

Bachelor of Science **Biology – Medical Technology**

INFORMATION

Medical technologists play an active role in healthcare by performing a wide variety of laboratory tests on body fluids and tissues in order to determine the presence or absence of disease, monitor a patient's response to therapy and/or aid in the prevention of illness and maintenance of health. These tests encompass many areas, including clinical chemistry, clinical microbiology, hematology, clinical urinalysis, immunology, immunohematology, and more. The results of these tests are used in the diagnosis and treatment of disease. Medical technologists use automated equipment and computerized instruments capable of performing a number of tests simultaneously, as well as microscopes, cell counters, and other sophisticated laboratory equipment. Medical technologists are involved in all aspects of clinical laboratory testing including: performing the tests, maintenance and troubleshooting of instruments, quality control, and evaluating/ developing new tests.

CAREER OPPORTUNITIES

Employment opportunities in the medical technology field are excellent, with opportunities available in hospital laboratories, commercial reference laboratories, private laboratories, public health laboratories, clinics, and research centers. Industry also offers opportunity in the area of sales,

public relations, and in research and development. Like all scientific fields, there is the option of continued academic specialization through the pursuit of an advanced degree, which in turn brings further employment opportunities and benefits.

PROGRAMS

BACHELOR OF SCIENCE (B.S.) IN BIOLOGY-

MEDICAL TECHNOLOGY:

Offered in conjunction with an affiliated school of medical technology. Students in the program have two options for completing the curricula of Cleveland State University and the affiliated school of medical technology (see back side).

Regardless of the route and option selected, students subsequently must be accepted into a school of medical technology approved by the Council on Medical Education of the American Medical Association in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences as part of the requirement for taking the certifying examination in medical technology. In the Cleveland area, there is one approved and active hospital school of medical technology affiliated with Cleveland State University. However, students completing the 4 + 1 option may attend any approved school of medical technology in the United States. Following satisfactory completion of their clinical training program, students are eligible to take the national certifying examination of the Registry of Medical Technologists

(American Society of Clinical Pathologists) or of the National Certification Agency for Medical Laboratory Personnel.

In addition to Medical Technology, the Department of Biological, Geological, and Environmental Sciences also offers additional programs of study for those interested in biology. For more information, see the Biology program sheet.

An **Honors Program** is also available for students in the B.S. in Biology - Medical Technology program. To be eligible, a student must maintain a cumulative GPA of at least 3.2 in courses required for the B.S. in Biology and a 3.0 GPA overall. This program also requires 8 credit hours of honors research and seminar, and a successful oral defense of a written thesis.

Engaged learning experiences (for

**For more information, contact:
College of Science**

Department of Biological,
Geological and Environmental
Sciences

Cleveland State University
2121 Euclid Avenue SI 219
Cleveland, OH 44115-2214
Phone: (216) 687-2440

E-mail: hges@csuohio.edu

Website:

<http://www.csuohio.edu/sciences/dept/biology/index.html>

all programs) include research experience with nationally recognized CSU faculty, who have obtained prestigious federal grants, and co-op and internship opportunities. Many of the courses are offered in the evenings. All students receive individual advising.

Bachelor of Science

Biology – Medical Technology

Requirements of the College of Science: A minimum of 128 credit hours is required for a Bachelor of Science (B.S.) degree, of which 42 semester credit hours must be earned in 300- and/or 400-level courses. Introduction to University Life (one credit hour) is required for all newly admitted freshmen (not required for transfer students).

General Education Requirements: All degree-seeking students are required to meet general education requirements. Students are responsible for ensuring that courses chosen satisfy these requirements and are encouraged to consult with their academic advisor. A comprehensive description of the requirements is available online at <http://www.csuohio.edu/academic/gened>.

Required Courses for the B.S. in Biology - Medical Technology (credit hours in parentheses):

Option I (3 + 1): Consists of three years of full-time study at Cleveland State University, followed by one year of clinical laboratory training in an affiliated school of medical technology. Students do not enroll at Cleveland State University during their year of clinical training, they enroll at the school of medical technology (note – this means that students are not eligible for financial aid from Cleveland State during this clinical year). After completion of the clinical training, 32 semester credits are transferred from the school of medical technology to Cleveland State University and are counted toward the B.S. degree. Students enrolling in Option I must complete the following courses:

Required Biology Courses (38 credit hrs):

BIO 200/201 Introductory Biology I and Lab (4)
BIO 266/267 Human Anatomy and Physiology I and Lab (4)
BIO 268/269 Human Anatomy and Physiology II and Lab (4)
BIO 306 Biochemistry and Molecular Biology (4)
BIO 308/309 Cell Biology and Lab (4)
BIO 310/311 Genetics and Recitation (4)
BIO 400 Medical Technology Orientation (1)
BIO 412/413 Elements of Immunology and Lab (4)
BIO 414/415 Parasitology and Lab (4)
BIO 416/417 Microbiology and Lab (5)
BIO 499 Exit Evaluation (0)

Required Chemistry Courses (16 credit hrs):

CHM 261/266 General Chemistry I and Lab (5)
CHM 262/267 (or 268) General Chemistry II and Lab (5)
CHM 331/336 Organic Chemistry I and Lab (6)

Required Statistics Course, ONE of the Following (4 credit hrs):

MTH 147 Statistical Concepts (4)
ANT 305 Quantitative Anthropology (4)
PSY 311 Behavioral Science Statistics (4)
SOC 354 Quantitative Sociological Research (4)

Option II (4 + 1): Consists of the successful completion of the B. S. degree with a major in Medical Technology prior to enrolling in an approved school of medical technology. This option is recommended for students who desire flexibility in training program choice, and increased options for career choice and career development. Students enrolling in Option II must complete the following courses:

ALL Option I courses (as listed above)

AND each of the following courses:

BIO 202/203 Introductory Biology II and Lab (4)
BIO 495 Seminar (1)
CHM 310/315 Survey of Analytical Chemistry and Lab (4)
PHY 231 College Physics I -Biomedical Applications (4)

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