College of
Science

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The College of Science has the following departments and programs:

Biology
Chemistry and Biochemistry
Computer Science
Geology
Mathematics and Statistics
Physics
Cooperative Nursing Program
Liberal Arts and Sciences Program[1]

Degrees, emphases, specializations, and program descriptions are listed with the departments and the Nursing Program. In addition, there is a Center for Atmospheric and Space Sciences (CASS) and three interdisciplinary programs which involve the college. There is a separate listing describing the activities of CASS on pages 467-468. The Interdepartmental Program in Molecular Biology consolidates and provides emphasis for research and teaching related to molecules in biological systems. Students in the college majoring in Biology or Biochemistry can receive graduate degrees with a molecular biology specialization. The Department of Biology participates in the Interdepartmental Graduate Program in Toxicology. This program offers research opportunities leading to MS and PhD degrees within several specialties of toxicology. The college also participates in an interdisciplinary, interdepartmental program in ecology which operates under the Ecology Center. The Ecology Center brings distinguished scientists to campus, fosters faculty research, and enhances graduate education in all areas of ecology.

Objectives

USU has always emphasized the sciences. Modern civilization is based on science, most facets of which are fundamental in a land-grant university.

Opportunities for rewarding careers are excellent in the fields of science. These opportunities exist in education, research, conservation, service, and industry.

The curricula of the science departments are designed to achieve five purposes:

First, they serve all students. No college graduate can be considered educated without an appreciation of scientific principles.

Second, the college trains teachers of science at all levels of education. Highly competent teachers are absolutely essential to the continued well-being and development of society.

Third, students are prepared to take positions in industry and business in a highly technological world.

Fourth, education is provided in the health fields both at the preprofessional and entry level. The college has excellent programs in predental and premedical education with an exceptional record of placing students in dental and medical schools. Undergraduate degrees in the various departments of the college can be tailored to include predental and premedical training. Other programs prepare graduates to enter the health profession directly upon graduation.

Fifth, the College of Science educates research scholars in many fields of science. This is accomplished by completing a sound undergraduate degree in the field, followed by years of graduate specialization.

Students planning to enter the sciences are urged to discuss their plans and goals early with advisors, who are available in each academic department. Basic coursework in mathematics, chemistry, physics, and computer science is essential to most areas of science.

Admission Requirements

Students accepted in good standing by the University are eligible for admission to all departments in the College of Science. Students majoring in Computer Science must qualify for advanced standing status on the basis of their academic performance. Specific details are given in the Computer Science section of this catalog (see page 197).

College of Science Core Requirements

Mathematics Requirement. All bachelor degree candidates in the College of Science must complete one year of calculus, consisting of Math 1210 and 1220. In some degrees or options within degrees, the second semester of calculus may be replaced by Stat 3000. The substitution will be for specific degree programs, and not by student choice.

Science Requirement. Every bachelor degree candidate in the College of Science must complete a year-long sequence outside of his or her major department. The approved sequences are: (1) Biol 1210, 1220; (2) Chem 1210, 1220; (3) Geol 1150, 3200; (4) Phyx 2110, 2120; and (5) Phyx 2210, 2220.

Science Major (Undeclared)

A beginning freshman student who wishes to major in science, but who has not selected a specific major, may register in the college as an Undeclared Science Major. A course of study will be developed that will attempt to maximize transfer into the various departmental majors in the college. Students in the Undeclared Science Major will be required to transfer to a departmental major after one year of study.

[1]Jointly administered with the College of Humanities, Arts and Social Sciences.

Scholarships

Each year, the college offers a four-year scholarship to an outstanding freshman entering the University. The scholarship consists of up to 8 semesters of tuition waivers plus $4,000 given over four years ($1,000 per year). The scholarship is awarded on the basis of performance on a College of Science exam, ACT score, and grades received in high school. The College of Science Scholarship exam is given at the time of the University Club Scholars Competition. Other scholarships are available through some of the departments in the college (see pages 38-40).

Graduate Assistantships and Fellowships

Excellent graduate assistantships and fellowships are available in all departments. Assistantships are available both for teaching and research. Applications should be made directly to the department concerned. For more information, see the *Graduate Financial Assistance* section of this catalog (pages 71-72).

Graduate Programs

Graduate programs leading to the MS degree are available in each department in the college. In addition, the Department of Mathematics and Statistics offers a MMath (Master of Mathematics) degree. The departments of Biology, Chemistry and Biochemistry, Computer Science, Mathematics and Statistics, and Physics offer programs leading to the PhD degree. See the departmental sections in this catalog for more information on these programs.

Liberal Arts and Sciences Major

The College of Science, in cooperation with the College of Humanities, Arts and Social Sciences, sponsors a Liberal Arts and Sciences (LAS) Major. LAS promotes integrated learning across the life sciences, humanities, physical sciences, arts, and social sciences. All USU students are welcome in LAS. The LAS Major is described on page 335.

Science/HASS Advising Center

The Science/HASS Advising Center is a campus office designed to provide academic advising for students in the College of Science and the College of Humanities, Arts and Social Sciences. Academic advisors counsel these students in the Area Studies Certificate in the Liberal Arts and Sciences Program (LASP).

Honors Program

Several departments in the college participate in the University Honors Program by offering special honors courses and by sponsoring an option for graduation with departmental honors.

Undergraduate Research

The sciences provide an ideal setting for research. Many departments within the College of Science provide opportunities for undergraduate students to participate in research activities. Interested students should discuss this option with their academic advisor.

Science Course (Sci)

Sci 4300. Science in Society. Investigation of interactions between current scientific topics and societal goals and concerns. Intended as a capstone course for science teaching majors. Prerequisite: Senior standing and consent of instructor. (2 cr) (F,Sp)