

# Medical Laboratory Technician AAS DEGREE

## Program Overview

The Medical Laboratory Technician program is a combination of classroom, laboratory and applied experiences that will provide students with training needed for employment in Medical Laboratory careers. Following the didactic coursework, which includes hands-on training in campus student laboratories, students are assigned to a clinical affiliate for the clinical experience. This required portion of the curriculum provides realistic experiences and an opportunity for further learning and demonstration of technical and affective skill competency. The Associate of Applied Science Degree earned prepares graduates to enter employment as a Medical Laboratory Technician or continue their education to earn a baccalaureate degree as a Medical Laboratory Scientist. Medical Laboratory Technicians use sophisticated automated equipment and instruments, microscopes and cell counters to perform testing that helps physicians diagnose illness and disease, and treat and monitor patient health and wellness. They collect and prepare specimens; count cells and look for abnormal cells; analyze the chemical content of fluids; look for bacteria, parasites or other microorganisms; and match blood for transfusions. As a critical member of the healthcare team, Medical Laboratory Technicians evaluate data to determine its accuracy and relay the test results to the physician to provide quality services that contribute to patient safety. They then analyze the results and relay them to physicians. Qualifications include an interest and aptitude in science and mathematics, accuracy and attention to detail, strong communication skills, moral and intellectual integrity, self-discipline, an ability to multitask and prioritize workload, and desire to contribute to quality patient care. Laboratory workers must have the cognitive and technical skills to perform and master a variety of tasks and the professional/affective skills to work efficiently and interact effectively with patients and other members of the healthcare team.

## Career Opportunities

Laboratory tests are of vital importance to modern medical practice. The need for clinical laboratory workers is expected to remain strong. Increased job openings are expected due to the increased need for laboratory testing in an aging population and also due to vacancies created through retirements of current employees. Employment of medical laboratory professionals is projected to grow 16% from 2014 to 2024 (according to the U.S. Bureau of Labor Statistics). Medical Laboratory Technicians are employed in hospital laboratories, clinics, doctor's offices, public health agencies and pharmaceutical, industrial, and medical research laboratories.

## Program Outcomes

1. The graduate will demonstrate proper use, calibration, adjustment, and operation of most laboratory precision instrumentation including clinical microscopes, spectrophotometers, centrifuges, computers, and automated laboratory analyzers.

2. The graduate will demonstrate standard safety practices in the medical laboratory designed to prevent injury, illness, or loss of life to those working in and/or around medical laboratory equipment with particular emphasis on the skills required for collection and testing of numerous body fluids and specimens using Standard Precautions (including the use of personal protective equipment).
3. The graduate will correlate pathological conditions of the human body, including cause and symptoms, to the laboratory's role in diagnosis and treatment.
4. The graduate will demonstrate organized work skills as reflected in efficient time and material utilization while performing proficiently and safely in the clinical environment.
5. The graduate will perform a wide variety of testing procedures employed in a medical laboratory and relate the principles of quality assurance and the importance of these procedures to patient safety and the diagnosis and treatment of disease processes in the following areas: clinical chemistry, hematology and hemostasis, urinalysis, microbiology, immunohematology (transfusion medicine) and immunology.
6. The graduate will be prepared to take the examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).
7. The graduate will demonstrate preparedness for entry level employment as a Medical Laboratory Technician, including both technical expertise and professionalism.

## National Certification Exam

Upon completion of the program, the student is eligible to take an examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).

## Textbook and Supply Costs

Students should expect to spend approximately \$2,400.00, beyond the cost of tuition and fees, for books, supplies, certification exam, and liability insurance.

## Part-time and Full-time Options

Many students attend part-time, which usually increases the program length to 3 years. Part-time students take required general education courses prior to enrolling in the MDLT courses. Once admitted to the MLT Major, students must take all of the required MDLT courses in sequence as prescribed. Technical courses are offered only during the day. Students completing the required General Education, developmental or EAPP courses and who have not been officially admitted to the MLT program are considered Pre-Medical Laboratory Technician.

## Application Process

After completing the Saint Paul College application

and admission process, students interested in the Medical Laboratory Technician program must submit a completed Application to the Medical Laboratory Technician Program form to One Stop. This form is available on the Medical Laboratory Technician Web page ([saintpaul.edu/MLT](http://saintpaul.edu/MLT)) on the second Wednesday of fall semester through the last day in January. This application window is for the subsequent fall semester start in the MLT Major. Applicants must meet the following criteria to submit the form:

- Documented readiness for, or completion of, the following required General Education Courses: ENGL 1711 English Composition and CHEM 1711 Principles of Chemistry 1
- Achieve a cumulative GPA of 2.8 or better with a minimum grade of "C" in all college level courses.

## Admission into the Program

Applying by the priority application deadline (listed on the application) does not guarantee admission to the Medical Laboratory Technician Program. Being admitted to Saint Paul College does not imply admission into the Medical Laboratory Technician Program. After the priority review deadline indicated on the Application to the Medical Laboratory Technician Major, each application is reviewed in the order submitted on the basis of overall academic ability, GPA of college level courses, and assessment scores. Applicants are admitted on a first-qualified, first-served basis according to the order of application submission. Notification of acceptance into the Medical Laboratory Technician Major will be sent by mail 6 weeks after the deadline date listed on the Application to the Medical Laboratory Technician form. Students admitted into the Medical Laboratory Technician program must attend a mandatory orientation meeting (MLT Seminar) to complete documentation to enter the program.

*See back of this guide for Program Requirements, Course Sequence and Transfer Opportunities*

### Minimum Program Entry Requirements

Students entering this program must meet the following minimum program entry requirements:

**Reading:** Score of 78+ or grade of "C" or better in READ 0722

**Writing:** Score of 78+ on Reading Comprehension or grade of "C" or better in ENGL 0922

**College Level Mathematics:** Score of 50+ or grade of "C" or better in MATH 0920

### Assessment Results and Prerequisites:

Students admitted into Saint Paul College programs may need to complete additional courses based on assessment results and course prerequisite requirements. Certain MATH, READ, and ENGL courses have additional prerequisites.

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# Medical Laboratory Technician AAS DEGREE *(continued)*

## Program Faculty

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 nicole.schroeder@saintpaul.edu

Students should consult with the program advisor to develop an appropriate educational plan.

## Program Requirements

Check off when completed

All classes must be successfully completed with a grade of "C" or better.

### MDLT Core Courses Cr

MDLT Core Courses can only be taken by students who have been officially accepted and admitted into the Medical Laboratory Technician Program.

- HLTH 1410 Medical Terminology . . . . . 1
- MDLT 1400 Orientation . . . . . 1
- MDLT 1410 Laboratory Techniques . . . . . 3
- MDLT 1421 Hematology 1 . . . . . 2
- MDLT 1422 Hematology 2 . . . . . 4
- MDLT 1430 Urinalysis/Body Fluids . . . . . 3
- MDLT 1441 Clinical Chemistry 1 . . . . . 2
- MDLT 1442 Clinical Chemistry 2 . . . . . 4
- MDLT 1446 Phlebotomy . . . . . 1
- MDLT 1510 Immunology . . . . . 2
- MDLT 2410 Immunohematology . . . . . 3
- MDLT 2420 Clinical Microbiology . . . . . 4
- MDLT 2430 Clinical Practice Orientation . . . . . 1
- MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis . . . . . 2
- MDLT 2591 Clinical Practice . . . . . 9
- MDLT 2593 Comprehensive Examinations . . . . . 1
- MDLT Core Credits Subtotal . . . . . 43**

### General Education/MnTC Requirements Cr

Refer to the Minnesota Transfer Curriculum Course List for each Goal Area

- Goal 1: Communication . . . . . 7  
 ENGL 1711 Composition 1 – 4 cr  
 COMM 17XX - 3 cr
- Goal 3: Natural Sciences . . . . . 16  
 BIOL 1730 Human Body Systems – 3 cr  
 BIOL 1740 General Biology 1: The Living Cell – 5 cr  
 CHEM1711 Principles of Chemistry 1 – 4 cr  
 CHEM1712 Principles of Chemistry 2 – 4 cr
- Goal 5: History, Social Science and Behavioral Sciences . . . . . 3  
 PSYC 1710 General Psychology OR  
 SOCI 1720 Social Problems (recommended)
- Goal 6: Humanities and Fine Arts. . . . . 3  
 PHIL 1722 Health Care Ethics (recommended)
- General Education Requirements . . . . . 29**

**Total Program Credits . . . . . 72**

Information is subject to change.  
 This Program Requirements Guide is not a contract.

## Recommended Supplemental Courses

The following optional Learning Lab courses reinforce the basic skills required for attaining proficiency in performing medical laboratory procedures:

- MDLT 1451 Learning Lab 1 – Introductory Skills. . . . . 1
- MDLT 1452 Learning Lab 2 – Introductory Skills. . . . . 1
- MDLT 1453 Learning Lab 3 – Intermediate Skills . . . . . 1
- MDLT 1454 Learning Lab 4 – Intermediate Skills . . . . . 1
- MDLT 2455 Learning Lab 5 – Advanced Skills . . . . . 1
- MDLT 2456 Learning Lab 6 – Advanced Skills . . . . . 1

## Program Start Dates

Fall

## Course Sequence

The following Course Sequence is required for full-time students. MDLT Core Courses can only be taken by students who have been officially accepted and admitted into the Medical Laboratory Technician program and who have attended the Mandatory Medical Lab Technician Seminar.

Accepted students progress through the major as a cohort and must take MDLT courses in sequence in the semester indicated. Non-MDLT coursework can be taken prior to acceptance into the MLT Major or during the semester indicated in the presented course sequence.

Students should consult with the program advisor to develop an appropriate educational plan. HLTH 1410 Medical Terminology must be completed by the end of the first semester in the MLT Major.

Not all courses are offered each semester. MDLT coursework can be started only Fall semester.

### First Semester

- HLTH 1410 Medical Terminology . . . . . 1
- MDLT 1400 Orientation. . . . . 1
- MDLT 1410 Laboratory Techniques. . . . . 3
- MDLT 1421 Hematology 1 . . . . . 2
- MDLT 1430 Urinalysis/Body Fluids . . . . . 3
- MDLT 1441 Clinical Chemistry 1 . . . . . 2
- MDLT 1446 Phlebotomy . . . . . 1
- Goal 3: CHEM 1711 Principles of Chemistry 1 . . . . . 4
- Goal 3: BIOL 1730 Human Body Systems. . . . . 3
- Total Semester Credits. . . . . 20**

### Recommended Supplemental Courses First Semester:

- MDLT 1451 Learning Lab 1 (Optional) . . . . . 1
- MDLT 1452 Learning Lab 2 (Optional) . . . . . 1

### Second Semester

- MDLT 1422 Hematology 2 . . . . . 4
  - MDLT 1442 Clinical Chemistry 2 . . . . . 4
  - MDLT 1510 Immunology. . . . . 2
  - Goal 3: CHEM 1712 Principles of Chemistry 2 . . . . . 4
  - Goal 3: BIOL 1740 General Biology 1. . . . . 5
  - Total Semester Credits. . . . . 19**
- Recommended Supplemental Courses Second Semester:
- MDLT 1453 Learning Lab 3 (Optional) . . . . . 1
  - MDLT 1454 Learning Lab 4 (Optional) . . . . . 1

## Third Semester

- Goal 1: COMM 17XX . . . . . 3
- Goal 1: ENGL 1711 Composition 1 . . . . . 4
- Total Summer Term Credits . . . . . 7**

## Fourth Semester (Year 2)

- MDLT 2410 Immunohematology. . . . . 3
- MDLT 2420 Clinical Microbiology . . . . . 4
- MDLT 2430 Clinical Practice Orientation . . . . . 1
- MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis . . . . . 2
- Goal 5: PSYC 1710 or SOCI 1720 recommended. . . . . 3
- Goal 6: PHIL 1722 Health Care Ethics recommended . . . . . 3
- Total Semester Credits. . . . . 16**

### Recommended Supplemental Courses Fourth Semester:

- MDLT 2455 Learning Lab 5 (Optional) . . . . . 1
- MDLT 2456 Learning Lab 6 (Optional) . . . . . 1

## Fifth Semester (Year 2)

- MDLT 2591 Clinical Practice . . . . . 9
- Total Semester Credits. . . . . 9**

## Sixth Semester

- MDLT 2593 Comprehensive Examinations . . . . . 1
- Total Summer Term Credits . . . . . 1**

**Total Program Credits . . . . . 72**

## Transfer Opportunities

Saint Paul College has a transfer articulation agreement between the following program and post-secondary institutions for the baccalaureate degree programs listed below.

For more information please go to [saintpaul.edu/Transfer](http://saintpaul.edu/Transfer).

### Medical Laboratory Technician AAS

- BA Health Care Administration  
 Concordia University, St. Paul
- BA Individualized Studies  
 Metropolitan State University
- BS Clinical Laboratory Science  
 Winona State University
- BS Healthcare and Human Service Management  
 Saint Mary's University,  
 Twin Cities Campus
- BS Medical Laboratory Science  
 University of North Dakota

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS):

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