

Microbiology and Molecular Genetics | Bachelor's Degree

	FIRST YEAR	MIDDLE YEARS	LAST YEARS
ADVANCE your academic journey	Meet with a First Year Advisor to develop your academic planning. Participate in the Experiential Education Certificate Program Adopt your University Seminar US1100 learning as key for first year success.	Schedule appointments with the COSE Advising Center and follow registration instructions for course guidance. Consult the Pre-Health Advising website for information on applying to nursing school or health profession programs. Check out the Collaborative Learning Center (CLC) for learning assistance. Explore external scholarship opportunities such as the Fulbright Scholarship to take your expertise to unique locations abroad.	Check your Degree Audit & meet with your academic advisor. Explore next steps including potential graduate programs. Complement your degree with a micro credential. Meet with a faculty mentor or peer advisor. Complete a capstone project related to major.
EXPAND your personal and social development	Review your degree plan for courses that include the Service-Learning Excellence program. Begin expanding your student experience by joining a student organization through the Bobcat Organization HUB. Find biology-related groups to connect with others majoring within the college. Join science and engineering student organizations or clubs to connect with others majoring within the college.	Consult your academic advisor and learn about biology scholarship opportunities. Meet with an advisor in Education Abroad or Study in America to explore financial aid options toward learning in an international or national setting. Discover Global Online Learning Experiences for courses with culturally dynamic perspectives Participate in Women in STEM initiatives and the Houston-Louis Stokes STEM Pathways and Research Alliance (H-LSAMP). Participate in The Big Event to give back to the regional community.	Participate in department of biology events. Seek out a leadership role with the Leadership & Service. Attend a Student Government Senate meeting to contribute to the TXST community. Attend financial literacy workshops (e.g., budgeting, student loans, taxes).
ENRICH your practical competence	Explore the TXST One Stop for more information about the scholarships provided to new and continuing students. Attend an IDEA Center workshop to learn more about undergraduate research. Consider the STEM Communities Learning Assistance program.	Explore research experience opportunities to learn alongside faculty members or graduate students. Learn about Global Career Accelerator options that give you experience with global companies and in-demand tech skills. Get internship guidance and report your internship offers to Career Services. Check out the National Science Foundation (NSF) Research Experiences for Undergraduates (REU) Summer Program.	Explore Undergraduate Research Opportunities to gain hands-on experience and build research skills alongside faculty mentors. Join a professional organization in your major or passion. Attend a conference related to your major (get recommendations from a faculty) or your student organization. Deliver a presentation in a student conference, workshop, seminar or community organization.
ELEVATE your career and professional life	Complete your Career Assessments, such as Focus2. Create your Handshake profile. Create your LinkedIn profile and connect with colleagues and leaders. Develop and review your resume with Career Services.	Build Career & Graduate School Fairs into your schedule to ensure your connection maximum opportunities. Join Employer Information Sessions at Career Services or your department. Prepare to ace your job interviews with Career Services or your academic department.	Attend employer info sessions at Career Services. Develop a full-time employment or graduate school plan with Career Services. Complete your First Destination Survey to share your post-graduation plans. Identify faculty and professional references.

OUTCOMES

Marketable Skills

Think critically

Analyze and solve problems

Communicate clearly and effectively, both orally and through scientific and technical writing

Demonstrate competence in laboratory skills related to microbiology and molecular genetics

Demonstrate understanding of experimental design and the collection, analysis, and interpretation of data

Career Opportunities

Medical laboratory scientist

Bacteriologist

Forensics scientist

Geneticist

Biomedical researcher

Biotechnician

Public health

Environmental scientist

Food scientist

Experiences in Microbiology and Molecular Genetics

The bachelor of science degree with major in microbiology and molecular genetics focuses on the study of microorganisms, including bacteria, viruses, fungi, and parasites, as well as the genetic and molecular mechanisms that underlie their behavior, interactions, and effects on other living organisms such as plants and animals. Students in this program gain a strong foundation in biological sciences, chemistry, and physics, specializing in microbial/cellular physiology, immunology, molecular biology and genetic engineering. The curriculum typically includes both theoretical coursework and hands-on laboratory experience, allowing students to develop skills in techniques such as gene cloning, microscopy, genomics and bioinformatics. Students may participate in a variety of transforming experiences including internships for professional development, Education Abroad or Study in America for global and cultural enrichment, and membership in numerous student organizations for developing peer networks.