago

Indiana

Butler University

Purdue University

Minnesota

University of Minnesota (Twin Cities)

Iowa

Drake University

University of Iowa

Michigan

Ferris State University

Wayne State University

Ohio

Ohio Northern University

Ohio State University

University of Cincinnati

Wisconsin

University of Wisconsin Madison

All pre-pharmacy students are encouraged to maintain contact with the advisors at the school where they plan to complete their degrees. At UW Madison the advisors for this program are located in the School of Pharmacy Student Services area (rooms 2001-2009 Chamberlain Hall). The address for the pharmacy school is given below. In addition to the Doctor of Pharmacy degree, UW Madison also awards a B.S. in Pharmacology and Toxicology. This undergraduate degree is not a professional degree and does not prepare a student for a career as a registered pharmacist.

University of Wisconsin Madison
School of Pharmacy
425 N. Charter St.
Madison, WI 53706-1515
608/262-1416
Fax: 608/262-3397
<http://www.pharmacy.wisc.edu>

For additional information on the pharmacy profession contact:

American Pharmaceutical Association
2215 Constitution Avenue, N.W.
Washington, D.C. 20037-2985
202/628-4410
<http://www.aapa.org>

Faculty Advisor:

Charles Gibson, Chemistry, 424-1400 (Gibson@uwosh.edu)

Academic Advisors:

Ron Cardo, (cardo@uwosh.edu)

Melissa Lantta, (lanttam@uwosh.edu)

UW-Oshkosh
Draft Pre-Pharm.D. program to meet admission requirements
for the UW-Madison School of Pharmacy

For students who place into Mathematics 171

DRAFT B

First Year: Fall

Mathematics 171*	4 credits
Chemistry 105	5 credits
English 101	3 credits
Electives	<u>2 credits</u>
	14 credits

First Year: Spring

Biology 105	4 credits
Chemistry 106	5 credits
Psychology 101	3 credits
Sociology 101 or 103 or Anthropology 102 or 122** or 232**	3 credits
	<u>15 credits</u>

Second Year: Fall

Biology 230	4 credits
Chemistry 235	4 credits
Ethnic Studies**	3 credits
History**	<u>3 credits</u>
	14 credits

Second Year: Spring

Biology 323 (3 cr) or 231 (4 cr)	3-4 credits
Chemistry 335	4 credits
Economics 206	3 credits
Humanities ***	3 credits
Statistics	<u>3 credit</u>
	16 credits

Third Year: Fall

Physics 107	5 credits
Microbiology (no Lab)	3-5 credits
Electives***	<u>4-6 credits</u>
	14 credits

Third Year: Spring

Physics 108	5 credits
Science elective	3-5 credits
Electives***	<u>4-6 credits</u>
	14 credits

A total of 68 credits is required for admission.

* See "Important Information About Calculus" on the reverse side of the UW-Madison Entry-Level Pharm.D. Course Requirements for Admission. Students are responsible for taking the steps necessary to make sure that they are competent in all of the required calculus topics.

** Anthropology 122 or 232 counts also as ethnic studies.

In order to strengthen their applications for admission and demonstrate their preparedness for the rigorous demands of School of Pharmacy academic programs, applicants are encouraged to enroll in course loads of 14-16 credits per semester during pre-School of Pharmacy studies. (Exception: A course load of 12-14 credits is recommended for the first semester for collegiate study to help students achieve a good start in college.) Students who spread the pre-Pharm.D. course work over three academic years or two academic years plus one or two summer sessions are encouraged to enroll in a combination of required pre-Pharm.D. courses and liberal arts courses (which may include the humanities and history graduation requirements listed below) to total 14-16 credits per semester.

There are additional liberal arts courses that are required for graduation (not for admission). These graduation requirements are: 2 credits of history and 3 credits of humanities. If you have space in your pre-Pharm.D. program, you are encouraged to work ahead on these graduation requirements. However, do not put yourself into academic credit overloads to do so. Because of the rigorous nature of the pre-Pharm.D. program, we recommend that pre-Pharm.D. students take not more than sixteen credits per semester.

UNIVERSITY OF WISCONSIN-MADISON SCHOOL OF PHARMACY
<http://www.pharmacy.wisc.edu>

ENTRY-LEVEL PHARM.D. COURSE REQUIREMENTS FOR ADMISSION*
DESIGNATED COURSES AT UW-OSHKOSH
Rev. 2-11-03

- Biology:** Biology 105 (Biological Concepts – Unity) **AND** 230 (Biology of Animals) **AND** 323 (Introduction to Molecular & Cell Biology) (preferable) or 231 (Biology of Plants & Microbes). **A one-semester general biology survey course, and anatomy, physiology, and microbiology, do not count toward this requirement.**
- Chemistry:** Chemistry 105-106 (General Chemistry I-II) or 109 (General Chemistry) or 110 (Honors: General Chemistry) **AND** 235-335 (Organic Chemistry)
- Math:** Math 171 (Calculus I) **but see Important Information About Calculus on reverse side.**
- Physics:** Physics 107-108 (General Physics – General Physics) or 109-110 (General Physics – General Physics)
- Communication:** *May be fulfilled by any one of these ten means:*
Course work:
 (1) English 101 (College English I), **or**
 (2) English 110 (Honors: Composition), **or**
 (3) English 111 (Honors: Critical Reading & Writing), **or**
 (4) English 202 (College English II), **or**
 (5) English 203 (Honors: Advanced Expository Writing), **or**
UW System English Placement test score(s):
 (6) an ENGL score of at least 605, **or**
 (7) an ECS score of at least 706, **or**
 (8) a UWEPT score of at least 660 **and** a UWRCT score of at least 730, **or**
AP score:
 (9) a score of at least 4 on the English: Language & composition exam, **or**
 (10) a score of at least 4 on the English: Literature & Composition exam
NOTE: A student who began his/her post-high school college education prior to summer 1996 and whose English background does not meet the above communication requirement may discuss his/her situation with a School of Pharmacy advisor.
- Economic:** Economics 206 (Principles of Economics I (Micro))
- Social Science:** Sociology 101 (Introductory Sociology) or 103 (Honors: Introductory Sociology or Anthropology 102 (Introduction to Anthropology) or 122 (World Ethnography) or 232 (Cultural Anthropology) [Anthropology 122 or 232 counts also as ethnic studies])
- Behavioral Science:** Psychology 101 (formerly 201) (General Psychology) or 104 (formerly 204) (Honors: General Psychology) or 110 (formerly 210) (General Psychology for Psychology Majors) or 205 (Social Psychology)
- Ethnic Studies:** 3 credits (may count also as social science [above], or history or humanities [below], if the course qualifies as such)
- Additional course work:** Sufficient to results in a total of at least 62 transfer credits by the time of enrollment in the School of Pharmacy.

***Pre-Pharm.D. students** may wish to include in their preparatory course work, if there is time/space, some of the non-professional curriculum graduation requirements: 2 credits of any kind of history, 3 credits of humanities electives, and sufficient free-choice electives to result in a total of 206 degree credits (including Pharm.D. curriculum credits). Non-professional curriculum graduation requirements that are not completed prior to enrollment in the School of Pharmacy must be completed prior to **graduation**.

NOTE: Credit by exam will be granted **only in accordance with UW-Madison policies**. If students have been granted credit by another college or university for College Board Advanced Placement (**AP**) exams, College Level Examination Program (**CLEP**) exams, or International Baccalaureate (**IB**) exams, it is imperative that they be aware of the UW-Madison credit policies. This applies also to **retroactive foreign language credits**. Students should **not** assume that these types of credits that may have been granted by another college or university will be accepted by UW-Madison.

NOTE: Entry-level Pharm.D. applicants must take the Pharmacy College Admission Test (PCAT). In addition, **international students** (including U.S. permanent residents) whose native language is not English must take the Test of English as a Foreign Language (TOEFL) **and** the Test of Spoken English (TSE, Type A) or the SPEAK test. Scores of at least 600 on the paper-based TOEFL or 250 on the computer-based TOEFL, **and** 50 on the TSE or the SPEAK test, are required for consideration for admission.

Important Information About Calculus
School of Pharmacy Calculus Admission Requirement Revision (March 20, 2003)

Competence in the fundamentals of differential and integral calculus is essential for success in the UW-Madison School of Pharmacy Doctor of Pharmacy (Pharm.D) and B.S.-Pharmacology & Toxicology programs.

During the 2001-02 school year, our School of Pharmacy revised its calculus admission requirement, for admission for fall 2004 and thereafter, to move from a course-based requirement (one semester of calculus, 4-5 credits) to a content-based requirement (a list of required calculus topics). Pursuant to our experience over the past year, the list of required calculus topics has been revised slightly and the approved means of completing the topics has been refined.

The calculus topics required for admission to the School of Pharmacy for fall 2004 and thereafter are:

Functions and graphing

Limits, including limits at infinity, infinite limits, and l'Hospital's rule

Derivatives of first and higher order, differentiation formulas, rates of change, the chain rule and implicit differentiation, related rates and differentials, Newton's method

Inverse functions, exponential and logarithmic functions, and applications of these functions

Geometric implications of first and second derivatives, and applications to finding extrema

Antiderivatives, summation and the definite integral, the Fundamental Theorem of Calculus, and substitution in integration

Applications of integration to finding area, volume and average volume

Topics that have been deleted from the earlier list of required topics are inverse trigonometric functions, hyperbolic functions, and work.

To fulfill the School of Pharmacy calculus admission requirement, either A. or B. must be accomplished!

A. Completion of the first semester (4-5 credits) of a calculus sequence for math and natural science majors. A brief survey of calculus or calculus for business or social science majors does not fulfill this requirement.

AND

Competence in the calculus topics listed above. Competence in these topics is critical to success in the School of Pharmacy. Faculty expect that students have a good grasp of all of the topics, and conduct their classes accordingly; faculty do not review calculus in class. In the past, students whose calculus background did not include mastery of these topics have encountered academic difficulty early in their School of Pharmacy studies.

It is the responsibility of pre-School of Pharmacy students to compare the content of their calculus course work with the above list of topics, and, if that content does not include all of the required topics, to take the steps necessary to make sure that they are competent in the required topics. This may be accomplished by any of these means:

- (1) A second semester of calculus at an accredited college or university. **OR**
- (2) One or more modules of Mathematics 221 offered through the mail by correspondence (Independent Learning) by the University of Wisconsin Extension; these one-credit calculus modules currently are under development, and should be available beginning summer 2003. NOTE: These calculus modules will be offered for "continuing education credit," not "college transfer credit." **OR**
- (3) Independent study with a calculus professor at an accredited college or university. **OR**
- (4) Another arrangement, as appropriate.

Students do not need to submit documentation showing that needed calculus topics beyond those in the completed first-semester calculus course have been covered, However, students are reminded that competence in all of the required calculus topics is essential for success in the School of Pharmacy.

B. For admission to the School of Pharmacy for fall 2004 only, a score of at least 3 on the Advanced Placement (AP) Calculus AB exam (or a score of at least 2 on the AP Calculus BC exam) will be accepted in fulfillment of the calculus admission requirement. This policy may differ from the UW-Madison undergraduate AP credit policy. **However, students who plan to apply for admission to the School of Pharmacy for fall 2004 and who earn a score of 3 on the AP Calculus AB exam are strongly urged to complete first-semester calculus (for a letter grade).** For admission to the School of Pharmacy for fall 2005 and thereafter, a score of at least 4 on the AP Calculus AB exam (or a score of at least 2 on the AP Calculus BC exam) will be required to fulfill the calculus admission requirement.

Please direct questions about our calculus requirement to the School of Pharmacy Admissions Office (608/262-2120).