

Undergraduate Research in Chemistry at UTSA

“Original research culminating in a comprehensive written report provides an effective means for integrating undergraduate learning experiences, and allows students to participate directly in the process of science.”
From the Undergraduate Professional Education in Chemistry; ACS Guidelines and Evaluation Procedures for the Bachelor’s Degree Programs, American Chemical Society Committee on Professional Training, Spring 2008.

Can Chemistry majors perform research at UTSA? At UTSA, undergraduate Chemistry majors need to plan on participating in laboratory research. Undergraduate Chemistry majors are required to perform undergraduate research for 3 semester credit hours and can apply as many as 6 SCHs toward the degree requirements. The research involvement provides real-world experiences for students, exceptional contact with a UTSA Faculty mentor, and opens the door for employment following graduation. You should have a careful look at each faculty member’s research on our website to get an idea of the types of research projects that are available.

How early can I begin a laboratory research experience? Chemistry undergraduates can begin working in a lab early, but you should plan on earning the SCHs in your third or fourth year. Many Chemistry Faculty members do not require that you have completed advanced courses to begin work in their labs. They know that you will learn as you go. They will provide you with reading assignments to help you get up and running quickly. When you enter a lab, you will probably first learn basic techniques and work on a project as part of a team overseen by a PhD student or postdoc. You will learn how to read scientific papers that form the foundations of your work. You will attend lab meetings and be encouraged to ask questions and contribute to intellectual discussions about your work and that of others on the team. And, once you have demonstrated commitment and competence, you may be given a project of your own!

How long should I volunteer? Working in a lab requires an investment of time on the part of both the undergraduate, and the professor’s lab group. Most faculty mentors desire at least two semesters of commitment to a project-- it takes much time and effort to train a new person and so many faculty are reluctant to take on a novice researcher for only one semester! To get anything accomplished in the lab, you should also be prepared to put in at least 10 – 15 hours weekly, and full-time in the summer. You should ask individual faculty members of their expectations before joining a lab.

Benefits of Extended Laboratory Work: Undergraduate research can be a life-changing experience because it dramatically deepens your understanding of chemical theory and practice. For many students, this is a transformative experience, leading to clarification of professional goals and increased academic motivation. If you fully engage with the laboratory and project, you may collect data that leads to your inclusion in the authorship of a scientific paper. The undergraduate research experience can also open the door to graduate and professional degrees, since these become more likely with the strong recommendation from a research mentor. These courses also open the door for you to earn College of Science Honors <http://catalog.utsa.edu/undergraduate/sciences/> or Highest Honors from the Honors College.

More on Undergraduate Research: Helpful information about undergraduate research, including how to approach (and impress!) a faculty member, available funded training programs, Honors College and COS Honors, and extramural research internships can be found on the UTSA COS website at <http://www.utsa.edu/sciences/ugresearch/>. Additional information can be found on the website for the UTSA Office of Undergraduate Research: <http://research.utsa.edu/UGresearch/>.