

PROGRAM INFORMATION

Academic Year:	2026-2027
Credential:	Ontario College Certificate
Program Delivery:	Full-Time
Duration:	1 Year
Length:	3 Semesters
Program Code(s):	H150 - Timmins Campus (PC)

DESCRIPTION

Northern College's Medical Laboratory Assistant/Technician (MLA/T) certificate program provides you with the knowledge and practical skills needed to work as an important member of the medical laboratory team. You'll build a strong foundation in anatomy and physiology, clinical chemistry, urinalysis, microbiology, hematology and immunohematology while developing essential skills in specimen collection, handling and processing.

Through hands-on learning in our medical laboratory, you'll develop skills in laboratory procedures and equipment, ECGs, Holter monitor setup, diagnostic services and clinical data management. You'll also learn about laboratory quality and professional practice while developing the communication and patient-care skills needed to interact safely, respectfully and professionally with patients and other healthcare professionals.

You'll further develop your skills through a clinical placement, where you'll have the opportunity to apply your knowledge and gain valuable experience in a professional laboratory environment. Together, classroom instruction, hands-on laboratory learning and clinical experience will help prepare you for entry into the workforce and employment in hospital and private laboratories, as well as other laboratory settings such as research, environmental and public health.

Students should be aware that working in a medical laboratory environment may involve exposure to challenging situations, including close patient contact, medical emergencies, trauma, mental health concerns and complex patient or family interactions. Students should be prepared to develop the professionalism, resilience and coping skills necessary to manage the demands of the workplace.

Clinical placements may be located outside of Timmins. Students are responsible for all costs associated with clinical placement, including travel, accommodation and living expenses.

Upon successful completion of all courses in the program of study, graduates are eligible to write the Medical Laboratory Professionals' Association of Ontario (MLPAO) Medical Laboratory Assistant/Technician certification examination or the applicable national certification examination offered by the Canadian Society for Medical Laboratory Science (CSMLS).

The program is accredited through Accreditation Canada's EQual™ program, which assesses health education programs against established standards for educational quality and helps support the preparation of competent healthcare professionals for the workforce.

CAREER OPPORTUNITIES

Employment opportunities for graduates may be available in hospitals, private and public health laboratories, clinics, veterinary laboratories, research laboratories, the mining sector and commercial diagnostic supply companies.

VOCATIONAL LEARNING OUTCOMES

1. Utilize health and safety measures to protect the environment and ensure the safety of patients, co-workers, and self.
2. Communicate laboratory and other data in written, electronic and verbal formats, accurately and completely.
3. Prepare a variety of laboratory solutions and media accurately and appropriately.
4. Demonstrate the safe and appropriate collection, and handling of specimens.
5. Perform a variety of laboratory tests using correct techniques.
6. Demonstrate the safe and appropriate use and care of specialized equipment within a medical laboratory.
7. Prepare laboratory specimens to a level of diagnostic quality.
8. Demonstrate proper technique in performing a venipuncture, a capillary stick and an arterial blood gas puncture to ensure a quality specimen.
9. Demonstrate competency in data entry/retrieval within laboratory information systems.
10. Perform laboratory duties within the scope of practice outlined in the RHPA, in compliance with current legislation, regulations, Standard and best practice guidelines.
11. Demonstrate effective communication on a personal and professional level.

PROGRAM COURSES

The following reflects the planned course sequence for full-time offerings of the program. Northern College programs are delivered using a variety of instructional methods. Depending on the course, learning may take place in the classroom or laboratory, entirely online, or through a hybrid format that combines in-person instruction with virtual learning activities.

Semester 1	Hours
CM1323 Professional Communications	42
GN1443 Indigenous Culture and Awareness	42
LT1013 Applied Anatomy & Physiology	42
LT1023 Professional Practice	42
LT1033 Specimen Collection and Handling Practice I	42
LT1034 Clinical Data Management	42
LT1043 Specimen Collection and Handling Theory I	42

Semester 2

LT2003	Diagnostic Services Practice	42
LT2004	Clinical Chemistry & Urinalysis	56
LT2005	Microbiology	70
LT2015	Practical Hematology & Immunohematology	70
LT2022	Diagnostic Services Theory	28
LT2034	Laboratory Administration and Quality	56

Semester 3

LT3010	Clinical Practice	187.5
--------	-------------------	-------

PROGRAM PROGRESSION

The following reflects the planned progression for full-time offerings of the program.

Fall Intake

Sem 1: Fall 2026

Sem 2: Winter 2027

Sem 3: Summer 2027

ADMISSION REQUIREMENTS

- Ontario Secondary School Diploma (OSSD)
- Grade 12 English (C,U)
- Grade 11 Math (C, M or U)
- Grade 11 or 12 Biology (C or U)
- Grade 11 or 12 Chemistry (C or U)
- Or equivalent

Computer proficiency in Microsoft Office (word processing, spreadsheets), web search engines and e-mail systems. Successful completion of Northern's two-semester Pre-Health Sciences program will also serve to meet the admission requirements for the **Medical Laboratory Assistant/Technician** program. Northern College does not offer testing for the science equivalencies.

Academic prerequisites for this program may be obtained free of charge through [Academic Upgrading](#).

For more details, please contact the Admissions Office at 705-235-7222 or admissions@northern.on.ca.

Applicant Selection Criteria: Where the number of eligible applicants exceeds the available spaces in the program, the Applicant Selection Criteria will be:

- Preference for permanent residents of Ontario
- Receipt of Application by February 1st
- Achievement in the Required Academic Preparation

Additional Requirements for International Students

In addition to the admission requirements, international students must have proof of [English Proficiency](#) and meet the requirements below.

1. Proof of Senior High School Diploma/Certificate with 50% in each equivalent for Mathematics, Chemistry and Biology.
2. English Proficiency (we will require one of the following):
 - IELTS Academic (International English Language Testing System – minimum overall score of 6.5 must be achieved with no individual band score under 6.0)
 - TOEFL (Test of English as a Foreign Language) – Internet Based Test (iBT) overall minimum score of 88+
 - PTE (Pearson Test of English) Academic 60+

If your country of citizenship has English as its official language, we may accept alternate proof of English Proficiency. All educational documents must be submitted in English and will be dependent on the country of citizenship. For more information, please contact admissions@northern.on.ca.

PROGRAM SPECIFIC REQUIREMENTS & ADDITIONAL INFORMATION

- [Medical Laboratory Assistant/Technician Clinical Requirements](#)
- Current Basic Cardiac Life Support (CPR – HP content). Standard First Aid Certificate (or equivalent)
- Physician's medical report as per guide supplied by the College Immunization record including Hepatitis B; two step Mantoux (with follow up chest x-ray if the test is positive)
- Employers who provide clinical placement settings require a criminal record check for criminal offenses before accepting a student into the clinical setting.
- A recent criminal/vulnerable sector record check (within 3 months of start of semester) is required prior to the start of the third semester.
- CPR re-certification, criminal reference checks and immunization updates are required annually. Any costs for these tests/certifications will be the responsibility of the student.
- To be eligible for participation in clinical training, students must not have been convicted of any criminal offence for which that person has not been pardoned. An unpardoned criminal record will result in an inability to participate in clinical placements and field internship courses and will prevent the student from graduating.

Entry into Semester 3: Students must successfully complete all courses in Semesters 1 and 2 before progressing to Semester 3.

Examination for Laboratory Technicians: Upon successful completion of all courses outlined in the program of study, graduates are eligible to write the Medical Laboratory Assistant/Technician certification examination offered by the Medical Laboratory Professionals' Association of Ontario (MLPAO) and/or the Canadian Society for Medical Laboratory Science (CSMLS).

N95 Mask Fit Testing: Students are required to successfully complete N95 mask fit testing as part of the program. To ensure an effective respirator seal, students must present for fit testing with no facial hair or other interference in the area where the respirator seals against the skin. Students must maintain an appropriate seal whenever an N95 respirator is required during program activities.

Work Integrated Learning Opportunities

During the final five weeks of the program, students complete a clinical placement in a professional laboratory setting. Under the supervision of qualified laboratory professionals, students can apply the knowledge and practical skills developed throughout the program while gaining valuable experience as part of the laboratory team. Northern College partners with clinical laboratories to provide students with meaningful work-integrated learning experiences. Placement locations may include sites within or outside the local region.

Clinical placement sites are subject to availability and may change from year to year. As a result, specific locations or geographic regions cannot be guaranteed, and students may be required to travel or temporarily relocate to complete their placement.

Important Information About Placements: Please note that when you accept a seat in the program, you also accept to go to any of the program's affiliated clinical sites available at the time of your placement. These sites may be in another town or city. The placement will be delivered at an accredited hospital or lab in Canada that is an approved clinical partner of Northern College. All related clinical placement expenses such as travel, parking, and accommodation are the responsibility of the student. Mask fit will be provided by Northern College prior to clinical placement.

Articulation / Transfer Agreements

A number of articulation agreements have been negotiated with universities and other institutions across Canada, North America and internationally. These agreements are assessed, revised and updated on a regular basis. Please contact the program coordinator for specific details if you are interested in pursuing such an option. Additional information can be found at [Articulation Agreements](#).

GRADUATION REQUIREMENTS

- 13 Program Courses
- 1 Communications Course
- 1 General Education Course

Graduation Eligibility

To graduate from the program, students must achieve a minimum grade of 60% in each core course or a grade of CR (Credit), where applicable, unless otherwise specified in the course outline. Students should consult the applicable program policies and course outlines for additional requirements or exceptions.

Graduation Window

Students unable to adhere to the program duration of one year (as stated above) may take a maximum of two years to complete their credential. After this time, students must be re-admitted into the program and follow the curriculum in place at the time of re-admission.

CONTACT INFORMATION

For questions about being admitted into the program, please contact Northern College Admissions at admissions@northern.on.ca or by phone at 705-235-3211 ext. 7222. For questions about the content of the program, contact the Program Coordinator.

Jennifer Jaszan, Program Coordinator
Email: jaszani@northern.on.ca

COURSE DESCRIPTIONS**Semester 1****CM1323 Professional Communications**

In this course, students will learn essential skills for success in college and the workplace. This course focuses on developing and strengthening oral and written communication skills, and critical thinking ability. During this course, students will engage in a variety of forms of communication with a focus on upholding the principles of academic integrity. Students will develop the skills necessary to create discipline-specific documents, practice business etiquette and professionalism, and apply critical thinking strategies to practical scenarios. Upon successful completion of this course, students will be able to plan and draft concise, coherent and well-organized writing assignments that are tailored to specific audiences and purposes.

GN1443 Indigenous Culture and Awareness

This general education course will provide students with an introduction to Canadian Indigenous Nations' history, sovereignty, land titles, cultural history, and current critical issues. Topics addressed include the content of Indigenous rights, economic and social development, community and political processes, and business law and policies, justice & social services. Canadian Indigenous History and Relations is a general education course that has been incorporated into all programs at Northern College.

LT1013 Applied Anatomy & Physiology

This course will assist the student to increase his/her foundational knowledge of the normal structure and functions of the major organ systems. This course will also assist the student to identify the common pathologies of the various organ systems and familiarize him/her with the relevant tests utilized for proper diagnosis. In addition, the student will gain an appreciation for the physical and biochemical changes from early childhood to the senior years.

LT1023 Professional Practice

This course will provide students with the knowledge to meet the legal and ethical requirements of the practice of a Medical Laboratory Assistant/Technician. The right of a patient to expect reasonable standard of care, professional responsibility to include the scope of practice will be covered in this course. Laboratory Safety and First Aid will be discussed from the scope of the worker, the client, and public health. Students will be expected to perform CPR. This course complies with the following Medical Laboratory Professional Association of Ontario competencies: Category #1, #5.6, 5.7, and the Canadian Society of Medical Laboratory Science competencies: Category #7.3, 7.3.5, 7.4, Category #8.

LT1033 Specimen Collection and Handling Practice I

This course will introduce students to the proper techniques for the collection of blood, urine and fecal specimens. Students will be introduced to the processing of specimens for the various tests and the importance of storage to ensure valid test results. Students will be introduced and utilize standard precautions in handling biological specimens. This course will provide students with opportunities to perform ECGs and set up Holter monitors. An exciting aspect of this course is the focus on the theoretical knowledge and skills needed to interact with patients in the collection of specimens. Legal and ethical issues pertaining to specimen collection and processing will be explored and discussed.

LT1034 Clinical Data Management

This course will assist the student in gaining familiarity with the use of a coherent system of measurement units vital to precise clinical laboratory analyses. Students will be introduced to statistical calculations and quality control methods. In addition, students will be able to perform mathematical calculations relating to clinical laboratory techniques.

LT1043 Specimen Collection and Handling Theory I

This course will introduce students to the proper techniques for the collection of blood and body fluid specimens. Students will be introduced to the processing of specimens for the various tests and the importance of storage to ensure valid test results. Students will be introduced and utilize standard precautions in handling biological specimens. This course will provide students with opportunities to perform ECGs and set up Holter monitors. An exciting aspect of this course is the focus on the theoretical knowledge and skills needed to interact with patients in the collection of specimens. Legal and ethical issues pertaining to specimen collection and processing will be explored and discussed. Students will be able to begin competency in data entry and laboratory information systems.

Semester 2**LT2003 Diagnostic Services Practice**

This hands-on course builds on the theoretical knowledge gained in LT1043, allowing students to apply specimen collection techniques in a controlled lab environment. Through supervised practice, students will refine their skills in collecting and processing blood specimens using standard precautions. Histology and Cytology specimen processing as well as specialized specimen collections for 24hr urine and fecal for parasites will be covered. Practical sessions include performing ECGs, setting up Holter monitors, and simulating patient interactions to reinforce communication and professionalism. Emphasis is placed on accuracy, safety, and confidence in executing procedures essential to the MLA/T role. This course is compliant with the Medical Laboratory Professionals Association of Ontario Competency #1, #4, #6, #7, and Canadian Society of Medical Laboratory Science Competency #1, #3, #4.

LT2004 Clinical Chemistry & Urinalysis

This course will assist students to understand the specimen requirements for all routine clinical chemistry tests. It will provide students with clinical laboratory practice to setup/load both automated and manual instrumentation including QC samples for initial analysis. Students will gain an understanding of the normal ranges for all routine chemistry tests, recognize variant results and report relevant information.

LT2005 Microbiology

This course will include theory and practical components that will assist students in functioning at an introductory level in the microbiology lab. The course includes major classes of microorganisms, common media used for bacterial identification, staining techniques, and specimen culture and sensitivity testing. The students will be introduced to quality control measures such as sterilization and disinfection, aseptic techniques and lab safety. The course also includes units on parasitology, mycology and virology. This course complies with the Medical Laboratory Professional Association of Ontario Competencies #2, #8 and the Canadian Society for Medical Laboratory Science competency # 4.

LT2015 Practical Hematology & Immunochemistry

This course will introduce students to the formed elements of blood, and the routine tests in hematology and blood bank departments. Students will learn the underlying principles, use and care of equipment found in the hematology and Transfusion Medicine departments. Students will learn how to prepare and stain a peripheral blood film and examine it for proper staining.

LT2022 Diagnostic Services Theory

This course focuses on the theoretical foundations of specimen collection and handling in clinical laboratory settings. Students will explore best practices for collecting specimens, with emphasis on technique, patient interaction, and ethical considerations. This course includes the principles of specimen processing, storage requirements for test validity, and the use of standard precautions when handling biological materials. Students will also gain foundational knowledge of ECG procedures and Holter monitor setup. Legal and professional responsibilities related to specimen collection will be discussed to prepare students for safe, compliant practice. This course is compliant with the Medical Laboratory Professionals Association of Ontario Competency #1, #4, #6, #7, and Canadian Society of Medical Laboratory Science Competency #1, #3, #4.

LT2034 Laboratory Administration and Quality

This course will introduce students to the organization and structure of the clinical laboratory and the movement of specimens from collection to analysis and storage. Students will gain an understanding of the complexity of laboratory systems that encompass the receipt, organization, prioritization, and transmission of information. Students will learn strategies for effective time management and priority setting. Students will be introduced to the various components of a quality assurance program within a medical laboratory.

Semester 3

LT3010 Clinical Practice

This course will provide students with an opportunity to apply theoretical knowledge in a clinical practice setting under the direction of a medical laboratory technician. The focus of this course is to allow for easy transition into the workplace environment. Students will be given the opportunity to become proficient at specimen collection and handling and be able to function as an effective member of a medical laboratory team.