

BIOLOGY

RWU Biology majors study living organisms and the interconnected systems and processes that shape life around us. Biology majors study nature in the field, through the microscope, and at the molecular biology lab bench. You'll be prepared for careers in a wide range of interdisciplinary sciences such as cell and molecular biology, virology, microbiology, animal behavior, botany, and ecology.

STUDENT EXPERIENCE

Learn and Do More at RWU

With a focus on experiential learning at RWU, Biology majors:

- Work as scientists from day one. Our students conduct research projects in first-year courses, perform independent research in the laboratory and in the field, write proposals, compete for grant funding, and complete a senior thesis.
- Conduct basic and applied research that helps improve society. Our program focuses on how scientists' work positively impacts the public. Students test new anti-amoebic drug candidates, explore animal microbiomes, study evolution of photosynthesis in plants, and identify genes involved in aging, among others.
- Study abroad in Belize during the winter intersession focusing on Tropical Ecology, study off-campus during the summer carrying out fieldwork in the Yellowstone ecosystem of the Rocky Mountains, or perform community health outreach over winter or spring break.
- Explore biodiversity using microscopes and molecular instrumentation in the Marine and Natural Sciences laboratories.



- + Are you curious about how species adapt and evolve?
- + Do you think like a scientist, wondering how the internal functions of an organism influence the way it lives?
- + Are you interested in a career in biomedical research, field ecology, or health care?

CAREER OUTLOOK

RWU **Biology** grads are working in the following careers:

- Research scientist
- Conservation biologist
- Veterinarian
- Science educator
- Physician assistant
- Physical therapist
- Nurse
- Pharmacist
- Ecosystem management

ALUMNI SPOTLIGHT

Gabrielle Rozumek '20

Biology

Ph.D. candidate in Molecular and Cellular Pathology at the University of Michigan

Kiserian Jackson '18

Biology, National Science Foundation STEM Scholar

Ph.D. candidate in molecular and cell Biology at UMass-Amherst.

CURRICULUM

First-year students start with foundational courses in ecology, evolution, and molecular biology. In our upper-level lab and field-based biology coursework, you'll get first-hand experience with scientific methods currently used by biologists. You can choose to pursue a Bachelor of Science or Bachelor of Arts degree in Biology, customizing your program to fit your interests as you choose from our specialized coursework.

Upper-Level Coursework

Students choose from a number of special courses, including:

- Molecular Cell Biology
- Virology
- Microbiology
- Field Ecology of the Rockies
- Biotechnology
- Soil Ecology
- Cancer Biology
- Cellular Metabolism and Human Disease

Laboratories and Technology

The MNS building is equipped with advanced laboratory research space along with an Aquatic Diagnostic Laboratory and a greenhouse. The facilities house advanced research instruments including real-time PCR machines, fluorescence and confocal microscopes, cell culture facilities, and a flow cytometer. Our researchers utilize model organisms including bacteria, yeast, round worms, fruit flies, amoeba, and zebrafish, and also study terrestrial and marine microbes, invertebrates, desert plants, and macroalgae.

Guaranteed Research Opportunities

Undergraduate research is integrated into the Biology curriculum, with opportunities for students to earn credit for their work. RWU offers students summer research experiences while living on campus with other summer scholars. RWU students regularly present their research at regional, national, and international conferences. Funding opportunities are available to students to aid in their travel to scientific meetings. These are just some of their research areas:

- Genetics and evolution of marine viruses
- Biotechnology of anti-amebic drugs
- Ecotoxicology of heavy metals
- Developmental genetics
- Molecular genetics of aging and longevity
- Evolution of photosynthetic pathways in plants
- CRISPR gene editing
- Soil invertebrates

Get a Great Internship

Biology majors gain real-world experience through internships, which often lead to full-time employment. Our students intern at organizations including:

- Pfizer, Inc.
- Rhode Island Department of Health
- Center for Disease Control
- Amgen
- Save the Bay
- Audubon Education Center

Prepare for Graduate and Medical Studies

Many students continue their studies in graduate school. Students interested in a career in the health professions develop an academic and experiential roadmap with guidance from our faculty health profession advisors.

Earn a Pharm.D. in 7 Years

Instead of taking eight years to get a Pharm.D., the 3+4 Biology-Pharm.D. dual degree program enables students to earn a B.S. in Biology at RWU and a Pharm.D. from the Albany College of Pharmacy and Health Sciences in only seven years.

Last Updated: July 2021

OVER 80% OF RWU STUDENTS GRADUATE WITH MORE THAN JUST A SINGLE MAJOR

Design your experience with your passion and have a unique career advantage with a minor or double major. Many students combine **Biology** with:

- Public Health
- Chemistry
- Applied Mathematics
- Sustainability Studies
- Biotechnology Certificate
- Environmental Science
- Psychology
- Communication/Writing
- Secondary Education