

# Microbiology and Molecular Genetics | Bachelor's Degree

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

## 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.