

Accreditation

The chemistry and physics department is approved by the American Chemical Society (ACS). Students who take the full ACS approved curriculum in chemistry or biochemistry will be certified by the ACS, which provides a widely recognized verification of the quality of your education.

Career

A major in chemistry or biochemistry can be a launching pad for a career in health care or in the chemical, oil and gas, pharmaceutical, biotech, or environmental industries. Graduates can choose to work as researchers or may opt for management positions. Some may choose positions in process chemistry, pollution control, toxicology, or forensic science while others may choose government positions or careers in patent law or public policy. Whatever your passion, a major in chemistry or biochemistry might be the right choice for you.

Student Organizations



Members of the nationally recognized Student Chapter of the ACS participate in social events, volunteer to do science demonstrations at schools and museums and travel to present research at the ACS National Meeting each year.

For more information about the department, please contact:

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The University

The University of St. Thomas is truly a Shining Star in the heart of Houston.

- The Newman Guide to Choosing a Catholic College: Among 22 U.S. Catholic colleges and universities recommended by the Cardinal Newman Society, and among 28 such institutions worldwide
- Range of choices: Degree programs focused on business, sciences, liberal arts and education at the undergraduate and graduate levels
- Specialty areas: High acceptance rate in medical and dental schools for Pre-Med and Pre-Dental students
- Personal instruction: Average class size of 17
- **Personal approach:** Faculty know students by name
- Nationally ranked: Ranked 33rd among universities offering master's degrees in the Western region by the U.S. News & World Report 2014 edition of "America's Best Colleges"
- Nationally ranked: Ranked by The Princeton Review as Best in the West in its Best Colleges: Region by Region online profile found at www.princetonreview.com
- Study abroad: The University of St. Thomas periodically ranks among the top 20% of U.S. universities whose students study abroad
- Catholic tradition: Houston's only Catholic university, founded by the Basilian Fathers in 1947



Educating Leaders of Faith and Character

3800 Montrose Blvd. Houston, TX 77006 www.stthom.edu

The University of St. Thomas is a private institution committed to the liberal arts and to the religious, ethical and intellectual tradition of Catholic higher education.

Chemistry and Physics





Educating Leaders of Faith and Character



College Initiative Begins Here

Chemistry and Physics

Chemistry is the study of matter and the changes it undergoes. A chemist recognizes a multitude of substances in the everyday world created by vast amounts of atoms and molecules whose natures and actions account for the properties of each substance. Studying chemistry requires thoughtfulness, imagination and precision. Exact measurements are required as predictions are tested. Our understanding of the atomic and molecular world may be modified based upon the results of experiments. As a result, the study of chemistry involves both ingenuity and analysis.

Physics is the branch of science that attempts to discover all laws that govern the physical universe from the smallest subatomic particle to the universe itself. Physics further seeks to express these laws in a mathematical language to quantitatively model and understand the past, present and even future state for a system.

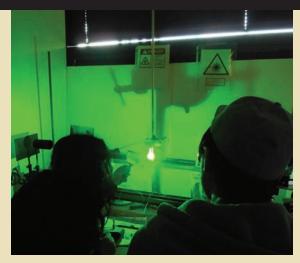
Degree Plans

Chemistry

Students majoring in chemistry may choose either a Bachelor of Science (B.S.) or a Bachelor of Arts (B.A.) degree. The department also offers a minor in chemistry. The major focus is on the study of chemistry as both a subject and a process. As a subject, chemistry deals with the properties of atoms and molecules that constitute matter as we experience it, the forces that hold matter together and the energy changes associated with changes in matter. As a process, chemistry is concerned with the tools and techniques of investigating matter, the interpretation of the results of these investigations and the application of models used to explain the experimental outcomes.

Biochemistry

Students majoring in biochemistry will earn a Bachelor of Science (B.S.) degree. Biochemistry focuses on addressing biological questions through the application of chemical principles and



techniques. As a discipline, biochemistry reflects the chemical theories and approaches that are central to increasing our understanding of biological phenomena. The field of biochemistry is becoming a complex and wide-ranging discipline, concomitant with advances in both biology and chemistry. Students will be exposed to the breadth of biochemistry through their courses and research experiences.

Physics

The department offers a minor in physics. Physics is often termed the fundamental science. All areas of science, technology, and engineering rest upon the physical laws that govern matter and motion.

"My experience studying chemistry at UST was exceptionally positive and constructive. The Chemistry Department provided me and my fellow students with a quality, personalized education. My participation in undergraduate research was fundamental to my development as a professional and instrumental to my job placement after graduation. The chemistry program laid a solid foundation to my professional development, and everything that I have experienced since graduation has built upon it."

Brenda Bellard Clark Class of 2003 Clinical Researcher

Relevance

Our world has changed significantly in the last 100 years. How many modern conveniences would be possible without chemistry and physics? Materials and processes have been developed that make the fuel in our cars more efficient. Improvements have been made in the quality of our drinking water and the nutritional value of our food. New life-saving drugs and procedures have expanded and improved our quality of life. The fibers in our clothes and the specialized materials needed to produce computers and medical devices all require chemistry and physics. Without chemistry and physics we would not have paint for our homes, anesthesia or disinfectants for surgery, packaging to keep our food fresh or the materials to make refrigeration and home building possible. Chemistry and physics continually contribute advancements in today's society.

Student Research

The department has a Welch Foundation Grant that supports its extensive undergraduate research program. Students collaborate with faculty on research projects during both the academic year and summer. Research topics vary depending on student and faculty interest. Current research areas include bioanalytical chemistry, biological chemistry, biophysics, chemical and physics education, combustion science and engineering, computational physics and chemistry, electrochemistry, energy and fuels, environmental chemistry, nanotechnology, organic synthesis, separations and spectroscopy. The results of this work have been published in highly regarded scientific journals and presented at both local and national professional scientific meetings.



"Undergraduate research was beneficial to me in so many ways. I was able to reinforce classroom knowledge, work on time management skills and communication skills. Overall, research boosted my confidence in my laboratory classes. I feel that I have an academic edge on getting admitted into medical school."

Sally Acebo Senior, chemistry major

Arts & Sciences

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