

Pharmaceutical Sciences, BS

The **Bachelor of Science in Pharmaceutical Sciences** is grounded in the belief that scientific knowledge, critical inquiry, and ethical responsibility are essential to the discovery, development, and responsible use of medications that improve human health. The program is designed to cultivate scientifically literate graduates who understand the interdisciplinary nature of pharmaceutical science and its role in advancing public health, biomedical innovation, and patient well-being.

Pharmaceutical science integrates principles from chemistry, biology, pharmacology, and engineering to understand how therapeutic agents are discovered, developed, formulated, and evaluated. The program emphasizes a strong foundation in the natural sciences while fostering analytical thinking, quantitative reasoning, and laboratory competence. Through this integrated approach, students learn to examine how drugs interact with biological systems and how scientific evidence informs the safe and effective use of pharmaceuticals.

The program also recognizes that modern pharmaceutical development occurs within complex regulatory, ethical, and societal contexts. Students are therefore encouraged to consider issues of safety, quality, equity, access, and responsible innovation in the development and distribution of medications. By engaging with scientific literature, laboratory experiences, and collaborative problem-solving, students develop the skills necessary to contribute thoughtfully to the pharmaceutical and biomedical fields.

Finally, the program supports diverse educational and career pathways. Graduates are prepared for advanced study in pharmacy, pharmaceutical sciences, medicine, and related health professions, as well as entry into the pharmaceutical, biotechnology, and regulatory sectors. Through rigorous scientific training and an emphasis on lifelong learning, the program seeks to prepare graduates who will contribute to the advancement of therapeutics and the improvement of health outcomes in an evolving global healthcare landscape.

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Degree Requirements

Coursework

This is a brand-new program as of Fall 2026, and new courses are in development. Examples of required courses for this 125-unit program include the following:

Code	Title	Units
CAPS-BIO 1012	General Biology I (Lecture)	3
CAPS-BIO 1019	General Biology II (Lab)	1
CAPS-BIO 1022	General Biology II (Lecture)	3
CAPS-BIO 2200	Anatomy and Physiology I	4
CAPS-BIO 2201	Anatomy and Physiology II	4
CAPS-BIO 2800	Microbiology for Health Professions	4
CAPS-CHEM 1020	Introductory General Chemistry I (Laboratory)	2
CAPS-CHEM 1040	General Chemistry Laboratory II	2
CAPS-CHEM 1050	Introductory General Chemistry I (Lecture)	3
CAPS-CHEM 1060	Introductory General Chemistry II (Lecture)	3
CAPS-COMM 2017	Oral Communication	3
CAPS-ECOMP 1110	Analytical Writing	3
CAPS-ECOMP 2020	Critical and Researched Writing	3
CAPS-GS 1015	College Transition Seminar	1
CAPS-MATH 1100	Calculus I	3
CAPS-PSYCH 1000	Introduction to Psychology	3
CAPS-SOC 2023	Introduction to Sociology	3

- Biochemistry
- Genetics
- Immunology
- Information Mastery I: Drug Information & Evidence-Based Medicine
- Medical Physiology
- Molecular Biology
- Organic Chemistry I and II (with Labs)
- Pharmaceutics
- Pharmacy Calculations
- Physics I and II (with Labs)
- Principles of Drug Addiction
- Public Health Fundamentals
- Lower- and upper-level Science electives
- Electives in the Humanities
- Upper-level Writing elective