



# Cerritos College

## PRE-PHARMACY

### CAREER PATHWAY

*The following curriculum does not lead to an Associate in Arts Pre-Pharmacy Degree. However, students may fulfill requirements for a Natural Sciences Degree by completing a minimum of 18 units of science and math courses to include at least 4 units in the Physical Sciences, at least 4 units in the Biological Sciences, and at least 3 units in a math course beyond Intermediate Algebra. Please refer to the Cerritos College catalog for more information.*

Admission to schools of pharmacy is highly competitive. Schools of Pharmacy offering the Doctor of Pharmacy generally require the completion of a minimum of 60 semester units of pre-pharmacy coursework. Applicants who have received a Baccalaureate Degree will be considered more favorably than applicants who have fulfilled only minimum requirements. A solid understanding of the fundamental sciences is essential for the study of the pharmaceutical and biochemical sciences. A discipline in the natural sciences is often a popular major selected.

#### COMMON COURSE REQUIREMENTS FOR MOST PHARMACY SCHOOLS

			UNITS
BIOL	200	Principles of Biology	5
BIOL	201	Principles of Biology	5
CHEM	111	General Chemistry	5
CHEM	112	General Chemistry	5
CHEM	211	Organic Chemistry	5
CHEM	212	Organic Chemistry	5
ENGL	100	Freshman Composition	4
ENGL	102	Freshman Composition and Literature	3
<i>or</i> ENGL	103*	Critical and Argumentative Writing	(3)
MATH	170	Analytic Geometry and Calculus I	4

*\* For other options see a counselor*

#### ADDITIONAL REQUIREMENTS FOR SPECIFIC CALIFORNIA PHARMACY SCHOOLS

##### Loma Linda University – School of Pharmacy

[www.llu.edu/llu/sps](http://www.llu.edu/llu/sps)

The School of Pharmacy is owned and operated by the Seventh-day Adventist Church; therefore, preference for admission is given to members of the Church. However, it is a firm policy of the admissions committee to admit individuals who desire a faith-based education and demonstrate a commitment to Christian principles. No candidate is accepted on the basis of religious affiliation alone.

Loma Linda University School of Pharmacy (LLUSP) offers a full-time, four-year professional program leading to the PharmD degree. No undergraduate courses are taught at LLUSP, and we do not accept transfer students from other pharmacy programs.

To be eligible for admission, applicants must have a minimum cumulative undergraduate as well as cumulative science/math GPA of 2.75 at the time of application. Applications from individuals with GPA's below 2.75 will not be reviewed for admission. A Baccalaureate degree is highly recommended. Prerequisites must be completed by the end of spring term prior to matriculation. Prerequisites must be completed with letter grade of 'C' or better and Pass/No Pass courses will not be accepted to fulfill prerequisites.

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The School of Pharmacy uses the Pharmacy College Application Service (PharmCAS). You may visit the PharmCAS website for more information about this service, [www.pharmacas.org](http://www.pharmacas.org). Applicant must submit a PharmCAS application and complete the LLUSP Supplemental application by the program deadline.

## ADDITIONAL REQUIREMENTS FOR ADMISSION

MICR	200	Principles & Applications Microbiology	5
PHYS	101	General Physics	4
<b>and</b> PHYS	102	General Physics	4

Three letters of recommendation are also required.

The following courses are not required but will further prepare students for the rigorous curriculum provided at LLUSP and should be considered whenever possible: Cellular and Molecular Biology, Genomics, Human Genetics, Histology, Immunology, and Physiology.

## Recommended Pharmacy Experience

It is highly recommended that applicants obtain volunteer or paid pharmacy work experience.

## University of California – San Diego – School of Pharmacy

[www.pharmacy.ucsd.edu](http://www.pharmacy.ucsd.edu)

The UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences will accept 60 students into each entering class. The Admissions Committee is looking for applicants who have demonstrated strong academic ability, particularly in the pre-requisite coursework, but also in their entire academic career.

Prior to matriculation into the UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences, all accepted applicants must have completed the requirements for the bachelor's degree (B.S. or B.A.). **Applicants who have not earned a degree or who will not have earned one prior to the start of classes in the Fall will not be considered.** Students currently enrolled in a community college must transfer to a four year college or university so as to complete the requirements for the bachelor's degree. A four-year college or university is one that is accredited to award bachelor's degrees. Enrollment in a community college does not satisfy this requirement. A minimum overall grade point average (GPA) of 3.0 is required to apply. The ability to express oneself clearly in both oral and written English is essential. Also, proficiency in a foreign language, such as Spanish, is considered highly desirable. A profile of applicants interviewed for enrollment for fall 2016 reveals that 809 applications were received. Of those applicants, 249 were granted an interview and their average overall GPA was 3.71.

A solid understanding of the fundamental sciences is essential for the study of the pharmaceutical and biomedical sciences. Applicants are required to have successfully completed, with an average grade point average of 3.0 or better in each category, the following pre-requisite science coursework:

ECON	201	Principles of Macroeconomics	3
<b>or</b> ECON	202	Principles of Microeconomics	(3)
MATH	190	Analytic Geometry and Calculus II	4
PHYS	201	Engineering Physics	4
<b>or</b> PHYS	101	General Physics	(4)
PHYS	202	Engineering Physics	4
<b>or</b> PHYS	102	General Physics	(4)
PSYC	101	General Introductory Psychology	3
<b>or</b> SOC	101	Introductory Sociology Principles	(3)
<b>or</b> ANTH	100	Cultural Anthropology	(3)
SPCH	130	Fundamentals of Speaking	3
<b>or</b> SPCH	235	Fundamentals of Argumentation and Persuasion	(3)

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It is also strongly recommended that students take upper division courses in Biochemistry, Physiology and Cellular and Molecular Biology. These courses will better prepare the first year UCSD Pharmacy student.

## University of California, San Francisco – School of Pharmacy

<http://pharmacy.ucsf.edu>

The minimum grade point average to apply is 2.80. Also the School of Pharmacy has a minimum requirement of 62 semester units. Although this is the absolute minimum requirement, in recent years a large majority of successful applicants have held bachelor's degrees usually in Biology, Biochemistry, or Chemistry. The average grade point average of all accepted students entering in fall 2017 is about 3.53. Each year, less than about 1.6% of admitted students enter directly from a California Community College. In recent years UCSF Phar.D. program accepted 122-127 students.

The School of Pharmacy uses the Pharmacy College Application Service (PharmCAS). You may visit the PharmCAS website for more information about this service, [www.pharmacas.org](http://www.pharmacas.org). Applicant must submit a PharmCAS application and complete the UCSF School of Pharmacy Supplemental application by the program deadline. The School of Pharmacy requires the Pharmacy College Admissions Test (PCAT). The PCAT exam must be taken in time for your scores to be delivered to the PharmCAS by the programs deadline.

A&P	201	Human Physiology	5
ECON	201	Principles of Macroeconomics	3
<b>or</b> ECON	202	Principles of Microeconomics	(3)
MATH	190	Analytic Geometry and Calculus II	4
PHYS	201	Engineering Physics	4
<b>or</b> PHYS	101	General Physics	(4)
PHYS	202	Engineering Physics	4
<b>or</b> PHYS	102	General Physics	(4)
PSYC	101	General Introductory Psychology	3
<b>or</b> SOC	101	Introductory Sociology Principles	(3)
<b>or</b> ANTH	100	Cultural Anthropology	(3)
SPCH	130	Fundamentals of Speaking	3
<b>or</b> SPCH	235	Fundamentals of Argumentation and Persuasion	(3)

## University of Pacific

<http://www.pacific.edu/Academics/Schools-and-Colleges/Thomas-J-Long-School-of-Pharmacy-and-Health-Sciences/Academics/Doctor-of-Pharmacy.html>

Although a Bachelor's degree is not required, a degree can make an applicant more competitive, and in recent years a strong majority of the successful applicants have had degrees. A minimum of 64 semester units of college level coursework is required for admission to the Pharm D. program. There is no absolute GPA cutoff. Admission is competitive and is based on a number of factors in addition to GPA, including Bachelor's degree, science grades, strength of curriculum, extracurricular, community service, leadership qualities, pharmacy experience, recommendations, essay, interview results, and demonstration of your ability to succeed in 17 units or more per semester. Competition can vary from year to year depending upon the size and strength of the applicant pool. The average GPA over the past several years has ranged between 3.3 to 3.5. It is recommended that applicants have a GPA of at least 3.3 to be considered academically competitive. Recommended electives include anatomy, genetics, physiology, microbiology, biochemistry, analytical chemistry and physical chemistry.

A&P	201	Human Physiology	5
ECON	201	Principles of Macroeconomics	3
<b>or</b> ECON	101	Economic Issues and Policy	(3)
MATH	116	Calculus for Managerial, Biological and Social Sciences	4
<b>or</b> MATH	170	Analytical Geometry and Calculus I	(4)
MICR	200	Principles & Applications of Microbiology	5

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PHYS	101	General Physics	4
<b>or</b> PHYS	100	Elementary Physics	(4)
<b>or</b> PHYS	201	Engineering Physics	(4)
PSYC	101	General Introductory Psychology	3
<b>or</b> PSYC	271	Abnormal Psychology	(3)
SPCH	130	Fundamentals of Speaking	3

## University of Southern California

<http://pharmacyschool.usc.edu/>

A Bachelor's degree is required prior to entrance. A minimum of 3.0 cumulative grade point average in all college work and Pre-pharmacy requirements is required for consideration for an interview. It is highly recommended that math and science courses be completed during the regular academic year and not during a summer term. Distance learning or online coursework is not acceptable for prerequisite courses in biology, chemistry and physics. 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 must be repeated at a four-year college/university. The class profile for the entering class of fall 2017, 192 students were admitted and enrolled from an applicant pool of 692. The average cumulative grade point average for enrolling students was 3.49.

The School of Pharmacy uses the Pharmacy College Application Service (PharmCAS). You may visit the PharmCAS website for more information about this service, [www.pharmacas.org](http://www.pharmacas.org). Applicant must submit a PharmCAS application and complete the USC School of Pharmacy Supplemental application by the program deadline. Also, The School of Pharmacy Office of Admissions uses an interview process to make determinations on admissions. The interview consists of two parts: an oral interview and a writing test. The purpose of the interview is to assess your oral communication skills, writing skills, leadership ability, and your motivation or potential to be a pharmacist.

A&P	201	Human Physiology	5
ECON	202	Principles of Microeconomics	3
MATH	112	Elementary Statistics	4
<b>or</b> PSYC	210	Elementary Statistics	(4)
MICR	200	Principles & Applications of Microbiology	5
PSYC	101	General Introductory Psychology	3
<b>or</b> SOC	101	Introductory Sociology Principles	(3)
SPCH	100	Fundamentals of Oral Communication	3
<b>or</b> SPCH	120	Fundamentals of Interpersonal Communication	(3)
<b>or</b> SPCH	130	Fundamentals of Speaking	(3)

HUMANITIES/FINE ARTS: Two Additional courses 3-3

The following **required** upper division courses are not offered at Cerritos College, but must be taken at another college or university: Biochemistry and Molecular Biology.

## Western University of Health Sciences, College of Pharmacy

Formerly known as College of Osteopathic Medicine of the Pacific  
[www.westernu.edu/pharmacy/](http://www.westernu.edu/pharmacy/)

Minimum of 60 semester units is required. Candidates who have received a baccalaureate degree will be considered more favorably than applicants who have fulfilled only minimum requirements. The minimum overall and science grade point average will be 2.75. Complete prerequisites with a "C" or better. All prerequisites must be completed by the end of the spring term prior to matriculation.

For the entering class of fall 2017, 120 students were admitted from an applicant pool of 1,046 students. The average cumulative grade point average was 3.44 and the average science grade point average was 3.33.

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Applicants must submit an application by March 1 of the year prior to admission and participate in an admission interview and assessment of written and verbal communication skills.

A&P	200	Human Anatomy	5
A&P	201	Human Physiology	5
MATH	190	Analytic Geometry and Calculus II	4
MICR	200	Principles & Applications Microbiology	5
SPCH	100	Fundamentals of Oral Communication	3
<i>or</i> SPCH	130	Fundamentals of Speaking	(3)

In addition to the required courses listed the student must have at least 20 additional units from Natural Sciences, Humanities/Fine Arts, and Behavioral and Social Sciences. Electives must be met from at least two of the three following areas: Public Speaking/Debate, Social Sciences, to include Economics and Physics.

The following **required** coursework is not offered at Cerritos College, but must be taken at another college or university: Two semesters of Biochemistry or one semester of Biochemistry plus one semester of Molecular Biology.

Advanced Placement, Transfer of Credit, CLEP or Credit for Experiential Learning is not recognized by the program.

## **THE REQUIREMENTS FOR PHARMACY SCHOOLS ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

### **CAREER OPPORTUNITIES:**

Changes in health care delivery are giving the role of pharmacist a new dimension: significant responsibility as a member of the health team with direct patient care. Hospital pharmacists work on educating patients on safe use of drugs, advising prescribers about the appropriate dosing and following patient's response to usage. Career advancement exists in administration and research. In addition to dispensing medications, community pharmacists guide patients in non-prescription drugs and being alert to adverse pharmacies. Industrial Pharmacists may work in research and development including the formulation, evaluation, packaging and quality control of drugs. Some pharmacists are employed by governmental agencies such as narcotic divisions, food and drug evaluation and regulation, and public health.

**IMPORTANT NOTICE:** The requirements listed for major are subject to change without notice. It is the student's responsibility to check for the most recent information with a Cerritos College counselor or by consulting ASSIST at [www.assist.org](http://www.assist.org).

**NOTE:** Courses listed may require prerequisite coursework.

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# ASSIST

How to use **ASSIST** to find your major preparation for CSU/UC:

1. **Log on:** [www.assist.org](http://www.assist.org)
2. **Select an Institution:** select "Cerritos College" or other community college from pull-down menu
3. **Select:** "Type of Transfer Institution" such as "UC Los Angeles"
4. **Select a major from pull-down menu**  
Report will show the university courses on the left and comparable community college classes on the right.
5. **PRINT:**-print by clicking on gold "**PRINT THIS REPORT**" button on top. Then use the **ASSIST** screen menu on the top toolbar or click on the printer icon that will appear at the bottom of the page.

How to use **ASSIST** to explore the majors available at University of California and California State University campuses

- Click on "EXPLORE MAJORS"

How to use **ASSIST** to figure out whether courses from the community college are transferable to the CSU/UC.

- Select the community college of interest (Cerritos College)
- Select either CSU transferable courses or UC Transferable courses
- Select a department for the courses in question

\*USC Articulation available at:

[www.usc.edu/articulation](http://www.usc.edu/articulation) and **Select:** "TRANSFER PLANNING GUIDE."

## **IMPORTANT:**

*Students are advised to contact a Cerritos College counselor for more information & for details regarding other transfer agreements & options not available on ASSIST. Students can stop by the counseling desk to make an appointment or call (562) 467-5231.*