Which ‘Bio’ is Which?

The Study of Life is Too Big for Any One Major

RIT offers life sciences and health sciences programs across many divisions and disciplines.

If you have an interest in biology, it can be hard to know which major will suit you best. RIT has programs that cover traditional biology, biochemistry, biotechnology, biomedical engineering, environmental science, and health sciences. All require core courses in biology, however, each lead to very different careers.

The RIT College of Science can help you determine the life sciences major that suits your interests. If you are preparing for medical or veterinary school, we can advise you on classes and professional experiences that will best serve you.

Interested in Pre-Med or Pre-Vet?

Pre-professional studies at RIT are supported through programs in biology, biomedical science, biotechnology, biochemistry, and others. Groups such as the Pre-Health Student Association (PSA) and the Pre-Vet Club provide further support.

PSA serves students interested in health care careers with community service events for members to aid RIT and the Rochester area. PSA also promotes networking by inviting doctors, nurses, physician assistants, dentists to club meetings to offer their knowledge and advice.

The Pre-Vet Club is a group of students who are interested in discovering details about careers in animal science and medicine, and also the process of application to veterinary medical school and/or graduate school. The club regularly hosts working veterinarians and veterinary medical school admissions personnel.

RIT pre-vet studies is also supported through internships with local organizations such as the Seneca Park Zoo and Rochester Animal Services. The zoo internship involves cleaning and maintaining the animal areas, diet preparation, exhibit improvements, observation of behavior, and weekly lecture/discussion forums. The Rochester Animal Services internships give pre-vet students hands-on experience in a full-service city animal facility.
Offered by the College of Science

Thomas H. Gosnell School of Life Sciences

BIOLOGY
This major lets you practice biology the way professional biologists do—with an emphasis on laboratory and field experience. Courses and self-directed study is based heavily on research experiences in the college’s laboratories. Biology prepares you for a career in biomedical research, scientific management, science journalism, forensic science, ecology and environmental science, agriculture, genetic counseling, and education.

BIOINFORMATICS
If you’re interested in computer coding, you can learn to sequence DNA and use programs to analyze those sequences and predict molecular models. Bioinformatics prepares you for a career in software development, biomedical research, biotechnology, comparative genomics, genomics, molecular imaging, pharmaceutical research and development, proteomics, and vaccine development.

BIOTECHNOLOGY AND MOLECULAR BIOSCIENCE
Use living systems to develop or make useful products that are beneficial to animals—particularly humans. This major prepares you for a career in plant biotechnology, human genetics, agriculture, food products, pharmaceuticals and vaccine development, environment and energy, forensic science, or genetic counseling.

ENVIRONMENTAL SCIENCE
An interdisciplinary degree with a strong foundation in biology, mathematics, chemistry, physics, and geographic information systems. Environmental scientists solve problems relating to power generation, waste reduction and recycling, pollution control, land use and land cover change, preserving biodiversity and ecological services, transportation, forestry, agriculture, economics, and a wide range of other areas.

School of Chemistry and Materials Science

BIOCHEMISTRY
A seamlessly combined major composed of chemistry and biology courses. You’ll take a year of general biology in addition to a typical chemistry curriculum. During the upper-level years, students take a variety of courses in biochemistry, physical chemistry, the liberal arts, and elective courses in life sciences. Biochemistry prepares you for a career in chemical, pharmaceutical, agricultural, forensic, and rapidly expanding biotechnological fields. Students also are well-prepared to enter advanced degree programs in biochemistry, medicine, pharmacy, dentistry, and veterinary medicine.

Other Options
The life sciences infuse many other disciplines on campus. Within the College of Science, you’ll find biology studied hand-in-hand with chemistry, imaging science, math, statistics, and physics. Beyond COS, you’ll find majors that benefit from a strong grounding in the biological sciences—such as photographic science, medical illustration, physician’s assistant, diagnostic medical sonography, business, and public policy.

Life sciences majors are required to take a three-course immersion in another field of study that can lead to integrations of many disciplines. Students may also opt for a 15-credit minor, a double major, or a BS/MS program that adds on a master’s degree with only one additional year of study.

Biomedical Sciences
A major that focuses on human biology offered by the College of Health Sciences and Technology. You will complete the Life Sciences Core, anatomy and physiology classes, and a variety of electives. This major prepares you for a career in medicine, research, exercise science, pathology, pharmacy, pharmacology and drug development, toxicology, neuroscience, and genetic counseling.

Biomedical Engineering
A major offered by the Kate Gleason College of Engineering. Biomedical engineers design instruments, devices, and software; develop new procedures; and conduct research to solve clinical problems. This major prepares you for a career in biomaterials; biomedical device and system design; biomedical signal processing; or physiological modeling, dynamics, and control.

Environmental Sustainability, Health, and Safety
A major offered by the College of Applied Sciences and Technology focused on social responsibility for our activities and being good stewards of products and the services. Students gain a strong foundation in science; applied environmental, health and safety science and technology; and environmental sustainability and social responsibility.