

School of Medicine

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Medical Technology

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Degree Offered

Bachelor of Science in Medical Technology

The Profession

Medical technologists are clinical laboratory professionals educated in all aspects of clinical laboratory analysis including test development, performance, and evaluation. Medical technologists may work in many areas, including clinical chemistry, hematology, immunohematology, immunology, clinical microbiology, and molecular diagnostics. Practice settings include hospital, clinic, public health, or private clinical laboratories; research, cytogenetic, pharmaceutical, or in-vitro fertilization laboratories; technical or sales representatives for medical manufacturers and suppliers; biotechnology, food, and cosmetic industries; and state or federal crime laboratories.

Nature of Program

The undergraduate program in medical technology began in 1945 and is administered by the School of Medicine. Students are admitted into the bachelor of science program after completing two years of pre-requisite courses in an accredited college or university. Exceptional students may be admitted directly into the program as entering freshmen. The undergraduate curriculum includes 60 semester hours of pre-requisite courses (pre-medical technology curriculum), and 76 semester hours in the medical technology professional program in the School of Medicine. Students may complete the pre-requisite courses at any regionally accredited institution of higher education.

Since the last two years are professional in nature, students must be enrolled in the WVU School of Medicine for the entire period. The junior year (the first year of the professional curriculum) includes courses to introduce the student to the medical sciences and to prepare for the senior year curriculum. During the senior year (the second year of the professional curriculum), the student receives both didactic instruction and practical experience. Clinical affiliate hospitals include: Ruby Memorial Hospital (WVU Hospitals, Inc.) Allegheny West Penn Health System, Monongalia County General Hospital (Mon General Hospital), City Hospital, Jefferson Memorial Hospital, and the Veteran's Affairs Medical Center in Martinsburg, West Virginia.

Ruby Memorial Hospital is the primary teaching hospital for the medical technology program. Ruby Memorial Hospital is part of the Robert C. Byrd Health Sciences Center of West Virginia University in Morgantown. The hospital is a 376-bed tertiary care teaching hospital and referral center. Allegheny West Penn Health System includes a central core clinical laboratory and six hospitals in the greater Pittsburgh, Pennsylvania metropolitan area. Monongalia General Hospital in Morgantown is a 207-bed community hospital providing a full range of family centered care to residents of north-central West Virginia and southwestern Pennsylvania. City Hospital in Martinsburg, WV, and Jefferson Memorial Hospital in Ranson, WV, comprise West Virginia University Hospitals—East a regional non-profit health care provider. The Veteran's Affairs Medical Center in Martinsburg, WV, is a general medical and surgical, long-term care and rehabilitation and domiciliary serving over 126,000 veterans in West Virginia, Maryland, Virginia, and Pennsylvania. Students are required to complete a two, three, or four week rural rotation at an approved site in West Virginia.

The WVU Medical Technology program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 W. Bryn Mawr Avenue, Suite 670, Chicago, IL 60631-3415, (773) 714-8880. Graduates are eligible for certification by the Board of Registry of the American Society for Clinical Pathology (ASCP) and the National Credentialing Agency for Laboratory Personnel (NCA).

Other Programs

An articulation program is available for certified medical laboratory technicians (clinical laboratory technicians) who want to complete the requirements for a bachelor of science degree. Further information may be obtained by contacting the Medical Technology Program Office.

A part-time curriculum is available. Part-time students must meet the same admission requirements and application deadlines as full-time students. For further information, contact the Medical Technology Program Office.

Admission to the Pre-Medical Technology Program

Students in the pre-medical technology program and direct admit students must meet the admission criteria of WVU. Pre-medical technology students are advised by the Undergraduate Academic Services Center. Medical technology faculty advises direct admit students. Prospective students should take mathematics, chemistry, and biology in high school.

Qualified applicants may enter the pre-medical technology program at the beginning of any semester, but the professional curriculum begins the fall semester after the student is admitted to the professional program. Admission to the pre-medical technology program does not assure admission to the professional program.

Admission to the Professional Program

Direct Admit

Students may be admitted directly into the medical technology program as freshman with a minimum high school grade point average of 3.75 and a minimum math component ACT score of 26 or a minimum math component SAT score of 600. They are advised by the medical technology program advisor and are automatically admitted to the professional program as long as they meet all admission requirements listed below. MTEC 100, 101, 200, and 201 are required courses for direct admit students.

Traditional

Pre-medical technology students apply for admission into the junior year (first year in the medical technology program) before the second semester of the sophomore year in college. Fulfillment of the pre-medical technology curriculum does not assure admittance into the professional program (medical technology curriculum). Students are selectively admitted to the final two years of the professional program. Requirements for admission to the professional program include course requirements, grade point average, a personal interview, and letters of recommendation.

The course requirements (pre-requisites) are:

- English: six credits of composition and rhetoric (ENGL 101 and 102).
- Biology: eight credits of general biology (BIOL 101, 102, 103, and 104).
- Chemistry: eight credits of inorganic (CHEM 115 and 116), and four credits of organic (CHEM 231)*.
- Mathematics: three credits of college algebra. (MATH 126).
- Statistics: three credits of introductory statistics (STAT 211).
- GEC: 22–23 credits to satisfy Objectives 3 through 9.

*Transfer students must complete organic chemistry courses (eight hours) that include aliphatic and aromatic compounds with laboratory.

Although not required for admission to the medical technology professional program, eight credits of organic chemistry and eight credits of physics are suggested electives for those students interested in applying to medical school. A foreign language is recommended for students who plan to do graduate work.

Admission decisions are based upon the applicant's grade point average; recommendations, interview, and documented ability to successfully complete full-time academic work. Applicants should have a minimum grade point average of 2.5 (cumulative and science). Applicants may be admitted on probation if their grade point average (cumulative or science)

is less than 2.5. Applicants with less than a 2.0 grade point average, either cumulative or science, will not be admitted. A grade point average of 2.5 or above does not necessarily assure admission. Two letters of recommendation are required; at least one must be from a college science professor. A personal interview with the Medical Technology Admissions Committee may be required.

Admission of international students is in compliance with WVU regulations. At least one science course (chemistry or biology) must be completed at a regionally accredited institution of higher education in the United States.

Application Procedure

Each year the Medical Technology Program selects a limited number of students from the applications received for admission to the program. Application forms for admission to the professional program are available after December 1 from the Office of the Assistant Director of Admissions and Records, WVU Health Sciences Center, P.O. Box 9815, Morgantown, WV 26506-9815, or from the WVU Office of Admissions and Records Web site: <http://www.arc.wvu.edu/admissions/applications.html>. The application fee is \$25 for residents and \$40 for non-residents. The priority date for returning the application form is February 15. The deadline date is March 1 if the student expects to enter the program the following fall semester. In the event the class is not filled by those applications, the deadline may be extended until as late as the first business day in August.

Pre-Medical Technology Curriculum Plan

First Year

First Semester	Hrs.	Second Semester	Hrs.
CHEM 115 <i>Fund. of Chemistry</i>	4	CHEM 116 <i>Fund. of Chemistry</i>	4
Elective*	3	ENGL 101 <i>Comp. and Rhet.</i>	3
MATH 126 <i>Algebra</i>	3	Elective*	3
BIOL 101 and 103	4	BIOL 102 and 104	4
MTEC 100** <i>Medical Technology</i>	1	METC 101** <i>Medical Technology</i>	1
Total	15	Total	15

Second Year

First Semester	Hrs.	Second Semester	Hrs.
Electives*	9	CHEM 231 <i>Organic Chemistry</i>	4
ENGL 102 <i>Comp. and Rhet.</i>	3	Electives*	9
MTEC 200*** <i>Med. Tech. Term.</i>	1	METC 201 <i>Basic Med. Tech</i>	1
STAT 211	3	Total	14
Total	16		

* Graduate Education Curriculum courses to satisfy objectives 3–9.

**MTEC 100 and 101 are required for direct admit students and highly recommended for pre-medical technology students.

***MTEC 200 and 201 are required courses for direct admit students and optional for pre-medical technology students.

Medical Technology

Third Year (Medical Technology I)

First Semester	Hrs.	Second Semester	Hrs.
PATH 300 <i>Intro. to Pathology</i>	3	MICB 327 <i>Microb. Parasitology</i>	2
MTEC 302 <i>Lab Math, Q.C., Cmptrs.</i>	2	MICB 323 <i>Microbiology</i>	5
PATH 320 <i>Basic Clinical Biochem.</i>	3	PATH 340 <i>Intro. to Hematology</i>	3
PSIO 441 <i>Mech. Body Function</i>	4	MTEC 310 <i>Clin. Lab. Mycology</i>	1
PATH 380 <i>Intro. to Immunology</i>	1	MTEC 470 <i>Clinical Microscopy</i>	1
PATH 303 <i>Laboratory Applications</i> ..	1	MTEC 381 <i>Research, Ed. Meth.</i> *	2
Total	14	MTEC 329 <i>Basic Clin. Chemistry</i>	1
		Total	15

*Writing course

Fourth Year (Medical Technology II)

Students receive didactic and clinical instruction during the fourth (senior) year. The senior year includes summer I, fall, and spring semesters. Any competencies not completed must be made-up by the end of the school year (mid-May) or graduation may be delayed.

Students register for the following courses during the fourth year.

Course Requirements	Hrs.
MTEC 401 <i>Phlebotomy</i>	1
MTEC 402 <i>Rural Health Practicum</i>	1
MTEC 403 <i>Community Service Practicum</i>	1
MTEC 420 <i>Immunohematology and Blood Banking</i>	2
MTEC 421 <i>Immunohematology and Blood Banking Laboratory</i>	5
MTEC 430 <i>Clinical Chemistry</i>	2
MTEC 431 <i>Clinical Chemistry Laboratory</i>	5
MTEC 440 <i>Clinical Hematology</i>	2
MTEC 441 <i>Clinical Hematology Laboratory</i>	5
MTEC 450 <i>Clinical Microbiology</i>	2
MTEC 451 <i>Clinical Microbiology Laboratory</i>	5
MTEC 460 <i>Instrumentation</i>	2
MTEC 465 <i>Laboratory Management</i>	2
MTEC 466 <i>Lab Management Practicum</i>	1
MTEC 475 <i>Medical Relevance of Laboratory Analyses</i>	2
MTEC 480 <i>Clinical Immunology</i>	2
MTEC 481 <i>Clinical Immunology Laboratory</i>	1
Total	37

Graduation Requirements

Junior Year

Students must maintain a grade point average of 2.0 for each semester to advance to the senior year. Failure to maintain a 2.0 grade point average may result in probation or suspension. The Academic and Professional Standards Committee must recommend any student for advancement to the senior year. A satisfactory grade point average does not assure advancement.

Senior Year

A student must maintain a grade point average of 2.0 for each semester of the senior year. Graduation requires satisfactory completion of all academic work and the recommendation of the faculty of the School of Medicine.

Graduation is not dependent upon passing a national certification examination.