

College of Science

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The College of Science at Southern Utah University is composed of four academic departments.

- Department of Agriculture and Nutrition Science
- Department of Biology
- Department of Nursing
- Department of Physical Science

Mission

The College of Science is made up of academic programs in agriculture, biology, chemistry, geography, geology, nursing, and nutrition. These programs are housed in the departments of Agriculture and Nutrition Science, Biology, Nursing, and Physical Science. We operate or participate in the operation of several special learning environments for students that include a Keck Foundation sponsored undergraduate research lab, an observatory, a GIS lab, a certified water lab, a scanning electron microscopy lab, the Southern Utah Natural History Museum, the Cedar Mountain Science Center, the Valley Farm, and the Mountain Ranch. We serve as the center of scientific learning for the undergraduate and graduate programs offered at SUU. We also serve as the resource center of scientific knowledge and expertise for southern Utah. The purpose of the College of Science is to provide comprehensive classroom and experiential learning that emphasize critical thinking, problem solving, decision-making, and communication in science for students from Utah and the Southwestern United States.

1. VISION

The College of Science will become the most respected undergraduate science unit in Utah and the Southwestern United States. Our graduates will demonstrate high levels of academic achievement through admission to graduate schools and professional schools and/or gainful employment. Our faculty will be renowned as educators and scholars, thereby increasing the value of our students' degrees.

2. PHILOSOPHY

The values and beliefs that guide the College of Science in all activities and serve as our basic foundation are:

- Undergraduate education is our highest priority.
- Well-planned and executed, pedagogically sound classroom, laboratory, and outdoor educational activities are expected.
- Life-long learning will be modeled by our faculty by being professionally active and productive scholars in their fields.
- Undergraduate research provides opportunities for students and faculty to create new knowledge and to apply knowledge they have learned in the classroom. Research also builds proficiency in the skills of critical thinking, problem solving, decision making, and communication.

3. GOALS, OBJECTIVES and ASSESSMENTS

The observable, measurable goals of the College of Science and our objectives by which we will accomplish them are:

1. **Goal:** Prepare students for graduate schools and professional schools.
Objective: Offer coursework and active learning experiences appropriate to the prerequisites of specified post-baccalaureate programs.
Assessment: tabulate student reportage on application/acceptance to post-baccalaureate programs.
2. **Goal:** prepare students for careers using their baccalaureate degree.
Objective: offer coursework appropriate for employment related to departmental majors or minors.
Assessment: require standardized, nationally-normed tests where appropriate and student reportage on employment at baccalaureate level.
3. **Goal:** develop skills in analysis, critical thinking, problem solving, decision making, and communication.
Objective: offer well-planned and pedagogically sound learning exercises in courses and in research projects.
Assessment: annually examine and evaluate course syllabi, course materials, and student research experiences.
4. **Goal:** provide hands-on experiences with state-of-the-art scientific instruments, and equipment.
Objective: provide coursework and research opportunities that include opportunities to use equipment.
Assessment: inventory current and continuously update need for future equipment.
5. **Goal:** provide highly skilled teachers and professors that are also respected scholars.
Objective: recruiting Ph.D. – prepared faculty, reward good teaching, encourage faculty to conduct funded research and publish results, and encourage participation in professional organizations.
Assessment: annually evaluate faculty performances in teaching, scholarship, services, and collegiality using criteria and performance standards developed by Departments and the College.
6. **Goal:** provide special, unique learning opportunities.
Objective: utilize the valley Farm, Mountain Ranch, Cedar Mountain Science Center, SUU Observatory, Water Lab, Scanning Electron Microscopy Lab, the Southern Utah Natural history Museum the GIS lab, and the Keck Molecular genetics and ecology labs.
Assessment: annually evaluate the use of our specialized learning environments.

Graduate Degrees

Master of Science

Forensic Science (emphasis options in Biology, Chemistry, Computer Science, Criminal Justice and Psychology)

Undergraduate Degrees and Majors

Bachelor of Arts or Bachelor of Science

Biology

- Botany Emphasis
- Forensic Emphasis
- Teacher Education Emphasis
- Zoology Emphasis

Physical Science

- Education Emphasis

Bachelor of Interdisciplinary Studies

Agricultural Science and Industry

The BIS degree (see page 101, 244) is a customized degree combining either two or three SUU academic disciplines, depending on student interest, job market, etc.

Agricultural Science and Industry

In addition to the Agricultural Science and Industry BIS, other examples of customized combinations of academic disciplines that could be assembled into a BIS degree include Animal Science, Plant Science, General Agriculture, Natural Resources, Environmental Studies, Geology, GIS, Criminology, Business, Computer Science, Sociology, Statistics, and Political Science.

Bachelor of Science

Agriculture and Nutrition Science
Human Nutrition

Chemistry

Education Emphasis
Forensic Emphasis
Health Care Emphasis
Professional Emphasis

Geology

Earth Science Emphasis
Professional Emphasis

Nursing

Pre-Licensure Emphasis
RN to BSN Emphasis

Associate of Applied Science

Agriculture: Livestock and Farm Management

Certificate Program

Agriculture: Livestock Farm Management emphasis
Geographic Information Systems (GIS)

The requirements and programs of study in each of the college's departments are listed in the departments' section of this catalog.

Accreditation

We are in the process of applying for approval from the American Chemical Society (ACS) for our Chemistry program.

Student Advising

Students are assisted in selecting appropriate majors and planning for courses through the joint efforts of faculty advisors, the Student Services Center and the College of Science professional advisor, Ms. Deborah Franklin, Science Building, Room SC 303, (435) 865-8703, or franklin@suu.edu. Cognizance and successful completion of graduation requirements, however, are the responsibility of the student.

Pre-Dental, Medical, Veterinary, and other health professions Curricula

For a more complete list of these programs, please refer to pages 245-247. Note that the courses that you take toward a pre-professional program are determined in part by the intended transfer institution (e.g. the U. of Utah's medical School or the College of Veterinary Medicine at Washington State U., etc.) therefore, you should coordinate closely with the admission requirements of the institution to which you plan to apply as well as the requirements for graduation from SUU. Undergraduate research experience is essential for admission to most of these programs.

Pre-Graduate School

Plan you SUU baccalaureate degree with sufficient Math and Science courses to qualify you for admission to the graduate program of your choice. Be cognizant of the admission requirements of the graduate program of your choice. Undergraduate research experience is essential for admission to graduate school programs.

Student Scholarships

Scholarships are available to students demonstrating potential for excellence in science studies. Last year over \$87,000 in scholarships were distributed among College of Science majors.

Students must submit the appropriate applications by February 1. Interested students should contact Student Financial Aid, Sharwan Smith Center, Room ST 167, (435) 586-7735.

Student Organizations

The way to get the best experience is to participate in one of the excellent college student organizations. Among the many student organizations of interest to College of Science majors are the following:

- American Chemical Society (ACS)
- Ecology Club (University Chapter)
- Geology Club
- National Science Teachers Association (NSTA)
- Sigma Gamma Epsilon
- Utah Wildlife Society

In addition, the College of Science has a chapter of Alpha Epsilon Delta (AED), a pre-healthcare professions honor society and a national chapter of the American Student Dental Association (ASDA) for College of Science students.

Special Learning Environments

The College of Science operates, or partners with, several special programs that provide students opportunities for enrichment of their classroom learning:

The Cedar Mountain Science Center offers summer science camps for children and courses for pre-service teachers and in-service teachers, held at the College Cabin on the SUU 2,629 acre mountain ranch property.

Colorado Plateau Consortium of Ecosystem Study Units provides students and faculty with opportunities among all state and federal lands. Cedar Breaks National Monument, the U.S. Forest Service, and the BLM all have Cedar City offices and work closely with SUU.

The Valley Farm offers both classroom and real world experience on an operating farm and ranch setting in Cedar City, within minutes from the main campus.

The SUU Astronomy Observatory offers college credit courses and weekly community viewing activities located near the SUU Valley Farm.

The G.I.S. Lab offers college course work and services to community and regional planners requiring expertise in Geospatial mapping.

The SUU Natural History Museum offers campus and community members the opportunity to view museum specimens from our regional ecosystems.

The SUU Water Lab is a certified analytical lab that offers students specialized training in analytical techniques and services to the public for their water quality needs.

The Rural Health Scholars Program is an enhancement program for pre-health students planning to apply to graduate-level programs. These students include but are not limited to the following:

Pre-medical, podiatry, optometry, dental, pharmacy, physical therapy, physician assistant

The program provides opportunities for students in the following areas: Research, community service, job shadowing, patient exposure, MCAT/DAT/PCAT Prep, application assistance, enhanced advising, cultural immersion experiences in health care, medical skill training, Medical Spanish, and special seminars. Call for more information (435) 865-8520.

The Alliance for Education (a Bryce Canyon-SUU Educational Initiative) provides SUU students and faculty with opportunities to conduct research or classes or other educational activities at the Bryce Canyon National Park.