

# COLLEGE OF SCIENCE AND ENGINEERING

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## Dean

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## Associate Dean

Robert B. Habingreither, Ed.D.

## Associate Dean

Thomas H. Myers, Ph.D.

## Associate Dean of Research

Gary W. Beall, Ph.D.

## Assistant Dean

Gregory B. Passty, Ph.D.

## Department Chairs/School Directors

Biology—Dittmar Hahn, Ph.D.

Chemistry and Biochemistry—William J. Brittain, Ph.D.

Computer Science—Hongchi Shi, Ph.D.

Engineering—Stan A. McClellan, Ph.D.

Engineering Technology—Andy H. Batey, Ph.D.

Mathematics—Susan Morey, Ph.D.

Physics—Mark W. Holtz, Ph.D.

The mission of the College of Science and Engineering is threefold: to prepare students for careers in the natural sciences, mathematics, computer science, engineering, or technology; to provide general scientific and mathematical backgrounds for non-science majors; and to prepare students for advanced training in professional or graduate schools. To accomplish its mission the College maintains an academic atmosphere conducive to excellence in teaching and research and enforces high standards of performance for faculty and students.

To ensure an understanding of basic scientific concepts, the College offers extensive opportunities for student participation. Students gain experience in laboratories, interact with the environment through field studies, conduct undergraduate research, and train in technologically advanced instrumentation. A combination of student participation, rigorous classroom instruction, and library research gives majors a competitive advantage in career advancement or in the selection of professional or graduate colleges. The non-science major is assured of adequate scientific knowledge to make informed decisions essential to citizens in a science-oriented, technological world.

The seven academic units in the College of Science and Engineering are the Departments of Biology, Chemistry and Biochemistry, Computer Science, Mathematics, Physics, and Engineering Technology, and the Ingram School of Engineering.

Majors offered in the College include applied mathematics, aquatic biology, biochemistry, biology, chemistry, computer science, concrete industry management, construction science and management, electrical engineering, engineering technology, industrial engineering, interdisciplinary science, manufacturing engineering, mathematics, microbiology, physics, technology management, and wildlife biology. In addition, pre-professional programs of study are available in dentistry, medicine, and pharmacy. Secondary teacher certification may be incorporated into some of the majors.

## Academic Advising Center

Centennial Hall Room 202

T: 512.245.1315 F: 512.245.9210

[www.cose.txstate.edu/advising](http://www.cose.txstate.edu/advising) (<http://www.cose.txstate.edu/advising>)

The College of Science and Engineering Undergraduate Academic Advising Center advises current students on academic and administrative issues. Students are informed about matters related to academic general education core requirements, scholarships and awards within the College, the selection of an appropriate major and minor, the selection of appropriate courses, transfer and correspondence courses, academic probation/suspension, the choice of an educational program leading to a bachelor's degree, and participation in pre-professional programs. The Advising Center is a resource for current students who are considering a science major or pre-professional program and provides assistance for students applying for graduation. Career counseling is available in the academic unit of the student's major and through Career Services.

## Teacher Certification

Currently, there are eight Texas science-related teacher certification programs available at Texas State University:

- Chemistry (B.S. major in Chemistry),
- Computer Science (B.A. or B.S. major in Computer Science),
- Life Sciences (B.S. major in Biology),
- Mathematics (B.S. major in Mathematics),
- Physical Science (B.S. major in Chemistry or a B.S. major in Physics),
- Physics/Mathematics (B.S. major in Physics),
- Science (B.S. major in Interdisciplinary Science), and
- Technology Education (B.S. major in Technology Management).

Students seeking any of these certifications need to follow coursework leading to a degree in the appropriate science field, in addition to taking the required certification courses. Relevant information can be found within each departmental section of the catalog. Initial or additional certification may also be acquired as a post-baccalaureate or graduate student.

Students interested in certification are strongly encouraged to see the Science and Engineering Advisor early in their undergraduate program or certification process.

The Bachelor of Science (B.S.) major in Interdisciplinary Science is designed to broadly train students in a wide spectrum of science disciplines in preparation for the Science teacher certification exam for grades 7 through 12. Admission into the program requires both admission to the university and to the Teacher Preparation Program. The Teacher Preparation Program admittance requirements are found in the College of Education section of this catalog. Students successfully completing the program and the Science teacher certification exam will be prepared to teach any high school science subject and in informal science educational settings within communities. There is a high job market need for science teachers nationally and in Texas. Students must enroll and complete all of the required courses in the following degree plan in order to sit for the teacher certification exam.

## **Bachelor of Science (B.S.)**

- Major in Interdisciplinary Studies (Teacher Certification in Science, Grades 7-12) (<http://mycatalog.txstate.edu/undergraduate/science-engineering/interdisciplinary-teacher-certification-grades-7-12-bs>)

## **Minors**

- Second Teaching Field in Life Science (Grades 7-12) (<http://mycatalog.txstate.edu/undergraduate/science-engineering/second-teaching-field-life-science>)
- Second Teaching Field in Physical Science (Grades 6-12) (<http://mycatalog.txstate.edu/undergraduate/science-engineering/second-teaching-field-physical-science>)