



CENTER FOR CAREER & PROFESSIONAL DEVELOPMENT

# Major Possibilities: Chemistry & Biochemistry

## Quick Facts

- Southwestern's Chemistry and Biochemistry Department is accredited by the American Chemical Society (ACS) and offers an option for students to pursue an ACS-certified BS degree in chemistry, recommended for students wishing to enter graduate school in chemistry or a related field.
- The extra rigor and additional requirements of the ACS-certified degree are valued by potential employers and graduate schools alike. Employers realize that a certified graduate may be better prepared for technical employment.
- The biochemistry major is a good fit for students planning to go into pharmacy school or other fields in the health sciences.
- Internships (including research experiences and healthcare shadowing) help shape professional identities, develop 21<sup>st</sup> century career-readiness skills, and make meaning of the academic experience.

## Chemistry and Biochemistry Major Synopsis

The Chemistry and Biochemistry Department seeks to provide a variety of educational experiences for students who desire a better understanding of the chemical, physical, and biological world around them. Courses are offered in a flexible program designed to provide a strong understanding and knowledge of chemistry for a wide variety of students. The Chemistry and Biochemistry Department offers majors and minors within both the BA and BS degree tracks.

The department is accredited by the American Chemical Society (ACS) and offers an option for students to pursue an ACS-certified BS degree in chemistry. For students who wish to enter graduate school in chemistry or a related field upon completion of their degree, the ACS-certified chemistry major offers a strong foundation in all fields within the chemical sciences. The department also offers a major in biochemistry under the BS degree. The biochemistry curriculum is designed to guide students in developing a strong foundation in the fundamentals of chemistry and biology and is shaped by suggestions from the educational division of the American Society for Biochemistry and Molecular Biology (ASBMB).

In addition to their regular course work, chemistry and biochemistry majors are strongly encouraged to become involved in laboratory research during their junior and/or senior years. All chemistry and biochemistry majors are required to complete a capstone in their senior year and must participate in a literature seminar course in their junior year in preparation for their capstone experience. The education chemistry and biochemistry majors receive will equip them with the skills and understanding needed for graduate study in chemistry, biochemistry, molecular biology, or a related area. Graduates may also choose to pursue a career in industry or one of the health-related professions.

## Sample Job Titles/Employers

### GOVERNMENT

Agricultural Research Service  
Centers for Disease Control and Prevention  
Food and Drug Administration  
National Aeronautics and Space Administration  
National Bureau of Standards  
National Institute of Health  
Nuclear Regulatory Commission

State Environmental Management Agencies  
US Department of Agriculture  
US Department of Defense  
US Department of Energy Labs  
US Department of Health and Human Services  
US Environmental Protection Agency

## INDUSTRY AND COMMERCE

Beverage Manufacturers  
Biotechnology Firms  
Chemical Manufacturers  
Chemical Patent Attorney  
Electronics Companies  
Environmental Chemist  
Food Manufacturers  
Oil and Gas Companies  
Paint Manufacturers  
Pharmaceutical Manufacturers  
Plastics Manufacturers

Pulp and Paper Companies  
Research and Development Chemist  
Salesperson  
Specialty Chemical Co.  
Textile Companies

## SERVICE AND EDUCATION

Environmental Engineer  
Lab Technician  
Pharmacy Technician  
Quality Analyst  
Research Assistant  
Waste Treatment Specialist

## Sample Internship Employers of SU Students

Baylor Medical Center - Houston, TX  
Bexar County Forensic Toxicology Lab - San Antonio, TX  
ExxonMobil Patient Services - Irving, TX  
Federal Bureau of Investigation - Washington, DC

FDA Office of Orphan Products Development - Washington, DC  
REU with NSF Chemistry Research Program (UNT) - Denton, TX  
Sun Star Geriatrics Healthcare - Georgetown, TX  
Total Port Arthur Refinery - Port Arthur, TX

## Possible Internship Sites

Abbot Laboratories - Austin, TX  
CDS International - Germany  
Center for Science in the Public Interest - Washington, DC  
Genentech - Oceanside, CA  
Leadership Austin - Austin, TX

National Institutes of Health - Washington, DC  
NARAL - Austin, TX  
SMArT Program, Southwestern University - Georgetown, TX  
The Dick Law Firm - Georgetown, TX  
Union Carbide - Houston, TX

## Sample Full-Time Employers of SU Grads

Certified Pharmacy Technician (Best Med, Inc)  
Chemist (Celanese) (URS Corp.)  
Clinical Research Coordinator  
Dental Assistant (Brazos Valley Pediatric Dentistry)  
Drilling Technician (Midstates Petroleum Company, Inc.)  
Environmental Chemist (Dow Chemical)  
Environmental Chemist (Phillips 66)  
HHMI Coordinator (Southwestern University)  
Inside Sales Account Executive (SHI International)  
Laboratory Technician (Iso-Tex Diagnostics)

Medical Assistant (Pediatric Associates of Austin)  
Pharmacy Technician (Brackenridge Hospital)  
Pharmacy Technician (Kroger Pharmacy)  
Quality Analyst (Colgate-Palmolive Co.)  
Research Assistant (Encysive Pharmaceuticals)  
Research & Development Chemist (Lamberti USA)  
Research Technician (UT Southwest Medical Center)  
Surgical Technician Assistant (Texas Eye Surgical Care)  
Synthesis Lab Technician (Cerilant Corp.)  
Wastewater Operator (Pflugerville Utilities)

## Professional Associations

American Association for Clinical Chemistry  
American Chemical Society  
American Association of Pharmaceutical Scientists  
American Institute of Chemists  
American Society for Biochemistry and Molecular Biology

Chinese-American Chemical Society  
Geochemical Society  
Materials Research Society  
Society of Environmental Toxicology and Chemistry