

CHEMISTRY DEPARTMENT

The major in chemistry leads to a Bachelor of Science (BS) Degree and the chemistry curriculum is certified by the American Chemical Society.

The chemistry department provides intellectual and professional training for students in the field of chemistry and in support of the American Chemical Society charter "to encourage in the broadest and most liberal manner the advancement of chemistry in all its branches; the promotion of research in chemical science and industry, the improvement of the qualifications and usefulness of chemists through high standards of education to promote scientific interests and inquiry."

Chemistry is a foundation science for many professions. Graduates with degrees in chemistry find employment in such diverse areas as biotechnology, health sciences, forensic science, agricultural and environmental fields, transportation industries, the semi-conductor industry, teaching and research.

Consequently, the chemistry department provides students with a number of diverse programs to assure each student versatility and a sound education in the fundamental areas of modern chemistry.

In addition to curricula for students who wish to pursue chemistry as a profession, programs can be designed for pre-professional areas including pre-pharmacy, pre-medicine, pre-dentistry and pre-veterinary medicine.

A core curriculum for the major exists and many concentration areas are open to students to combine other interests with a major in chemistry. For example, while medical schools do not mandate any particular major for entering students, biology and chemistry have been the leading majors of students entering medical school. The requirements for a pre-medicine/chemistry major are the same as for the chemistry major concentration.

Additionally, the student must complete specific courses required by the medical schools to which they are applying. It is recommended that pre-medical and other pre-professional students coordinate the program with the appropriate pre-professional advisor, as well as the chemistry advisor, to assure that specific course requirements are completed.

Graduate Programs in Natural Sciences

The College of Science, Technology, Engineering and Mathematics offers Master of Science degrees in four disciplines within the Natural Sciences: Biology MS, Chemistry MS, Biochemistry MS, and Cannabis Biology and Chemistry MS. Students completing any of these degrees will develop advanced skills in the general discipline of choice and will apply these skills in the completion of a thesis research project or internship. GRE scores of at least 300 (verbal and quantitative) based on the current GRE exam are required for regular admission to GPNS programs.

Pre-Professional

Students ultimately seeking professional degrees such as Pharmacy, PharmD, MD, DVM, DO, DDS, and DC, may opt to complete a bachelors, or minor, in chemistry as preparation for future professional studies. A solid understanding of the chemistry and analysis of biomolecules, pharmaceuticals, etc. serves as an excellent foundation for professional programs in the health sciences. Selection of the *Biochemistry* or *Double Major concentration* is recommended for pre-professional students completing the BS in chemistry. Pre-professional students must work closely with academic advisors to ensure completion of specific

curricular requirements needed for admission into specific professional programs.

Co-Curricular Requirements

Students should experience co-curricular activities which enhance, broaden and reinforce the academic experience; therefore, the faculty support and encourage students to participate in science-related, as well as in general activities such as:

1. Science or chemistry clubs
2. Student government
3. Scientific meetings, seminars, symposia, field trips, tours, etc.
4. Internships
5. Research

Academic Programs

Biochemistry

Graduate Program

- Biochemistry, Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/biochemistry-ms/>)

3+2 Program

- Biochemistry 3+2 Plan, Joint Bachelor of Science/Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/biochemistry-3-2-plan-joint-bs-ms/>)

Cannabis Biology & Chemistry

Undergraduate Programs

- Cannabis Biology & Chemistry: Analytical Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-bs-analytical-concentration/>)
- Cannabis Biology & Chemistry: Hemp Agriculture Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-bs-hemp-agriculture-concentration/>)
- Cannabis Biology & Chemistry: Natural Products Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-bs-natural-products-concentration/>)

3+2 Program

- Cannabis Biology & Chemistry 3+2 Plan, Joint Bachelor of Science/ Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-3-2-plan-bs-ms/>)

Graduate Programs

- Cannabis Biology & Chemistry, Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-ms/>)

Certificates

- Cannabis Biology & Chemistry, Certificate (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-certificate/>)

- Cannabis Biology & Chemistry, Post-Baccalaureate Certificate (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/cannabis-biology-and-chemistry-post-baccalaureate-certificate/>)
- Institute of Cannabis Research Certificate of Foundational Studies in Cannabis (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/institute-of-cannabis-research-certificate-of-foundational-studies-in-cannabis/>)

Chemistry

Undergraduate Programs

- Chemistry/Biology Double Major, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-double-major-concentration/>)
- Chemistry: 7-12 Teacher Preparation Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-7-12-teacher-preparation-concentration/>)
- Chemistry: ACS Certified Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-acs-certified-concentration/>)
- Chemistry: Basic Chemistry Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-basic-chemistry-concentration/>)
- Chemistry: Biochemistry Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-biochemistry-concentration/>)
- Chemistry: Environmental Chemistry Concentration, Bachelor of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-bs-environmental-chemistry-concentration/>)

Minors

- Chemistry, Minor (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-minor/>)

3+2 Programs

- Chemistry 3+2 Plan, Joint Bachelor of Science/Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-3-2-plan-bs-ms/>)

Graduate Programs

- Chemistry, Master of Science (<https://catalog.csupueblo.edu/college-of-science-technology-engineering-and-mathematics/chemistry/chemistry-ms/>)