

School of Pharmacy

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In 1941 the General Assembly took over the assets of the Connecticut College of Pharmacy and added this institution to the schools and colleges of the University of Connecticut. The pharmacy program, which had been "inaugurated under independent auspices" in New Haven in 1925, continued to operate there under State auspices until 1951, when the program was moved to Storrs.

The School of Pharmacy has offered the Doctor of Pharmacy (Pharm.D.) as its sole professional degree since 1997. The professional program requires completion of the two years of pre-Pharmacy requirements, two years in the professional program leading to a Bachelor of Science with a major in Pharmacy Studies (BS Pharmacy Studies), followed by two additional years leading to a Doctor of Pharmacy (Pharm.D.). This professional BS/Pharm.D. program is a **full-time**, four-year professional program (132 credits professional program plus 64 credits pre-pharmacy for a total of 196 credits), making the Pharm.D. graduate eligible to stand for licensure. For the last two years of the professional program (Pharm.D. years), there will be additional tuition and required fees of approximately \$6332 per year (2003-2004 dollars) for in-state students and proportional increases for New England Regional and out-of-state students.

Accreditation. The University of Connecticut's Doctor of Pharmacy program has been granted full accreditation by The American Council of Pharmaceutical Education (ACPE), 311 West Superior Street, Suite 512, Chicago, IL 60610, 312/664-3575, 800/533-3606; FAX, 312/664-4652.

The School of Pharmacy also offers a number of courses leading to the degrees of Master of Science and Doctor of Philosophy. Students holding the degree of Bachelor of Science may prepare for the Doctor of Philosophy degree with a major in pharmaceuticals, medicinal and natural products chemistry, pharmacology or toxicology. The Master of Science degree in pharmaceutical sciences may be awarded in the above subject areas and pharmacy administration (see the *Graduate School Catalog*).

Regional Plan. In conformity with plans approved by the Boards of Trustees of the six New England land grant universities for regionalization of certain fields of specialized education, the University of Connecticut School of Pharmacy has been designated as a regional New England school for all other New England states except Rhode Island. Regional students receive a significant tuition saving over out-of-state tuition rates.

Admission. Admission to the professional program in Pharmacy is competitive. Students should apply for admission to the School of Pharmacy after completion of their third semester of study for entry into the professional program in the following September. All required math and science courses must be completed by May for entry into the professional program in the following fall semester. Students must have 24 of the 30 general education course credits completed, including sociology, economics and public speaking, before admission into the fall semester. Students who have not fulfilled the University General Education requirements (Groups IVa, IVb, V and VI) before they enter the professional program will have to complete those courses by May of the second professional year. Students seeking admission to the School of Pharmacy will complete their first two years in one of the schools or colleges of the University of Connecticut or in some other institution. Students may enter the College of Liberal Arts and Sciences as freshmen and identify themselves as pre-Pharmacy majors. Pre-Pharmacy students will be advised through the Academic Center for Entering Students (ACES).

Those students who have met all the following criteria will be admitted:

- 1) Completed **all** prerequisites, including general education courses, at the University of Connecticut earning no grade below 2.0;
- 2) Earned a minimum of 3.0 grade point average (GPA) in all required math and science classes (effective for 2004 Freshman Class);
- 3) Earned a minimum grade of 2.7 in ENGL 110, 111, or 250;
- 4) Completed a School of Pharmacy Professional Program application.

Courses that are retaken for a higher grade are not applicable and are a disqualification for guaranteed admission. All other students will be considered on a competitive basis depending on seats available.

The application deadline is **February 1** for fall admission. Applications will begin to be reviewed in January and the review process continued on a space available basis. Highly qualified students may be considered for early admission. School of Pharmacy applications are available in the School of Pharmacy Professional Program Office.

Communication Skills. It is essential that Pharmacy students have good written and oral communication skills. Students must be able to communicate effectively with patients, physicians and with other members of the health care team. The final applicant pool may be interviewed.

A Test of Spoken English (TSE) is required of all international applicants and U.S. citizens or permanent residents for whom English has not been the primary language. A minimum score of 50 is required for admission to the program.

Scholastic Standards. Students admitted to the professional pharmacy program must maintain the following standards of scholastic achievement to continue and/or complete the program:

- 1) A semester grade point average of 2.0 or above in required Pharmacy courses. (Students are subject to dismissal if there is more than one semester in which they earn a semester grade point average below 2.0 in required Pharmacy courses.)
- 2) A cumulative grade point average of 2.0 or above in all required Pharmacy courses is required to enroll in clinical clerkships/rotations.
- 3) A cumulative grade point average of 2.0 or above in all Pharmacy/University courses is required for graduation.

In addition, to demonstrate effective written and oral communication skills in English, the student must receive a grade of 2.0 or above in *Interpersonal Skills Development* (PHRM 206) and in *Pharmacy Practice Laboratory* (PHRM 212) to continue into the clinical experience sequence.

All required Pharmacy courses must be taken for a grade (*i.e.* may not be taken on Pass / Fail or Satisfactory / Unsatisfactory).

Failure to meet any of the requirements may result in dismissal of the student from the program.

The student has the right to appeal in writing to the Office of the Dean of the School of Pharmacy any dismissal decision.

Honors Program. Students in the School of Pharmacy may be eligible to participate in a variety of enrichment programs. These include independent research projects with a faculty mentor, the Degree with Distinction Program, the Honors Program, and the University Scholars Program. Each of these programs offers the motivated student a way of individualizing their intellectual environment to better meet their needs while providing distinction to their academic record. For more information on these programs, ask to speak with a Pharmacy Honors Advisor.

Physical Examination Requirements. All students by the end of the first semester in the professional phase of their program are required to have an initial physical examination including CBC and urinalysis. Additionally, all students are required to have Rubeola Titer; a Varicella Titer; a Rubella Titer (note: even though you may have already had measles and/or chicken pox as a child, you still need titers); a DT (Diphtheria/Tetanus) shot; Hepatitis B immunization (a series of three injections for Hepatitis B and mandatory post-titer level); and a PPD. **The Tuberculin Test or PPD must be repeated annually. In addition, a medical release form must be signed annually.** Rubella immunization is necessary if the titer is absent. You must have had an updated Tetanus immunization within the last 10 years.

Students may have the health requirements conducted by Health Services OR may elect to have the physical examination and required tests performed by a private physician.

In addition, the School of Pharmacy will provide, in compliance with the OSHA Blood Borne Pathogen Standard, mandatory annual educational sessions for all students.

Transportation. Students must provide their own transportation to experiential sites during the professional program. They should allow for transportation expenses, which would include cost of gasoline and parking fees where necessary.

Health Insurance. All students in the professional phase of their pharmacy education are required to carry health insurance as stated in the University's health policy. It is the student's responsibility to present a completed Verification of Health Form to the Director of Experiential Education at the School of Pharmacy. This must be done ANNUALLY, prior to the start of the third full week of classes. It is also the student's responsibility to re-present proof of

coverage (by filling out a Verification of Health Insurance Form) to the Director of Experiential Education in advance of the expiration date should it occur sometime in the middle of any semester.

Any medical expenses incurred by the student while participating in the clinical portion of the program will be assumed by the student.

Professional Liability Coverage. All students in the professional phase of their curriculum are required to carry specific professional liability (malpractice) coverage. You will automatically be billed for this on your University fee bill. Although the State of Connecticut has statutory protection for students in “field placement programs” (Chapter 53 of the Connecticut General Statutes), there are sites that will not accept this as adequate protection. Therefore, the School of Pharmacy has required all students to have the blanket University malpractice coverage.

Additional Degrees. Students wishing to take a second degree in another school or college should consult the associate dean of the School of Pharmacy early in their professional program.

Intern Registration. It is mandatory that all Pharmacy students register with the Connecticut Board of Pharmacy upon admission to the Pharmacy professional program. Failure to receive and maintain a valid Pharmacy intern card will result in students not being allowed to participate in experiential courses or any of the other practica component of the curriculum.

License to Practice Pharmacy. Any request for information concerning Connecticut internship training requirements and other qualifications for examination and licensure as a pharmacist should be addressed to The Board Administration, Commission of Pharmacy, State Office Building, Hartford, Connecticut. Students seeking licensure in other states, should contact the Boards of Pharmacy in those states.

Degree Requirements for the Bachelor of Science in Pharmacy Studies. The Bachelor of Science in Pharmacy Studies is awarded after the completion of two years of pre-pharmacy and the first two years of pharmacy study in the professional program. The B.S. in Pharmacy Studies must be earned before entry into the last two years of the professional program. Upon recommendation of the faculty, the degree of Bachelor of Science in Pharmacy Studies is awarded by vote of the Board of Trustees to students who have met the following requirements: (1) earned 126 credits; (2) completed all requirements for the first two years of the professional program; (3) completed at least 30 credits of general education courses, defined as behavioral, social, and humanistic areas of knowledge; (4) satisfied the University’s General Education Requirements; (5) earned at least a 2.0 grade point average for all calculable 200-level course work; and (6) earned a 2.0 grade point average for all calculable required Pharmacy courses. The B.S. in Pharmacy Studies does not entitle an individual to sit for a pharmacy licensing examination.

Degree Requirements for the Doctor of Pharmacy (Pharm.D.) The Doctor of Pharmacy is a professional degree, not a graduate degree. It is awarded after two years of pre-pharmacy studies and four years of study in the professional program. Upon recommendation of the faculty, the degree of Doctor of Pharmacy is awarded by vote of the Board of Trustees to students who have met the following requirements: (1) earned a total of 196 credits; (2) completed all requirements for the professional years and the Professional Program; (3) completed at least 30 credits of general education courses, defined as behavioral, social, and humanistic areas of knowledge; (4) satisfied the University’s General Education Requirements; (5) earned at least a 2.0 grade point average for all calculable 200 level course work; and (6) earned a 2.0 grade point average for all calculable required Pharmacy courses. The Doctor of Pharmacy degree entitles an individual to sit for a pharmacy licensing examination.

Required Courses for the Professional Degree

I. General Education Requirements

The University Senate has adopted General Education Requirements in a variety of curricula areas, which must be satisfied as part of every degree program. These requirements are listed in the *Academic Regulations* section of this *Catalog*. The course requirements listed are those of the School of Pharmacy and also satisfy the University requirements.*

Group 1. Foreign Languages

This requirement is met if the student enters the University with three years of a single language in high school, or the equivalent. With anything less, a student must complete two semesters of a single language at the University.

Group 2. Expository Writing

Either ENGL 110 or 111 is required, and must be followed by two W courses. Students passing ENGL 250 will be exempt from the ENGL 110 or 111 requirement.

Group 3. Mathematics

All students must complete MATH 115Q, an additional Q course, and one C course. Required Pharmacy courses will satisfy the Q and C requirements. (Note: MATH 101 or a passing grade on the Q-Course Readiness Test is a prerequisite to all Q courses.) In order to take MATH 115 students must pass either the Calculus Readiness Test, or a pre-calculus course. Students who fail the Calculus Readiness Test must take MATH 112 and 113.

Group 4. Literature and the Arts

All students must take two courses, one emphasizing major works of literature, and the other major achievements in art or music.

Group 5. Culture and Modern Society

All students must take HIST 100 or 101, and a course emphasizing non-Western culture.

Group 6. Philosophical or Ethical Analysis

All students must take one course in philosophical or ethical analysis.

Group 7. Social Scientific and Comparative Analysis

All students must take ECON 111 and one 100’s level sociology course.

Group 8. Science and Technology

Required pre-Pharmacy courses will satisfy this group requirement.

II. Required Courses and Recommended sequences for the Pre-professional Years

First College Year - First Semester

Course Title, Credits

CHEM 127 - General Chemistry, 4
BIOL 107 - Principles of Biology, 4
ENGL 110 - Academic Writing or ENGL 111 Writing through Literature*, 4
MATH 115 - Calculus I, 4

First College Year - Second Semester

Course Title, Credits

CHEM 128 - General Chemistry, 4
HIST 100 or 101*, 3
PHYS 121 - General Physics, 4
General Education Requirement*, 3
Elective Credits***, 2

Second College Year - First Semester

Course Title, Credits

CHEM 243 - Organic Chemistry, 3
ECON 111* - Principles of Economics, 3
MCB 229 - Fundamentals of Microbiology, 4
COMM 105* - Principles of Public Speaking, 3
General Education Requirement*, 3

Second College Year - Second Semester

Course Title, Credits

CHEM 244 - Organic Chemistry, 3
SOC 107** - Introduction to Sociology, 3
MCB 203 - Biochemistry, 4
General Education Requirements*, 6

Total pre-professional credits, 64

* These courses need not be taken in the semester indicated but must be completed during the first two years.

** Any 100 level sociology course. This course need not be taken in the semester indicated but must be completed during the first two years.

I. The Professional Program

Students will be admitted to the Pharmacy Studies degree program after completion of the two-year pre-Pharmacy program (64 credits).

First Professional Year - 29 Credits**Fall Semester****Course Title, Credits**

201 - Pharmaceutical Care
 202 - Health Care Organization, 1
 203 - Social Behavioral Aspects of Pharmacy, 2
 205 - Principles of Pharmacoeconomics, 2
 219 - General Principles and Organ System Overview, 3
 233 - Bio-Organic Chemistry I, 3
 Electives, 3***

Total credits - 14**Spring Semester****Course Title, Credits**

201 - Pharmaceutical Care, 1
 206 - Interpersonal Skills Development, 2
 220 - Nervous System, 5
 234 - Bio-Organic Chemistry II, 3
 235 - Bio-Organic Lab, 1
 PVS 297 - Pathobiology, 3

Total credits - 15**Second Professional Year - 33 Credits, Fall Semester****Course Title, Credits**

207 - Pharmaceutical Care
 221 - Cardiovascular/Renal/Respiratory, 4
 242 - Solution & Solid Dosage Forms, 4
 244 - Dosage Forms Prep Lab I, 1
 245C - Pharmacokinetics, 3
 253 - Therapeutics I, 3

Total credits - 15**Spring Semester****Course Title, Credits**

207 - Pharmaceutical Care, 1
 208 - Pharmacy Law and Ethics, 3
 222 - Endocrine / GI Systems, 3
 246 - Dispersed Systems, 3
 247 - Dosage Forms Prep Lab II, 1
 254 - Therapeutics II, 4
 Electives***, 3

Total credits - 18**Total credits for Bachelor of Science in Pharmacy Studies: 126****Doctor of Pharmacy - 70 Credits**

Students will be admitted to the Pharm.D. degree program after earning the BS in Pharmacy Studies at the School of Pharmacy, University of Connecticut.

Third Professional Year - 34 Credits**Fall Semester****Course Title, Credits**

200 - Evaluation Skills, 3
 209 - Pharmaceutical Care
 223 - Pharmacology Discussion / Lab, 1
 224 - Chemotherapy, 2
 225 - Toxicology, 2
 255 - Therapeutics III, 3
 257 - Clinical Pharmacokinetics, 1
 Electives, 3+

Total credits - 15

*** These courses need not be taken in the semester indicated, but must be completed by the end of the second professional year if the student will not have 125 credits.

+ If student will not have 196 credits earned following the completion of the Fourth Professional Year, these elective credits must be taken. A total of 196 credits are necessary for the Pharm.D. degree.

Spring Semester**Course Title, Credits**

209 - Pharmaceutical Care, 1
 210 - Non-Prescription Medication, 3
 211 - Introduction to Clinical Practice, 2
 212 - Pharmacy Practice Laboratory, 3
 226 - Immunology, 3
 256 - Therapeutics IV, 4
 Electives, 3+

Total credits - 19**Fourth Professional Year**

Students must have completed the BS in Pharmacy Studies and the first year of the Pharm. D. program

36 Credits

Rotating Professional Experiences (1 month = 4 credits) Required (one month each) 16 credits

Direct patient contact indicated by *

Course Title, Credits

262 - Professional Experience in Community Pharmacy *, 4
 263 - Professional Experience in Institutional Pharmacy I, 4
 264 - Professional Experience in Ambulatory Care Pharmacy *, 4
 265 - Professional Experience in General Medicine *, 4
 (may substitute Pediatrics or Geriatrics for Ambulatory Care and General Medicine)

Electives, minimum of 5 (one month each) 20 credits

At least 2 of the electives must be direct patient contact.

Direct patient contact indicated by *

266 - Professional Experience in Cardiology *, 4
 267 - Professional Experience in Infectious Disease *, 4
 268 - Professional Experience in Oncology *, 4
 269 - Professional Experience in Psychiatry *, 4
 270 - Professional Experience in Pediatrics *, 4
 271 - Professional Experience in Geriatrics *, 4
 272 - Professional Experience in Community Practice II *, 4
 273 - Professional Experience in Critical Care *, 4
 274 - Professional Experience in Dermatology, 4
 275 - Professional Experience in Drug Control, 4
 276 - Professional Experience in Emergency Medicine, 4
 277 - Professional Experience in Home Health Care, 4
 278 - Professional Experience in Institutional Pharmacy II, 4
 279 - Professional Experience in Industry, 4
 280 - Professional Experience in Managed Care, 4
 281 - Professional Experience in Nuclear Pharmacy, 4
 282 - Professional Experience in Nutrition, 4
 283 - Professional Experience in Obstetrics/Gynecology, 4
 284 - Professional Experience in a Skilled Care Nursing Facility, 4
 285 - Professional Experience in Surgery, 4
 286 - Professional Experience in General Medicine II *, 4
 287 - Professional Experience in Ambulatory Care *, 4
 288 - Professional Experience in Pharmacist-Directed Anticoagulation Service *, 4
 289 - Professional Experience in Gastroenterology *, 4
 290 - Professional Experience in Hospice Care *, 4
 291 - Professional Experience in Sub-acute Care and Chronic Disease and Rehabilitate Medicine *, 4
 298 - Special Topics in Clinical Rotations, 4
 299 - Experiential Research Rotations, 4
 PHAR 298 - Special Topics in Pharmacy, 4
 PHAR 299 - Research Experience (GPA 2.8), 4

Total credits for Doctor of Pharmacy 196

Exemption and Substitution. Students who desire to be excused from any of these requirements or to substitute other courses for those prescribed, should consult the Associate Dean of the School. The Dean of the School of Pharmacy must approve such exemptions or substitutions. Any waivers or substitution for professional courses must be approved by the School of Pharmacy Curriculum Committee.

School of Pharmacy Website <http://Pharmacy.uconn.edu>