

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 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 11% from 2018-2028 (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

The graduate will:

1. Demonstrate proper use, calibration, adjustment, and operation of laboratory precision instrumentation.
2. Demonstrate standard safety practices in the medical laboratory designed to prevent injury,

illness, or loss of life to those working in and/or around the 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. Correlate pathological conditions of the human body, including cause and symptoms, to the laboratory's role in diagnosis and treatment.
4. Demonstrate organized and efficient clinical laboratory work skills.
5. Perform a wide variety of testing procedures employed in a medical laboratory and relate the principles of quality assurance and 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, transfusion medicine, and immunology.
6. Be prepared to take the examination administered by the Board of Certification under the direction of the American Society for Clinical Pathology (ASCP).
7. Demonstrate effective interpersonal/professional/self-management skills in interactions with patients, colleagues and other members of the health care team.

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.

Program Progression

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) on the second Wednesday of fall semester through the last day in January or later until there are sufficient applicants to fill the open seats. This application window is for the subsequent fall semester start in the MLT Major. Applicants must meet the following criteria to submit the form:

- Completion of MDLT 1600 Medical Laboratory Math and CHEM 1711 Principles of Chemistry 1 ("C" grade or higher)
- Documented readiness for, or completion of, ENGL 1711 English Composition
- Achieve a cumulative GPA of 2.8 or better with a minimum grade of "C" in all required 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 completion of prerequisite courses, 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 email 6 weeks after the deadline date listed on the Application to the Medical Laboratory Technician Major 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 Additional Program Requirements, Program Faculty, Program Requirements and Start Dates, Course Sequence & Transfer Opportunities

Minimum Program Entry Requirements

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

Reading: Score of 250+ or grade of "C" or better in READ 0722 or READ 0724 or EAPP 0900

Writing: Score of 250+ or grade of "C" or better in ENGL 0922 or EAPP 0900

Quant. Reasoning, Algebra & Stats: Score of 270+ or **Adv. Algebra & Functions:** Score of 250+ 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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Additional Program Requirements

- Evidence of immunity to specific diseases prior to clinical experience placement
- Evidence of a cleared criminal background study prior to clinical experience placement

Program Faculty

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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.

| | |
|---|-----------|
| <input type="checkbox"/> HLTH 1410 Medical Terminology | 1 |
| <input type="checkbox"/> MDLT 1600 Medical Laboratory Math | 1 |
| <input type="checkbox"/> MDLT 1400 Introduction to Medical Laboratory Science | 1 |
| <input type="checkbox"/> MDLT 1410 Laboratory Techniques | 3 |
| <input type="checkbox"/> MDLT 1421 Hematology 1 | 2 |
| <input type="checkbox"/> MDLT 1422 Hematology 2 | 4 |
| <input type="checkbox"/> MDLT 1430 Urinalysis/Body Fluids | 3 |
| <input type="checkbox"/> MDLT 1441 Clinical Chemistry 1 | 2 |
| <input type="checkbox"/> MDLT 1442 Clinical Chemistry 2 | 4 |
| <input type="checkbox"/> MDLT 1446 Phlebotomy | 1 |
| <input type="checkbox"/> MDLT 1451 Learning Lab 1 – Introductory Skills | 1 |
| <input type="checkbox"/> MDLT 1452 Learning Lab 2 – Introductory Skills | 1 |
| <input type="checkbox"/> MDLT 1453 Learning Lab 3 – Intermediate Skills | 1 |
| <input type="checkbox"/> MDLT 1454 Learning Lab 4 – Intermediate Skills | 1 |
| <input type="checkbox"/> MDLT 1510 Immunology | 2 |
| <input type="checkbox"/> MDLT 2410 Immunohematology | 3 |
| <input type="checkbox"/> MDLT 2420 Clinical Microbiology | 4 |
| <input type="checkbox"/> MDLT 2430 Clinical Practice Orientation | 1 |
| <input type="checkbox"/> MDLT 2455 Learning Lab 5 – Advanced Skills | 1 |
| <input type="checkbox"/> MDLT 2456 Learning Lab 6 – Advanced Skill | 1 |
| <input type="checkbox"/> MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis | 2 |
| <input type="checkbox"/> MDLT 2591 Clinical Practice | 9 |
| <input type="checkbox"/> MDLT 2593 Comprehensive Examinations | 1 |
| MDLT Core Credits Subtotal | 50 |

General Education/MnTC Requirements Cr

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

| | |
|--|-----------|
| <input type="checkbox"/> Goal 1: Communication | 4 |
| ENGL 1711 Composition 1 – 4 cr | |
| <input type="checkbox"/> Goal 3: Natural Sciences | 12 |
| BIOL 1730 Human Body Systems – 3 cr | |
| BIOL 1740 General Biology 1: The Living Cell – 5 cr | |
| CHEM1711 Principles of Chemistry 1 – 4 cr | |
| <input type="checkbox"/> Goal 5: History, Social Science and Behavioral Sciences | 3 |
| PSYC 1710 General Psychology OR | |
| SOCI 1720 Social Problems (recommended) | |
| <input type="checkbox"/> Goal 6: Humanities and Fine Arts | 3 |
| PHIL 1722 Health Care Ethics (recommended) | |
| General Education Requirements | 22 |

Total Program Credits **72**

Program Start Dates

Fall

Course Sequence

The following Course Sequence is required for full-time students. With the exception of the prerequisite MDLT 1600 Medical Laboratory Math, 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. Non-MDLT coursework cannot be delayed and taken after 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.

Prerequisites

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|---|----------|
| Goal 3: CHEM 1711 Principles of Chemistry 1 | 4 |
| MDLT 1600 Medical Laboratory Math | 1 |
| Total Prerequisite Credits | 5 |

First Semester

| | |
|--|-----------|
| HLTH 1410 Medical Terminology | 1 |
| MDLT 1400 Introduction to Medical Laboratory Science | 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 |
| MDLT 1451 Learning Lab 1 | 1 |
| MDLT 1452 Learning Lab 2 | 1 |
| Goal 3: BIOL 1730 Human Body Systems | 3 |
| Total Semester Credits | 18 |

Second Semester

| | |
|-------------------------------------|-----------|
| MDLT 1422 Hematology 2 | 4 |
| MDLT 1442 Clinical Chemistry 2 | 4 |
| MDLT 1453 Learning Lab 3 | 1 |
| MDLT 1454 Learning Lab 4 | 1 |
| MDLT 1510 Immunology | 2 |
| Goal 3: BIOL 1740 General Biology 1 | 5 |
| Total Semester Credits | 17 |

Third Semester

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| Goal 1: ENGL 1711 Composition 1 | 4 |
| Goal 5: PSYC 1710 or SOCI 1720 recommended | 3 |
| Total Summer Term Credits | 7 |

Fourth Semester (Year 2)

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|--|-----------|
| MDLT 2410 Immunohematology | 3 |
| MDLT 2420 Clinical Microbiology | 4 |
| MDLT 2430 Clinical Practice Orientation | 1 |
| MDLT 2455 Learning Lab 5 | 1 |
| MDLT 2456 Learning Lab 6 | 1 |
| MDLT 2500 Molecular Diagnostics/Advanced Body Fluid Analysis | 2 |
| Goal 6: PHIL 1722 Health Care Ethics recommended | 3 |
| Total Semester Credits | 15 |

Fifth Semester (Year 2)

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| MDLT 2591 Clinical Practice | 9 |
| Total Semester Credits | 9 |

Sixth Semester

| | |
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| MDLT 2593 Comprehensive Examinations | 1 |
| Total Summer Term Credits | 1 |

Total Program Credits **72**

Transfer Opportunities

Saint Paul College has transfer agreements & partnerships between many post-secondary institutions. For more information please go to saintpaul.edu/Transfer.

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

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Rosemount, IL 60018-5119
Telephone: 773.714.8880
Fax: 773.714.8886
info@naacls.org | www.naacls.org

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