Medical Laboratory Assistant/Technician | Diploma Program Collateral

Program Summary

41 Weeks | 900 Total Hours | Theory - Labs - Simulation - Clinical Placement | NOC 33101

The Medical Laboratory Assistant/Technician (MLAT) program at Oxford College provides students with the knowledge and skills needed to succeed in the medical laboratory field. The program is linear (students take one module at a time). The program begins with Essential Skills modules and moves through Health Sciences modules that provide a strong foundation for the advanced subjects in the core modules, where students will engage in theory and practical training in Oxford College's laboratory settings. The program concludes with a seven-week clinical placement, giving students the opportunity to gain valuable experience in medical laboratories located across a range of healthcare facilities. Learning takes place through a combination of classroom instruction, simulation labs, and clinical experience—allowing students to apply their knowledge in various real-world contexts. Theoretical concepts are taught before practical application, helping students feel confident and well-prepared before entering clinical settings. By the end of the program, successful graduates are eligible to write both the provincial Medical Laboratory Professionals' Association of Ontario (MLPAO) certification exam as well as the national Canadian Society for Medical Laboratory Science (CSMLS) board examination.

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or Equivalent
  OR
- Mature Student Status with Wonderlic 17

Clinic Requirements

The following documents are required within the first 60 days of Admission:

- Completed Immunization Record
- Clear CPIC

Note: Accepted Equivalency for an OSSD is a completed secondary diploma from any province in Canada.

Areas of Focus

Communication Skills
Ethics and Professionalism
Medical Terminology
Anatomy and Physiology
Laboratory Safety
Medical Laboratory Operations
Laboratory Testing
Infection Prevention and Control
Phlebotomy and Specimen Collection
Clinical Microbiology
Clinical Chemistry
Clinical Hematology
Transfusion Science
Quality Management

Job Profile

Medical Laboratory Assistants/Technicians play a vital role in the healthcare system by supporting the work of medical laboratory technologists and other healthcare professionals. They are responsible for collecting laboratory samples that help in the diagnosis, treatment, and prevention of diseases. Their duties often include preparing samples for analysis, performing basic laboratory testing procedures, recording and reporting results, and ensuring that laboratory equipment is properly set up, cleaned, and maintained. By adhering to strict safety and quality control standards, they help ensure the accuracy and reliability of test results. Their work behind the scenes contributes significantly to patient care and the overall efficiency of medical laboratories.

Potential employers include hospitals, clinics, laboratories, collection centers, research facilities, and medical offices.

Main Duties

- Collect blood and other samples from patients
- Log patient samples and prepare them for testing
- Set up medical laboratory equipment
- Conduct routine laboratory tests and sample analyses
- Perform quality assurance of testing techniques
- Clean and maintain medical laboratory and medical laboratory equipment

Program Fees

Fee updates go into effect on August 1st of each year, and all fees associated with the program are outlined in the Student Contract and MLAT Program Collateral.

Program Fee Information is also available to students on the MCU Portal:

https://www.pcc.tcu.gov.on.ca/PARISSearchWeb/searchResult.xhtml

The 2025 MLAT Program fees are as follows.

Tuition	$11995
International Student Fees	$2999
Book Costs	$2400
Book Fees Paid to Oxford College	$465
Expendable Supplies	$750
Uniform	$310
Professional Exam Fee	$510

Modules and Program Delivery

The following Table describes the Module Names in the program, as well as the mode of delivery.

Oxford College is approved by the MCU to offer the MLAT program in a hybrid format. Theoretical components are done synchronously online, while practical components are done in-person. All assessments for theoretical and practical components for the core MLAT modules (highlighted in grey) must be done in-person at the campus.

Online refers to modules that are completely done online through the Canvas LMS. Instructors provide live lectures via the Zoom platform. **Hybrid** refers to modules wherein the theory is done online through live lectures, and the labs are done in the Oxford College campus. Further detailed breakdowns of the theory: lab ratio in Hybrid settings are detailed below. **In-person** refers to a module that is completely done in-person. In the case of the MLAT program, this designation is applicable to the onsite Clinical setting which is an external setting (not on-campus).

Mode of Delivery	Module Name	Hours	Weeks
Online	Essential Skills I	40	1 - 2
Online	Essential Skills II	60	3 – 5
Online	Essential Skills III	20	6
Online	Documentation and Professional Writing	20	7
Online	Introduction to the Healthcare Workplace	30	8 – 9
Online	Introduction to Healthcare Laws and Ethics	30	9 – 10
Online	Practical Math	28	11 – 12
Hybrid	First Aid and CPR	12	12
Online	Infection Prevention and Control	20	13
Online	Medical Terminology	40	14 – 15
Online	Introduction to Anatomy and Physiology	60	16 – 18
Hybrid	Introduction to Laboratory and Safety	40	19 – 20
Hybrid	Phlebotomy and Specimen Collection	40	21 – 22
Hybrid	Laboratory Skills Practice	20	23
Hybrid	Laboratory Skills II – P.O.C.T, ECGs & Holter Monitors	20	24
Hybrid	Introduction to Hematology and Transfusion	40	25 – 26
Hybrid	Clinical Microbiology	60	27 – 29
Hybrid	Introduction to Clinical Chemistry	40	30 - 31
Hybrid	Introduction to Histology and Cytology	40	32 – 33
Hybrid	Final Review	16	34
Online	Final Exam	4	34
In-person	Clinical Placement	220	35 – 41
Total		**900**	**41**

Course Descriptions

GEES 106 – Essential Skills I

Exploring essential skills for work, learning and life, this college orientation Module focuses on several key elements that will provide students with the tools they need to succeed. Being a successful student means recognizing how you learn, what you value, and what you are striving for. It means learning how to take notes, how to take tests, and how to make well thought out decisions. Being a successful student requires you to learn how to research, how to write, and how to present. It involves collaborating with others and using technology to make your work more effective and efficient. Throughout the Module, students will engage in critical thinking, practice effective and professional communication and develop strong presentation skills in a variety of group settings and sizes.

GEES 107 – Essential Skills II

This Module equips students with essential financial literacy skills through the Enriched Academy program, specifically tailored for Oxford College students. They will learn to effectively manage personal and professional finances, including budgeting, saving, investing, and understanding credit. Through interactive lessons, real-world case studies, and practical exercises, students will gain the knowledge and confidence to make informed financial decisions. The program provides the tools needed to build financial stability and success, preparing students to navigate financial challenges both during their studies and in their future careers.

GEES 108 – Essential Skills III

In this module, students will develop career-planning skills, create effective resumes and cover letters, understand the importance of networking, and practice interview techniques. The summative assessment for the Essential Skills Module is in the form of a Mock Interview where students will demonstrate the skills acquired throughout the Module in an interview setting with their instructor.

HSHC 106 – Introduction to the Healthcare Workplace

This Module provides a comprehensive introduction to the various components of health care and health care delivery in Canada, with a particular focus on the historical development of the country's health care system. Students will explore the evolution of health care policies, key milestones in Canadian health care history, and the impact of historical events on current practices. The Module also examines the roles and responsibilities of both federal and provincial governments in shaping and managing health care services, including funding, regulation, and policy development. Through discussions, case studies, and analysis of real-world examples, students will gain a deeper understanding of how health care is structured and delivered across different regions of Canada.

HSHE 106 – Introduction to Healthcare Laws and Ethics

This Module provides students with a comprehensive introduction to various health care practitioners and practice settings, offering insight into the diverse roles and responsibilities within the Canadian health care system. It explores the legal framework governing health care, including key laws and regulations that shape professional practice and patient care. Additionally, the Module examines ethical principles and dilemmas in health care, emphasizing their impact on decision-making and patient rights. Students will also analyze current issues affecting the health care sector, such as accessibility, technological advancements, and workforce challenges, while exploring emerging trends that may influence the future of health care in Canada. Through case studies, discussions, and critical analysis, students will gain a deeper understanding of the evolving landscape of health care and its implications for both practitioners and patients.

HSDW 106 – Documentation and Professional Writing

This Module equips students with essential skills for accurate and professional medical documentation. Students will learn the purpose of charting, explore different chart types, and practice documenting complete and accurate patient information. Emphasis is placed on proper formatting, grammar, spelling, and the use of clear, profession-specific language. Students will also gain proficiency in medical abbreviations, electronic health records management, and creating reports and professional correspondence. Additionally, the Module reinforces the importance of patient confidentiality and the right to access health records. Through practical exercises, students will develop the skills needed to manage medical information effectively in health care settings.

HSTM 106 – Practical Math

This Module will focus on the steps involved in addition, subtraction, multiplication, and division of both whole numbers and decimals. In addition, this Module will focus on the various forms of fractions including improper fractions and mixed numbers. Methods of adding, subtracting, multiplying and dividing fractions and mixed numbers are also explored. Conversions between percentages and decimals will be studied as well as identifying the part, rate, and base. Percent increase and decrease will also be calculated and interpreted. The metric system will be reviewed, with emphasis on the metric conversions including length, area, weight, volume, and temperature. Lastly, students will calculate various foreign currency exchanges.

GEFA 106 – First Aid and CPR

This subject is designed for individuals to learn about how to deal with common medical emergencies including choking and cardiac arrest for the infant, child and adult Emphasis is placed on recognition of the signs and symptoms of common medical emergencies to ensure appropriate care for the casualty. This subject consists of both theory and practical based learning. Practical hands-on components are supported by a variety of training materials, based on Module requirements.

HSIC 106 – Infection Prevention and Control

This is an introductory Module is designed to provide students enrolled in all health science programs a solid foundation in infection prevention and control best practices according to the Ministry of Health & Long Term Care.

HSMT 106 – Medical Terminology

This Module introduces students to the human body through medical terminology, providing a foundation for understanding healthcare language.

Students will learn the structure of medical terms, including prefixes, suffixes, and root words, to help them interpret and communicate medical information effectively. Topics include the anatomy of words, an overview of the body, and an introduction to body systems. Emphasis will be placed on understanding how terminology is used in medical records, diagnostics, and clinical settings. By the end of the Module, students will have a solid grasp of essential medical terminology used in healthcare professions.

HSAP 106 – Anatomy and Physiology

In this Module, students will learn about all the major body systems, including cells, tissues, organs, and their functions. A comprehensive understanding of human anatomy and physiology will be emphasized to provide foundational knowledge for medical and laboratory applications. The Module will also cover common pathologies associated with each system, helping students understand disease processes and their impact on the human body. Additionally, students will explore the principles of pharmacology, including drug classifications, mechanisms of action, and their applications in treating various conditions. This knowledge will be applied to different pathologies and systems to develop an understanding of medical interventions.

MLLS 106 – Introductory to Laboratory and Safety

In this Module, students will develop a strong understanding of the acts and regulations governing medical laboratory assistants/technicians (MLATs). Key topics include the principles of Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), and other essential safety practices. Students will also learn about patient care standards, including confidentiality, chain of custody, and ethical considerations. The Module will introduce students to the proper care and use of general laboratory equipment and supplies. By the end of the Module, learners will be well-prepared to work in a laboratory setting while ensuring compliance with safety and legal standards.

MLSP 106 – Phlebotomy and Specimen Collection

This Module equips students with the theoretical knowledge and practical skills required for specimen collection, handling, and processing. Students will learn proper phlebotomy techniques, including venipuncture and capillary blood collection, with a focus on minimizing patient discomfort and ensuring sample integrity. Laboratory exercises will provide hands-on experience in specimen processing, troubleshooting common phlebotomy issues, and adhering to safety protocols. Emphasis will also be placed on patient care, infection control, and ethical considerations in specimen collection. Practical skill competencies will be demonstrated on simulated patients, peers, and other volunteers.

MLAB 106 – Laboratory Skills Practice I

This Module provides learners with essential skills applicable across all departments of a clinical laboratory. Students will develop competencies in reagent and quality control (QC) preparation, laboratory mathematics, and statistical analysis. A strong emphasis will be placed on understanding reference ranges, critical values, and their significance in patient care. Additionally, learners will gain experience in sample preparation and separation techniques used in diagnostic testing. By the end of the Module, students will be well-versed in fundamental laboratory procedures necessary for accurate and efficient lab operations.

MLAB 206 – Laboratory Skills II – P.O.C.T, ECGs and Holter Monitors

This Module provides students with the skills necessary to perform electrocardiograms (ECGs) and place Holter monitors for cardiac monitoring. Students will gain an understanding of point-of-care testing (P.O.C.T.) and the laboratory's role in bedside diagnostics. The Module will cover patient preparation, proper lead placement for ECGs and Holter monitors, and identification of common artifacts or interferences. Additionally, students will learn how to maintain and troubleshoot ECG equipment to ensure accurate readings. Hands-on practical exercises will be conducted using simulated patients, peers, and other volunteers to reinforce learning.

MLHP 106 – Introduction to Hematology and Transfusion

This Module introduces students to hematology and coagulation laboratory procedures, including the principles of instrumentation and blood film examination. Students will gain hands-on experience in blood sample preparation, staining, and microscopic identification of blood cells. The Module will also provide an introduction to transfusion science, covering topics such as blood grouping, compatibility testing, and blood product storage protocols. Emphasis will be placed on understanding coagulation disorders and their diagnostic testing methods. Laboratory sessions will reinforce theoretical knowledge and technical skills required for hematology and transfusion science.

MLCM 106 – Clinical Microbiology

This Module introduces students to the essential concepts and techniques used in the clinical microbiology laboratory. Learners will explore the processing and handling of microbiology specimens, including proper collection, storage, and transportation. Students will gain practical experience in media preparation, inoculation techniques, and the operation of microbiology laboratory equipment. The Module will also cover fundamental microbiological principles, including microbial identification and safety protocols. Emphasis will be placed on aseptic techniques and quality control measures to ensure accurate and reliable laboratory results.

MLLT 106 – Introduction to Clinical Chemistry

This Module provides students with an introduction to clinical chemistry, focusing on the principles and techniques used in biochemical analysis. Topics include reagent preparation, equipment operation, maintenance, and quality control procedures. Learners will explore the role of clinical chemistry in diagnosing and monitoring diseases, with an emphasis on understanding laboratory test results. The Module will also cover urinalysis techniques and the interpretation of findings in relation to patient health. By the end of the Module, students will have a strong foundation in the fundamental concepts of clinical chemistry.

MLHG 106 – Introduction to Histology and Cytology

This Module provides students with a foundational understanding of histology and cytology, focusing on the processing, staining, and storage of tissue and cellular specimens. Learners will explore techniques used in preparing histological and cytological samples for microscopic examination. The Module covers key principles of tissue fixation, sectioning, and staining, with an emphasis on identifying cellular structures. Students will also learn about quality control measures and best practices for specimen preservation. By the end of the Module, students will have a strong grasp of the laboratory procedures used in histology and cytology.

MLFR 106 – Final Review

This Module offers students simulated laboratory experience and an extensive review of all material covered in the MLAT core modules. The curriculum is designed to reinforce technical competencies and theoretical knowledge in preparation for clinical placement. Students will engage in hands-on practice with laboratory techniques, quality control measures, and troubleshooting scenarios. The Module also includes a comprehensive review to prepare students for a mock MLAT certification exam. By completing this Module, students will gain confidence in their ability to apply their knowledge in real-world laboratory settings.

MLEE 106 – Final Exam

This Module provides students with an opportunity to demonstrate their knowledge through a comprehensive MLAT mock exam. Learners will review key concepts from all core modules, reinforcing their understanding of laboratory procedures, safety regulations, and technical skills. The Module will focus on exam strategies, time management, and critical thinking to prepare students for certification assessments. Additionally, students will receive feedback on their performance to identify areas for improvement. By the end of the Module, students will be better prepared for success in their MLAT certification exams.

FPML 900 – Clinical Lab Placement

This Module provides students with the opportunity to gain real-world experience in a clinical laboratory setting. Learners will apply the theoretical knowledge and practical skills acquired throughout their training in a supervised environment. Students will perform specimen collection, processing, and laboratory testing under the guidance of experienced professionals. Emphasis will be placed on professional conduct, adherence to safety regulations, and accuracy in laboratory procedures. This placement experience will help students transition from academic training to professional practice in a healthcare laboratory.

Physical and Psychological Demands of Profession

The MLAT program requires students to meet various physical and psychological demands to perform essential laboratory tasks effectively. Physically, students must have the stamina to stand for extended periods, move between workstations, and perform repetitive tasks such as pipetting, specimen handling, and operating laboratory equipment. Manual dexterity and fine motor skills are crucial for tasks that require precision, such as preparing slides, drawing blood, and labeling samples. Additionally, students must have the ability to lift and transport laboratory supplies and specimens, which may involve handling biohazardous materials while adhering to strict safety protocols.

Psychologically, students must be prepared to work in a fast-paced and sometimes high-stress environment where attention to detail is critical. They must remain focused and organized while handling multiple tasks, ensuring accuracy in specimen processing and test results. Emotional resilience is also essential, as students may encounter difficult situations, such as dealing with anxious or uncooperative patients during specimen collection. Strong communication and teamwork skills are necessary for interacting with healthcare professionals and following strict guidelines to maintain patient safety and laboratory integrity.

Clinical Placement Considerations

Clinical placement is part of the learning experience and is 220 hours over a seven-week period. All seven weeks MUST be attended and students are not permitted to finish placement early. Placement will begin after the student has completed all modules and has successfully completed the final exam.

Students are encouraged to promptly communicate any special placement accommodation requests to the career services, who will relay to the Clinical Placement Coordinator. It is the responsibility of all students to arrange for transportation to and from the placement site.

All placement sites will take place within a maximum 100 Km radius of the student's campus.

The Campus locations are as follows:

Campus	Address
Barrie Campus	320 Bayfield Street, Suite B100. Barrie, ON. L4M 3C1.
Burlington Campus	3187 Harvester Road. Burlington, ON. L7N 3N8.
Mississauga Campus	1300 Central Parkway West. Mississauga, ON. L5C 4G8.
Peterborough Campus	360 George Street North, Unit 16. Peterborough, ON. K9H 7E7.
Scarborough Campus	670 Progress Avenue. Scarborough, ON. M1H 3A4.
Toronto Campus	920 Yonge Street. Toronto, ON. M4W 3C7.

Program Outcomes

Upon the completion of MLAT program at Oxford College, it is expected that MLAT students will be able to:

- Demonstrate knowledge of the pertinent theoretical and practical items in the MLPAO and CSMLS core competency guidelines
- Verify relevant data and ensure that appropriate specimens are procured according to established protocols
- Conduct professional practice according to established protocols, safety guidelines, and existing legislation
- Understand the ethical and legislative framework that influences the practice of Medical Laboratory Technology
- Understand and apply institutional policies and procedures.
- Practice quality management

Examination and Certification

CSMLS Medical Laboratory Assistant (MLA) Certification Exam:

The Canadian Society for Medical Laboratory Science (CSMLS) offers a national certification exam for MLATs. This exam assesses candidates on competencies such as specimen collection, handling, and processing, as well as laboratory safety and communication skills. Successful completion grants the "Certified MLA" designation, recognized across Canada.

The CSMLS MLA exam is administered four times annually: February 24–28, 2025 | June 23–27, 2025 | August 18–22, 2025 | October 27–31, 2025

MLPAO Medical Laboratory Assistant/Technician (MLA/T) Certification Exam:

The Medical Laboratory Professionals' Association of Ontario (MLPAO) offers a provincial certification exam for MLATs in Ontario. This certification is widely recognized by employers within the province. The exam evaluates competencies in areas like specimen collection, laboratory procedures, and safety protocols.

The MLPAO MLA/T exam is conducted online and is offered four times a year: March 21, 2025 | June 12, 2025 | September 12, 2025 | November 14, 2025

Registration periods for each exam date are specified on the MLPAO website. Candidates must provide proof of graduation or enrollment in an MLPAO-approved program.