



A Course of Study for

PRE-PHARMACY

Pharmacists prepare, compound, and dispense medicines prescribed by doctors, veterinarians, and dentists. They advise doctors, veterinarians, and other prescribers on the proper selection and effect of drugs. Additionally, pharmacists learn to recognize and classify hundreds of medicines.

Pharmacists must graduate from a program accredited by the American Council of Pharmaceutical Education. Most schools require a pre-pharmacy curriculum emphasizing mathematics and basic sciences, such as chemistry, biology, and physics. Pharmacists must also be licensed, which requires graduation from a college of pharmacy. The curriculum must contain at least 3200 hours of course work and 1000 hours of practical experience. Licensed pharmacists must also satisfactorily complete written and practical examinations given by the Board.

PhamCAS is a central online application center. The website provides useful information including a directory of all United States pharmacy schools, with links to information: www.pharmcas.org.

PRE-PHARMACY REQUIREMENTS

Although not required for application to pharmacy school, very few applicants are accepted who do not have a Bachelor's degree. It is becoming increasingly crucial for successful pharmacy school applicants to have direct work or volunteer experience in pharmacy. Excellent written and verbal communication skills are essential.

TRANSFER

Students planning to transfer to a four-year college should complete the lower-division major requirements and the general education pattern for the appropriate transfer institution. Santa Monica College has articulation agreements for this major with the following UC, CSU, and private institutions. Exact major requirements for these and other UC and CSU campuses can be found online www.assist.org. Articulation agreements with private institutions can be found online at www.smc.edu/articulation.

UNIVERSITY OF CALIFORNIA, SAN DIEGO

Prerequisite coursework for admission to the Doctor of Pharmacy Program:

It is highly recommended that students have four years of undergraduate study and complete the requirements for the bachelor's degree (*B.S. or B.A.*) prior to entering the UCSD School of Pharmacy and Pharmaceutical Sciences. The absolute, minimum requirements are 90 quarter units or 60 semester units taken at an accredited college or university in the United States and completion of the prerequisite coursework listed below. Students who have attended a foreign school must have completed at least one year of study at a four-year college or university in the United States prior to application. Entrance examinations such as the P.C.A.T. or G.R.E. are not required. Students with international transcripts should e-mail the School of Pharmaceutical Sciences at pharmacy@ucsd.edu providing your first and last name, an e-mail address, and the full name of the school (or schools) you attended outside the United States.

A solid understanding of the fundamental sciences is essential for the study of the pharmaceutical and biomedical sciences, and applications are required to have successfully completed with a grade of C (2.0) or higher the following prerequisite coursework.

Applications may have an undergraduate major in any area of interest, as long as the prerequisite coursework have been completed.

Proficiency in a foreign language, such as Spanish, is considered highly desirable.

Students who have completed only the minimum prerequisite coursework and who do not intend to obtain a Bachelor of Arts degree may be at a competitive disadvantage in the application process compared to students who have earned their degree.

Suggested SMC courses:

BIOL 21, 22, 23;

CHEM 11 **and** 12; 21, 22, **and** 24;

COM ST 11;

ECON 1 **or** 2;

ENGL 1 **and** 2;

MATH 7 **and** 8;

PHYS 21 **and** 22 **or** 6 **and** 7 **or** 8 **and** 9;

For more information on UCSD's new PharmD program contact: pharmacy@ucsd.edu, or <http://pharmacy.ucsd.edu>

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Admission Requirements include:

Completion of a minimum of two years of pre-pharmacy prerequisites (62 semester units) to include the following:

- BIOL** 21, 22 **and** 23;
- CHEM** 11, 12, 21, 22 **and** 24;
- ENGL** 1 **and** (2 **or** 31);
- MATH** 7, 8;
- PHYS** 3;
- PHYSC** (21 **and** 22) **or** (6 **and** 7) **or** (8 **and** 9);

18 semester units of Humanities/Social Sciences to include the following courses:

- ANTHRO** 2 **or** **PSYCH** 1 **or** **SOCIOL** 1;
- COM ST** 11;
- ECON** 1 **or** 2;

CHAPMAN UNIVERSITY SCHOOL OF PHARMACY**DOCTOR OF PHARMACY (Pharm.D.)**

Chapman University School of Pharmacy will engage student pharmacists in science-based, personalized, interdisciplinary health practice, where all students receive a rich discovery experience while learning from world-class faculty clinicians and researchers dedicated to flawless patient care and advising global health.

The Phar.D. is earned through a three-year, “accelerated” professional degree program made up of eight, 15-week trimesters. Personalized education is a core value of Chapman University and CUPS.

PharmD Curriculum Progression and Sequencing by Trimesters

*General Requirements:

General Biology with lab; Human Anatomy with lab; Physiology with lab; Microbiology; Chemistry (*general with labs*); Chemistry (pharmOrganic with labs); Physics with lab; Intro to Genetics; Calculus; Statistics; Psychology or Sociology; Economics (Micro or Macro); Communications/Speech; English Composition; 6 units of electives

*See the CUSP website for any changes to the prerequisite list.

NOTE: Typically, prerequisite courses have been completed within seven years of applying to CUSP.

Admission Requirements:

To be considered for admission, the applicant must meet the following requirements:

- Completion of 63 semester units of prerequisite courses at an accredited institution.
- Letter grade of C or higher for all prerequisite courses
- The minimum cumulative GPA is 3.0 or a 4.0 scale; the minimum prerequisite GPA is 3.0 or a 4.0 scale. (GPA's of 2.85 or 2.99 may be considered if student excels in other area)
- PCAT composite score of 60th percentile and no less than 25th percentile in any area. PCAT score must be from test taken during time period of January 2013 to January 2015. (PCAT composite score of 50th to 59th percentile may be considered if student excels in other area)
- Meet and comply with the School of Pharmacy Technical Standards

A criminal background check, drug screening, and up to date immunization record will be required for all applicants offered admission.

For additional information about admission requirements, go to:
chapman.edu/pharmacy/admission/index.aspx

LOMA LINDA UNIVERSITY

Loma Linda University will require that applicants complete a minimum of 60 semester units of undergraduate work prior to applying. Since specific admissions requirements have not been developed at this time, Loma Linda University advises applicants to follow a course of study common to admission to other schools of pharmacy (*1 year each of general chemistry, organic chemistry, physics, biology, calculus, and English and 1 course each of public speaking, economics, and social sciences*). Applicants can provide their mailing address to Loma Linda University, School of Pharmacy and they will mail an information packet and application when they are ready.

Contact the LLC School of Pharmacy at: gradschool@univ.llu.edu or call (800) 422-2558.

PALM BEACH ATLANTIC UNIVERSITY-SCHOOL OF PHARMACY (FLORIDA)

Admission to the Doctor of Pharmacy degree program requires 66-67 semester unit hours, of pre-professional education at a regionally accredited college or university.

Minimum specific course requirements:

- ANATMY 1 and PHYS 3** with lab I, II - 8 semester units;
- BIOCHEMISTRY** - 3 semester units;
- CHEM 11 and 12** with lab I, II - 8 semester units;
- CHEM 21 and 22** with lab I, II - 8 semester units;
- COM ST** - 3 semester units;
- ECON 1 or ECON 2** - 3 semester units;
- ENGL 1** - 3 semester units;
- GENERAL BIOL** with lab I, II - 8 semester units;
- HUMANITIES** (*Social/Behavioral Sciences*) may be substituted - 9 semester units
- MATH 54** - 3 semester units;
- MATH 7** (*Business Calculus does not meet this requirement*) - 3-4 semester units;
- MCRBIO 1** with lab - 4 semester units;

Suggested Santa Monica College courses:

- ANATMY 1**;
- BIOL 21, 22, 23**;
- CHEM 11 and 12**;
- CHEM 21 and 22 and 24**;
- CHEM 31**; **ENGL 1 and (2 or 31)**;
- COM ST 11** (*formerly Speech 1*);
- MATH 52 or 54**;
- MCRBIO 1**;
- PHYS 3**;

9 units of humanities courses (*Social/Behavioral Sciences may be substituted*)

- Grades below C- cannot be accepted toward completion of these requirements.
- The minimum cumulative and science (*chemistry, biology, physics and math*) grade point average (GPA) requirement is 2.75.
- All prerequisites must be completed by May of the year seeking admission into Gregory School of Pharmacy.

UNIVERSITY OF THE PACIFIC - THE THOMAS J. LONG SCHOOL OF PHARMACY & HEALTH SCIENCES PHARM D PROGRAM

Admission Requirements:

CHEM 11, 12, 21, 22, 24;
COM ST 11 (*formerly Speech 1*);
ECON 2;
MATH 7 **or** 23;
MCRBIO 1;
PHYSC 21 **or** 6 **or** 8;
PSYCH 1 **or** 14

Select 2 courses from the following:

BIOL 21, 22, 23

Select 2 courses from the following:

ENGL 1, 2, 31

General Education Categories

Students who have not completed a U.S. Bachelor of Arts degree must complete the following general education categories: (*a minimum of one 3 semester/4 quarter unit course in each area is required*).

IC: International or Intercultural Studies

Select 1 course from the following:

ANTHRO 2, 3, 14, 20;
COM ST 37 (*formerly Speech 7*);
ENGL 50;
GEOG 2;
HIST 3, 4, 5, 6, 19, 21-39;
POL SC 2, 7, 8, 11, 14;

IIB: Fundamental Human Concerns

Select 1 course from the following:

ENGL 51, 52;
HIST 1, 2, 55;
PHILOS 1, 2, 3, 4, 5, 6, 10, 22, 23, 24, 51, 52;
POL SC 51, 52;
REL ST 51, 52

IIC: Practice and Perspective in Arts

Select one course from the following:

ART 1-73;
DANCE 5, 7;
ENGL 15, 55;
FILM 1-10;
MUSIC 1, 30-37;
TH ART 2, 5, 7

Please see www.pacific.edu/pharmd for more information.

UNIVERSITY OF SOUTHERN CALIFORNIA (USC)

A Bachelor's degree and a minimum cumulative grade point average of 3.0. Grades of "pass/no-pass" will not be accepted (*unless a course is offered only on a "pass/no-pass" basis*).

"Pre-pharmacy requirements in the following areas must be repeated if they are 9 years or older at the time the application is submitted: mammalian physiology, microbiology, molecular biology, biochemistry and organic chemistry (full year). These courses should be repeated at a four year college/university."

Holders of international degrees are required to complete the following courses in the USA at an accredited **four year** degree granting college or university: mammalian physiology, molecular biology, biochemistry and microbiology. English and interpersonal communication must also be completed in the USA, but may be completed at a two year college along with any other required humanities, social or behavioral sciences.

Please Note: English and Communication courses taken in a foreign country will be accepted only from countries whose native language is English (*e.g., Great Britain, English-speaking Canada, Australia, New Zealand and the British West Indies*). Students from any other foreign country must take English and Communication courses in the United States.

Calculus

1 semester/2 quarters: MATH 7

General Chemistry

*One year course with lecture and lab: CHEM 11 **and** 12*

Organic Chemistry

*One year course with lecture and lab: CHEM 14 **and** 16 **or** 21; 22 **and** 24*

General Biology

*One year course with lecture and lab (usually cellular and organismic biology): BIOL 21, 22 **and** 23*

Biochemistry

One course: No equivalence

Microbiology

One course: MCRBIOL 1

Molecular Biology

One course: No equivalence

Physics

*One semester: PHYS 6 **and** 7 **or** 8 **and** 9 **or** 21 **and** 22 **and** 23 (course that indicates thermodynamics, and electromagnetisms are recommended)*

Human Physiology

*One course: ANATMY 1 **or** 2*

Statistics

One course: MATH 54

English Composition (only for students who did not receive their Bachelor's degree from a U.S. University)

*Two courses: ENGL 1, 2 **or** 31*

Communications (only for students who did not receive their Bachelor's degree from a U.S. University)

*One course: COM ST 35 (formerly Speech 5) **or** PSYCH 5 **or** COM ST 11 (formerly Speech 11)*

General Psychology or Sociology

*One course: PSYCH 1 **or** SOCIOL 1*

Micro or Macroeconomics

One course: ECON 1

For more information:

<http://pharmacyschool.usc.edu/programs/pharmd/pharmdprogram/admission/requirements/>

WESTERN UNIVERSITY OF HEALTH SCIENCES

ANATMY 1 **or** **2**; **CHEM 11, 12, 21, 22, 24, 31**; **MATH 7**; **ENGL 1, 2**; **MCRBIOL 1**; **PHYSC 3**; **COM ST 11** (formerly *Speech 1*); *one semester course in two of the following three areas: Public Speaking/Debate; Social Sciences; Economics.*

Pharmacy College Admissions Test (PCAT): Not required

TOURO UNIVERSITY

Candidates who have obtained a Bachelor of Arts degree (*or will obtain a Bachelor of Arts degree prior to the start of classes*) are eligible for admission to the College of Pharmacy provided they meet the following prerequisite requirements and coursework. **Pharmacy College Admissions Test (PCAT):** Not required.

- 8 semester/12 quarter units of Inorganic Chemistry with lab
- 8 semester/12 quarter units of Organic Chemistry with lab (*4 semester units of Biochemistry may be substituted for the second semester of Organic Chemistry*)
- 4 semester/6 quarter units of Human Anatomy/Physiology (*combined course*) with lab **or** one course each of Human Anatomy and Human Physiology with labs
- 4 semester/6 quarter units of Microbiology with lab
- 3 semester units of Calculus
- All prerequisite coursework completed with a grade of C or higher
- Minimum cumulative and science grade point average of 2.5 (*candidates who qualify for secondary applications typically have GPA's substantially higher than 2.5*)

Candidates without a Bachelor's Degree

Though it is strongly recommended that candidates for the Doctor of Pharmacy Degree program obtain a Bachelor of Arts degree prior to the start of classes, candidates without a Bachelor of Arts degree who have completed more than 60 college semester units may be accepted to the program provided they meet all of the prerequisite requirements and coursework listed above as well as the following additional coursework:

- 3 semester units of College English
- 3 semester units of English Composition
- 3 semester units of Speech/Communication
- 3 semester units of Economics