Biology spans a continuum of organization from molecules and cells to individuals and ecosystems. The programs are designed to give students a broad base, while allowing a measure of sub-field specialization. All Biology majors are required to take a two-semester series of “Introduction to Biology” classes, plus separate courses in Genetics, Cell Biology, and Ecology, followed by three (for a B.A. degree) or six (for the B.S. degree) biology electives. There are special programs in Biochemistry, Biology with Teaching, Biophysics, Environmental Science, Natural Science, and Neuroscience that the Biology department offers in conjunction with others.

The Bachelor of Science degree in Biology program provides a strong preparation for those wishing to attend professional or graduate school in biology or related disciplines such as cell or molecular biology, ecology, bioinformatics, biochemistry, biophysics, medicine, pharmacy, dentistry, and allied health fields. It is recommended for those who intend to enter the scientific workforce upon completion of a bachelor’s degree.

The Bachelor of Arts degree in Biology program, which also provides the essential background for professional schools, is appropriate for those who are planning for careers in fields where a science background with additional breadth is advantageous.

The Bachelor of Science degree in Neuroscience - Cellular & Molecular is designed to provide rigorous preparation in scientific knowledge at the molecular and cellular level to those students interested in pursuing advanced studies and professional development in neuroscience, medicine or a related field in life sciences. In addition to neuroscience, graduates in the major will be well prepared for graduate or professional studies in cell or molecular biology, biochemistry, biophysics, biomedical sciences, medicine, pharmacy, dentistry, and many allied health fields. Neuroscience graduates who do not pursue graduate studies will be prepared to accept technical positions in industry (pharmaceutical, biotech) or government and university laboratories. Graduates will be ready to conduct research on a range of neuroscience and related topics at the level of cells or molecules, including nervous system function, development, disease or injury.

The Bachelor of Science degree in Biochemistry prepares students for excellence in graduate or medical school, and employment in the chemical, biotechnological, or pharmaceutical industries. Students learn a wide array of topics in Biology, Chemistry, Mathematics, and Physics. In upper division studies, Biochemistry majors learn to apply biochemical principles to real-life situations via problem-based approaches in their courses. Laboratory courses give students the tools they will need as biochemists to pursue research. Accomplished majors are encouraged to pursue independent research with a professor, and to present their work internally and at national meetings.

The Bachelor of Science degree in Biophysics fulfills all medical and pharmacy school requirements. Biophysics students interested in research careers can pursue a graduate degree in biophysics, biology, molecular biology or neuroscience, as well as the combined MD/PhD degree in medical physics, health physics or nuclear medicine.

The Bachelor of Arts degree in Natural Sciences provides students more breadth than traditional science programs. Many exciting areas of scientific inquiry, such as the neurosciences, environmental sciences, and biophysical sciences, require general science backgrounds that encompass multiple science disciplines. Students planning graduate study or technical careers in one of these interdisciplinary areas, as well as students preparing for careers in health sciences, legal professions, science education, science-related business, or social service might be well served by the B.A. in the Natural Sciences. However, this program of study will not prepare students for graduate study in a traditional science discipline nor will it prepare students for technical employment in a traditional science discipline.

The Bachelor of Science degree in Biology with Teaching and Bachelor of Science degree in General Science with Teaching are part of Temple's innovative "TUtach" secondary education teacher-training program. The programs prepare students for a career in secondary school teaching with the full content knowledge of their corresponding majors without teaching. The education courses in the B.S. with Teaching include supervised teaching in school district classrooms and emphasize inquiry-based approaches to learning. Students in the B.S. with Teaching degree program become eligible for a Pennsylvania teacher certification when they complete all the requirements for the degree that include theoretical and practical courses in education specifically designed for science and mathematics majors.

Undergraduate Contact Information:

Dr. Allen Nicholson, Chair  
Biology-Life Sciences Building, Room 255  
215-204-8851

Dr. Robert Sanders, Vice Chair  
Biology-Life Sciences Building, Room 347  
215-204-2056

Dr. Joel Sheffield  
Juniors/Seniors, Research Questions  
Biology-Life Sciences Building, Room 311  
215-204-8839  
jbs@temple.edu

Dr. Angela Bricker
Freshmen/Sophomores
Biology-Life Sciences Building, Room 248C
215-204-8578
abricker@temple.edu

Programs

- Biology, B.A. (http://bulletin.temple.edu/undergraduate/science-technology/biology/biology-ba)
- Biology, B.S. (http://bulletin.temple.edu/undergraduate/science-technology/biology/biology-bs)
- Genome Medicine, Certificate (http://bulletin.temple.edu/undergraduate/science-technology/biology/genome-medicine-certificate)