# MIDDLESEX
## Community College
BEDFORD · LOWELL

# Medical Laboratory Technology
## *Associate in Science*

## Fall 2019

## Program Information and Admission Requirements

*Accredited by the National Accrediting Agency
for Clinical Lab Sciences (NAACLS)*
*5600 N. River Road*
*Suite 720*
*Rosemont IL, 60018-5119*
*773-714-8880*

**Application Deadline:** Admission to Medical Laboratory Technology is on a rolling basis. Students who have completed their application are ranked in order by the date their application is complete. Although there is no deadline, applicants are encouraged to apply early, as space is limited.

**Special Note Regarding Residency:** Non-Massachusetts residents will be admitted on a space available basis only.

## Program Description

The Medical Laboratory Technology Associate in Science degree program is designed to prepare the student for entry into the clinical laboratory setting as a medical laboratory technician. As a member of the health care team, the medical laboratory technician plays a critical role in the detection, diagnosis and treatment of disease by developing data on blood and other human body fluids using highly computerized and automated instrumentation. Medical laboratory technicians work under the supervision of medical technologists or physicians in all areas of the laboratory, including chemistry, hematology, immunology, serology, immunohematology and microbiology. The student will become proficient in these disciplines of the laboratory through didactic and laboratory sessions at the college, and clinical practicums at affiliated sites. Students who complete the program are then eligible to sit for the board of certification exam with the American Society for Clinical Pathology (ASCP).

## Career and Transfer Outlook:

The continued growth of the laboratory science profession is producing an increased demand for educated and motivated laboratory professionals. Employment opportunities for graduates of a medical laboratory technician program include hospital and reference laboratories, physician-office laboratories, clinics, forensics laboratories, pharmaceutical companies, and research facilities. In the design of this program articulating to a B.S. program was also considered when mapping courses.

## Getting Started

Review and follow the Medical Laboratory Technology Admission Requirement form to ensure that you have met the admission criteria listed below:

■ Eligibility for ENG 101-English Composition I, eligibility for MAT 177 Statistics. Eligibility may be demonstrated through placement, current enrollment, or previous college coursework.
■ Required Course Prerequisite BIO 131-General Biology, college level, with a grade of a C or better within the last five years and Chemistry with lab, high school or college level, with a grade of a C or better within the last five years
■ Minimum cumulative GPA of 2.5.

**Please Note: Applicants with previous college coursework in Anatomy & Physiology and Chemistry may be eligible for a waiver of the required course prerequisites, upon review of official transcripts**

## Submitting a Complete Application

If you meet the admission requirements, the following forms must be submitted.
■ A signed Medical Laboratory Technology Admission Requirement Certification form
■ A completed Middlesex Community College Application
■ Official College Transcripts (required from all colleges attended, except Middlesex Community College)

## Admission Information

The availability of appropriate clinical placement sites, an integral component of the program, requires us to limit admission. The Admission committee will review applications in their entirety. Academic history will also be considered and students are required to have a minimum cumulative 2.5 GPA. Non-Massachusetts residents will be admitted on space available basis only.

## Requirements after Admission to the Medical Laboratory Technology Degree Program

■ Students accepted to Health Programs must be in compliance with the current immunization requirements specified by the Massachusetts Department of Public Health for Health Care Personnel (HCP) and in accordance with state law, MGL, Chapter 76, Section 15C, and its regulations at 105 CMR 220.700 in order to participate in an externship placement or clinical experience.
■ Students must submit the Student Health Record form, provided by Middlesex Community College. Required documentation of health status includes a completed physical examination, a two-step Mantoux (TB/PPD) skin test or blood test (T-Spot or Quantiferon Gold) for tuberculosis, a color deficiency test, proof of immunization against Measles, Mumps, Rubella, Hepatitis B, Varicella, one lifetime dose of TDAP (Tetanus/Diphtheria/Acellular Pertussis – after 2006), and one dose of MenACWY meningococcal vaccine administered on or after 16th birthday for any newly enrolled full-time student 21 years of age or younger.
■ Students must have transportation available to them for travel to the program's Practicums.
■ **Students enrolled in the Medical Laboratory Technology degree program must demonstrate a satisfactory level of performance in clinical settings in order to remain in the program. See the Academic Catalog for additional information.**
■ **Students must receive a C or better in clinical related courses to remain in the program.**

## Program Outcomes

Graduates of the Medical Laboratory Technology degree program are prepared to:
- Demonstrate the entry level competencies necessary to perform routine clinical laboratory tests in all areas of the laboratory.
- Demonstrate the ability to be responsible for information processing, training, and quality control monitoring wherever clinical laboratory testing is performed.
- Demonstrate the ability to apply safety and governmental regulations to maintain compliance in the laboratory.
- Demonstrate awareness of their responsibility to the profession and the community it serves.
- Understand the need to participate in continuing education activities to remain current with changes in the health care profession, laying the foundation for a lifetime of learning.

## Standard Skills for Medical Laboratory Technology

The following is a list of standard and/or technical skills required for performing duties in the medical laboratory field. These skills are not conditions for admission to the program, but do indicate abilities and characteristics necessary for successful completion of the medical laboratory technology program, and to perform the duties of the career upon graduation.
- Demonstrate sufficient motor skills to manipulate and operate all equipment and instruments found in the clinical laboratory. Such motor skills should include but may not be limited to the following:
     - Ability to grasp, turn and otherwise manipulate equipment with both hands.
     - Possess finger and manual dexterity necessary to control laboratory equipment (i.e. pipettes, inoculating loops, test tubes) and adjust instrument to perform laboratory procedures.
     - Ability to stand and move between different clinical departments in the laboratory
     - Ability to approach and position the patient when necessary for laboratory procedures.
     - Use a computer keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information.
- Display the verbal and written skills necessary to effectively respond and communicate with patients, peers and other campus and clinical personnel.
     - Read and comprehend technical and professional materials.
     - Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures.
     - Clearly instruct patients prior to specimen collection.
     - Effectively, confidentially, and sensitively converse with patients regarding laboratory tests.
- Demonstrate the ability to visually observe and evaluate patient conditions, test reactions and results, and the total laboratory environment.
     - Discern and discriminate color differences and reactions both microscopically and macroscopically.
     - Exhibit adequate hearing ability in order to respond appropriately to both patients and co-workers, and to audible equipment sounds.
     - Manage heavy academic schedules and deadlines.
     - Be able to manage the use of time and be able to systemize actions in order to complete professional and technical tasks within realistic constraints.
     - Demonstrate the cognitive ability to recognize and deal with any potential hazards in the laboratory environment, and protect oneself and others from injury.

## Criminal Offender Record Information and Sex Offender Registry Information Checks.

In order for a student to be eligible to participate in an academic, community or clinical program that involves potential unsupervised contact with children, the disabled, or the elderly, the student may be required to undergo a Criminal Offender Record Information (CORI) check and/or a Sex Offender Registry Information (SORI) check. Students found to have certain criminal convictions or pending criminal actions will be presumed ineligible to participate in such activities. The College is authorized by the Commonwealth's Criminal History Systems Board, pursuant to Massachusetts General Laws, Chapter 6, Sections 167-178B, to access CORI records. The College shall refer to regulations issues by the Commonwealth's Executive Office of Health and Human Services, 101 Code of Massachusetts Regulations 15.00-15.16, as guidance when assessing student CORI records. Sex Offender checks shall be performed pursuant to Massachusetts General Laws, Chapter 6, Sections 178C-178P. For more information regarding the College's CORI/SORI check process, please contact Alisa Chapman, Director of Compliance at 781-280-3620 or chapmana@middlesex.mass.edu.

## Services Available to Middlesex Community College Students:

Advising is available in our Academic Planning Centers. Academic advising is a valuable service, since all applicants are responsible for fulfilling the precise requirements of the program in order to be considered for admission. Advising appointments may be made by calling 1-800-818-3434.

# Curriculum – Medical Laboratory Technology Associate Degree Program

| Course Title | Course Number | Credits | Prerequisites |
|---|---|---|---|
| **Medical Laboratory Technology Courses (in sequence):** | | | |
| Introduction to Clinical Laboratory Science | MLT 105 | 3 | |
| Basic Clinical Laboratory Theory and Techniques | MLT 106 | 4 | |
| Urinalysis and Body Fluids | MLT 151 | 2 | Completion of MLT 105 and MLT 106, both with a C or better |
| Urinalysis Practicum | MLT 152 | 1 | Completion of MLT 151 with a C or better |
| Immunology and Serology | MLT 153 | 3 | Completion of MLT 105 and MLT 106, both with a C or better |
| Hematology Theory and Lab | MLT 201 | 4 | Completion of MLT 152, MLT 153, BIO 232, and CHE 132, all with a C or better |
| Clinical Chemistry Theory and Lab | MLT 202 | 4 | Completion of MLT 153 with a C or better |
| Medical Microbiology Theory and Lab | MLT 203 | 4 | Completion of MLT 153 with a C or better |
| Clinical Chemistry Practicum | MLT 205 | 2 | Completion of MLT 202 with a C or better. |
| Immunohematology Theory and Lab | MLT 251 | 4 | Completion of MLT 201, MLT 202, MLT 203, all with C or better |
| Hematology Practicum | MLT 252 | 2 | Completion of MLT 201 with a C or better |
| Medical Microbiology Practicum | MLT 253 | 2 | Completion of MLT 203 with a C or better |
| MLT Seminar | MLT 254 | 1 | Completion of MLT 201, MLT 202, and MLT 203, all with a C or better |
| Immunohematology Practicum | MLT 255 | 2 | Completion of MLT 251 with a C or better |

| Course Title | Course Number | Credits | Prerequisites |
|---|---|---|---|
| **Non-Medical Laboratory Technology Courses:** | | | |
| English Composition I | ENG 101 | 3 | Completion with a grade of B or better of ENG 088, ENG 089, ENG 092, or ENG 093; or placement by exam |
| English Composition II | ENG 102 | 3 | Completion of ENG 101 with a C- or better |
| Anatomy & Physiology I | BIO 231 | 4 | Completion of or concurrent enrollment in ENG 101; completion of BIO 131 in the last five years with a C or better or 73% or better on the A & P prerequisite exam. |
| Anatomy & Physiology II | BIO 232 | 4 | Completion of BIO 232 with a C or better |
| College Chemistry I | CHE 131 | 4 | Eligible for ENG 101 and eligible for Math Module 80 |
| College Chemistry II | CHE 132 | 4 | Completion of CHE 131 with a C or better |
| Introduction to Bioethics | ETH 105 | 3 | Eligible for ENG 101 |
| Statistics | MAT 177 | 3 | Eligible for ENG 101; placement above or completion of MAT 080 with a C or better, or completion of Preparation for College Math |
| Introduction to Sociology | SOC 101 | 3 | Eligible for ENG 101 |
| Introduction to Psychology | PSY 101 | 3 | Eligible for ENG 101 |

**Total Credit**    **72**

**Program Coordinator:** Suzanne McHale, MT (ASCP), M.S., University of Massachusetts Lowell