

BIOLOGY MAJOR: MOLECULAR AND CELLULAR BIOLOGY TRACK

15 course units, including:

BIO 1204 Integrated Concepts of Biology:
Molecules and Cells

BIO 1206 Integrated Concepts of Biology:
Organisms and Ecosystems

BIO 2042 Biologists' Toolkit

BIO 4432 Capstone in Biology

6 biology courses, at least 3 from the following:

BIO 3026 Developmental Biology

BIO 3034 Molecular Genetics of Eukaryotes

BIO 3044 Molecular Genetics of Bacteria

BIO 3046 Microbiology

BIO 3056 Bacterial Pathogenesis

BIO 4144 Immunology

BIO 4304 Advanced Cell Biology

CHEM 3084 Biochemistry

BIOLOGY MINOR:

6¹/₂ course units, including:

BIO 1204 Integrated Concepts of Biology:
Molecules and Cells

BIO 1206 Integrated Concepts of Biology:
Organisms and Ecosystems

BIO 2042 Biologist's Toolkit

3 additional biology courses, at least 1 from the 3000-level
or above

Allied Course (1 of the following):

CHEM 1004 Chemistry in Society

CHEM 1055 Principles of Chemistry I

CS 1124 Foundations of Computer Science

MATH 1144 Elementary Statistics

PHYS 1014 Conceptual Physics

BIOLOGY

TRANSYLVANIA
UNIVERSITY

Office of Admissions

300 North Broadway
Lexington, KY 40508
(800) 872-6798
transy.edu



ABOUT THE MAJOR:

The biology program prepares students for traditional fields of study as well as emerging fields such as biophysics, bioinformatics and molecular genetics.

In our small lab sessions, you'll be encouraged to sharpen your investigative skills by undertaking independent research. You'll gain first-hand knowledge of subjects through field trips to destinations such as Kentucky's Red River Gorge and Daniel Boone National Forest. May term travel courses have enabled students to study invertebrates in Florida, tropical ecology in Belize and Hawaii, native plants and animals in the forests of eastern Kentucky and public health issues in the Philippines.

The science of biology plays a central role in important issues like global climate change, stem cell research and ecological restoration, as well as global health issues such as avian influenza, tuberculosis and HIV/AIDS. Transylvania's biology graduates actively engage these issues, both as researchers in the laboratory and as medical personnel on the front lines.

Transylvania students have a variety of opportunities to conduct research, both independently and with professors. Research projects may receive funding from the university or from outside organizations such as the National Institutes of Health. Current faculty research interests include evolution and behavioral ecology of cannibalism, physiological and other correlates of avian personality and ecology of non-native plant invasions.

FACULTY:

Paul Duffin, Program Director (fall)
Associate Professor of Biology
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Sarah Bray, Professor of Biology
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Rebecca Fox, Associate Professor of Biology
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Belinda Sly, Program Director (winter)
Associate Professor of Biology
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James Wagner, Chair, Division of Natural Sciences and Mathematics
Professor of Biology;
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COURSES OF SPECIAL INTEREST:

Molecular Genetics
Entomology
Animal Behavior
Neurobiology
Public Health
Immunology
Tropical Ecology
Field Botany

WHERE OUR GRADUATES HAVE WORKED:

National Oceanic and Atmospheric Administration
Smithsonian Institution
Mount Sinai Hospital
National Rehabilitation Hospital in Washington, D.C.
Boston Medical Center

WHERE OUR GRADUATES HAVE STUDIED:

Harvard University (doctoral program in maternal and child health)
Texas A&M Veterinary School
University of Kentucky Dental School
University of North Carolina–Chapel Hill

POSSIBLE CAREER OPTIONS:

Environmental protection agent
Medical doctor
Research scientist
Teacher



COURSES:

BIOLOGY MAJOR:

15 course units, including:

BIO 1204 Integrated Concepts of Biology:
Molecules and Cells
BIO 1206 Integrated Concepts of Biology:
Organisms and Ecosystems
BIO 2042 Biologists' Toolkit
BIO 4432 Capstone in Biology

9 additional electives, including 6 Biology courses at the 3000-level or above

Allied Courses

CHEM 1055 Principles of Chemistry I
CHEM 1065 Principles of Chemistry II
MATH 1304 Calculus I *or*
MATH 1144 Elementary Statistics

To become certified to teach biology, students must complete the Biology Major and the Education Minor for Secondary Certification.

BIOLOGY MAJOR: ECOLOGY, EVOLUTION, AND BEHAVIOR TRACK

15 course units, including:

BIO 1204 Integrated Concepts of Biology:
Molecules and Cells
BIO 1206 Integrated Concepts of Biology:
Organisms and Ecosystems
BIO 2042 Biologists' Toolkit
BIO 3204 Animal Behavior
BIO 3314 Evolution
BIO 4144 Ecology
BIO 4432 Capstone in Biology

3 courses from the following:

BIO 2124 Field Botany
BIO 2144 Tropical Ecology
BIO 2164 Ornithology
BIO 2504 Entomology
BIO 3016 Comparative Vertebrate Anatomy
BIO 3065 Animal Physiology

3 electives from BIO, CHEM, CS, ENVS, MATH or PHYS

Continued on back

"Our biology program provides foundational courses useful for a number of disciplines as well as diverse specialized courses such as Biology of Climate Change, Bacterial Pathogenesis and the Natural History of Kentucky. We stress content as well as critical thinking, problem-solving and data analysis."

Belinda Sly, associate professor of biology