

MAP THE FUTURE BIOLOGY

A Guide For Optimizing Your Degree

This career map provides a general blueprint of how to navigate your under-graduate program. The map highlights quality experiences to supplement your coursework and identify academic milestones for years one through four.

Take advantage of the rich resources the university and Chattanooga community have to offer as you prepare for post-college years. During your time here, forge connections, participate in organizations and utilize exploratory learning options to gain real-world experiences outside of the classroom.

ABOUT THE COLLEGE OF ARTS AND SCIENCES

Our mission is to provide an environment for intellectual curiosity and a foundation for life-long learning, thinking, reflection and growth. We do this by: equipping students with transferable skills, encouraging cultural and intellectual diversity and advancing knowledge through research and creative activities.

Small classes, careful advising and personal attention make our commitment work for students majoring in the fine arts, the humanities, the sciences and behavioral sciences, and for students preparing for professional study through a liberal education.

YOUR BIOLOGY DEGREE

In addition to teaching, our faculty are engaged in research activities and biology majors are encouraged to participate. Our department has animal quarters, greenhouses, an aquatic field station on the Tennessee River, two field stations in the Tennessee River Gorge, a 200-acre forested research property that includes a wetland and classroom, and three aquatic research vessels. We are affiliated with the Gulf Coast Research Laboratory in Mississippi and Highlands Biological Station in North Carolina.

Other resources include our longstanding relationships with local institutions including the Tennessee Aquarium, Tennessee Valley Authority, North Chickamauga Creek Conservancy and the Tennessee River Gorge Trust, to name a few.

BIOLOGY

Students pursuing a BS in biology choose a concentration from these options:

- General Biology
- Pre-professional

For students who plan to continue their education and pursue careers as physicians, dentists and veterinarians. UTC has earned a strong reputation for preparing students for post-baccalaureate training in the healthcare professions. Visit utc.edu/pre-health-care-career to learn more.

STEM EDUCATION

Students earn a degree in biology and certification to teach high school or middle school science. Visit utc.edu/stem-education to learn more.

utc.edu/biology

SCHOLARSHIPS FOR BIOLOGY STUDENTS

Dr. Wilbur K. Butts Memorial Scholarship: Partial tuition is awarded to a freshman who has been accepted or is enrolled in biology pre-med with demonstrated academic performance.

Dr. Charles Robert Thomas Pre-Medical Scholarship: Partial tuition will be awarded to an outstanding pre-med student with need.

Mr. and Mrs. Eugene M. Thomasson Pre-Medical Scholarship: Partial tuition is awarded to an outstanding pre-med student with financial need in their junior year for their senior year.

Joyce Litchford Memorial Scholarship: Awarded to outstanding pre-med student with need at the end of their junior year.

Santiago Family Biology Scholarship: Recipients must be a rising junior or senior maintaining a minimum 3.0 GPA in biology courses and in good academic standing. They must have demonstrated financial need. Preference is given to non-traditional students.

The Tucker Foundation Endowed Honors College Scholarship in Biology and Environmental Science: Awarded to an undergraduate student involved in research on Stream Fish Ecology and Conservation and American Chestnut Restoration and Mycology.

Dr. Robert L. Craig Scholarship in Biology: Awarded to undergraduate students in biology who demonstrate successful academic performance and are involved in research.

EXPERIENTIAL LEARNING FOR BIOLOGY MAJORS

UTC emphasizes opportunities for meaningful learning experiences inside and outside of the classroom. From conducting original research to internships and community outreach initiatives, biology students take advantage of resources on campus and in Chattanooga.

Research

Our department offers research opportunities in the following areas. Visit our website to learn more about specific research opportunities.

- Conservation and Restoration
- Ecology, Evolution and Behavior
- Environmental and Human Health
- Geology
- Geospatial Sciences
- Microbiology
- Molecular Biology, Cell and Physiology
- Systematics and Biodiversity

Internships

In recent years, our department has placed students in internships with a variety of locations and opportunities, including:

- Erlanger Health System
- Crabtree Farms
- Chattanooga Zoo
- Tennessee Valley Authority
- Reflection Riding Arboretum and Nature Center
- City of Chattanooga
- Tennessee Aquarium
- Tennessee Department of Environment and Conservation

The following career options do not represent all of the occupations you might consider. Some of the options listed might require additional training.

CAREER POSSIBILITIES FOR BIOLOGY MAJORS

Are you starting college with a specific career in mind? Biology graduates excel in these fields and more.

Visit University Career Services at utc.edu/career-student-employment for a detailed list of career possibilities.

Basic and Applied Research and Development

- Quality Assurance and Control
- Crime Scene Technician
- Laboratory Technician
- Grant Writing and Administration
- Health Care
- Allied Health: Physical Therapy Assistant
- Food and Drug Administration
- Medical Technologist
- Public Health Departments
- Organism/Ecological Biology
- Conservation Biology, Park Ranger
- Environmental Protection and Regulation
- Fish and Wildlife Conservation
- Food Science
- Marine Biology

Communication

- Technical Writing and Editing
- Illustrating

Bioinformatics

- Algorithm and Statistical Techniques
- Data Analysis and Interpretation
- Information Management

Education

- Elementary, Secondary, Post-secondary Education
- Museum Curator
- Non-classroom Education
- Business/Industry
- Marketing
- Technical and Pharmaceutical Sales
- Sample Advance Study Options
- Physician or Veterinary Medicine
- Physical and Occupational Therapy
- Dentistry
- Public Health Officer or Hospital Administration
- Research Scientist

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	PROF. DEVELOP.
EXPLORATION	Explore interests and identify strengths with resources available through University Career Services. Research careers you are interested in to determine the courses and skills necessary to be successful.	Match your interests with future careers online with My Next Move Interest Profiler, O*NET and University Career Services. Research options for careers and potential graduate or professional programs that interest you.	Seek internship and job shadowing opportunities, faculty can help you with these. Contact prospective graduate schools and employers.	Identify and refine marketable skills. Pinpoint career goals. Focus on applying for graduate programs, professional programs or jobs.	American Institute of Biological Sciences: aibs.org American Medical Association: ama-assn.org American Physical Therapy Association: apta.org
ACADEMIC MILESTONES	Complete BIOL 1110 and 1120, CHEM 1110 and 1120, ENGL 1010 and 1020, and other appropriate General Education requirements. A year of appropriate level math (based on ACT scores).	Complete BIOL 1130. Preprofessional majors should complete CHEM 3010, 3020 and PHYS 1030, 1040. General Education requirements where appropriate.	Complete 3000-level biology courses and begin taking upper-level courses. Preprofessional students complete CHEM 4510. General students complete GEOL or PHYS sequence. Consider a Foreign Language.	Complete any requirements for major and General Education. Explore areas of interest in other disciplines or strengthen your skills by taking an elective course in your major.	American Society for Microbiology: asm.org American Society of Plant Biologists: aspb.org American Veterinary Medical Association: avma.org
CONNECTIONS	Join a club in your major. Introduce yourself to biology faculty, discuss professional plans and ask for advice.	Get involved with campus student organizations and volunteer with organizations in the Chattanooga area. Explore departmental research opportunities and apply for research awards.	Use experiences to connect with the local community and professionals. Interact with departmental faculty and staff who will help with academic and career planning. Meet with University Career Services.	Continue to grow connections with the community by volunteering and strengthen relationships with faculty and staff. Join professional groups and present your research at a local, regional or national meeting.	Association of American Medical Colleges: aamc.org Association of Southeastern Biologists: sebiologists.org Biotechnology Industry Organization: bio.org
READINESS	Pay close attention to your grades in biology, chemistry and math, these are crucial to your degree. Visit University Career Services for career exploration and for access to part-time employment.	Work to cultivate and improve skills vital to your career path. Develop skills like communication, time management, interpersonal skills, problem-solving, critical thinking and leadership.	Utilize University Career Services's MOC interview programs. Use contacts within the department to cultivate references and recommendations for applications.	Contact organizations and associations in your interest area for informational interviews, potential mentors and shadowing opportunities. Engage with University Career Services to learn about its resources.	Genetics Society of America: genetics-gsa.org National Academies of Science: nas.edu Physician Assistant Education Association: paeonline.org
ACHIEVEMENT	Complete 30 credit hours. Meet with your advisor twice and declare a major. Have your second year mapped out and a general plan for years three and four.	Complete 60 credit hours. Meet with your advisor at least three times. Have your third year mapped out and a general plan for year four.	Complete 90 credit hours and admissions exams. Meet with your advisor twice, checking in with graduation goals. Begin preparing packets for employment and graduate admissions.	Complete 120 credit hours, all degree requirements and graduate. Join the Alumni Association and update your department and University Career Services with your successes.	Society for Neuroscience: sfn.org The Wildlife Society: wildlife.org

BIOLOGY STEM EDUCATION utc.edu/stem-education

Participation in the STEM Education program gives students valuable hands-on teaching experience, a four-year degree in their respective field and completion of requirements necessary to earn a teaching license. Biology majors who choose the STEM Education concentration should successfully meet these milestones as they navigate the biology curriculum.

FIRST YEAR

- STEM 1030 and STEM Checkpoint 1.
- Meet with STEM advisor in addition to meeting with your academic advisor.

SECOND YEAR

- STEM 2010, 2020 and STEM Checkpoint 2.
- Meet with STEM advisor in addition to meeting with your academic advisor.

THIRD YEAR

- STEM 3010, 3020 and STEM Checkpoint 3.
- Apply for Apprentice Teaching.
- Prepare to take the Praxis.
- Meet with STEM advisor in addition to meeting with your academic advisor.

FOURTH YEAR

- STEM 4010, 4020 (Apprentice Teaching) and STEM Checkpoint 4.
- Meet with STEM advisor in addition to meeting with your academic advisor.