MEDICAL LABORATORY TECHNOLOGY

Program: MLBT
Credential: Ontario College Advanced Diploma
Delivery: Full-time
Work Integrated Learning: 2 Clinical Placements
Length: 6 semesters
Duration: 3 Years
Effective: Fall 2024
Location: Barrie

Description

The Medical Laboratory Technology program prepares students to become integral members of the health care team as Registered Medical Laboratory Technologists. Through a blend of classroom learning, laboratory activities and clinical placements, students develop the knowledge, technical and critical thinking skills essential to safely and reliably collect and analyze patient samples in a fast-paced clinical environment. Analysis of samples provides timely and critical information to support diagnostic decisions and to evaluate the efficacy of treatment plans.

Students in this high-tech health care program learn to operate sophisticated equipment to measure components of blood and body fluids through course work related to clinical chemistry and clinical hematology. They prepare cultures of collected micro-organisms for identification as part of course work in clinical microbiology, and prepare tissue samples for histological study. Through hands-on practice, students perform blood typing and cross-matching of blood to support blood transfusions within the clinical environment, learn to draw blood safely from patients, and develop other collecting techniques related to the profession.

This program is a great fit for students with keen interests in science, technology and health care, and a passion for solving problems. Students develop the organizational and technical skills to perform their work with efficiency, accuracy and precision in accordance with quality assurance guidelines for the profession.

Career Opportunities

Graduates of this program may find employment in a variety of settings and roles, including the following:

- medical laboratory technologist in hospitals, private and public medical laboratories
- sales and service of equipment used in medical laboratories
- quality control technicians in a variety of industries
- research assistants, lab technicians in research environments, pharmaceutical companies
- public health consultancy

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. perform clinical laboratory procedures and analytical techniques in conformance with approved safety guidelines, established protocols and existing legislation;
2. assess and verify sample data to ensure that appropriate specimens are collected and handled according to established protocols in preparation for laboratory analysis;
3. perform complex analytical procedures and assess results on a variety of specimens to aid in the diagnosis, treatment, care, and management of patients' clinical conditions;
4. evaluate pertinent laboratory data in order to interpret, document, and report laboratory results and draw conclusions;
5. practice and promote the principles of quality management systems in order to meet established policies, processes, and protocols;
6. investigate, and evaluate processes in order to recommend and undertake corrective measures for identified technical errors and equipment malfunctions;
7. interact with clients, patients, and health care professionals using effective communication, teamwork skills and inter-professional collaboration to provide quality laboratory analysis service;
8. comply with the legal and ethical requirements of professional practice to protect the patient's right to a reasonable standard of care.

External Recognition

Upon completion of this program and pending approval by EQual Accreditation to "Accredited with Conditions" status for the program, graduates are eligible to write the Canadian Society for Medical Laboratory Science (CSMLS) registration exams. Upon successful completion of these exams, students are qualified to practice as a Medical Laboratory Technologist and work in a variety of settings.

Program Progression

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

Fall Intake

- **Sem 1:** Fall 2024
- **Sem 2:** Winter 2025
- **Sem 3:** Fall 2025
- **Sem 4:** Winter 2026
- **Sem 5:** Fall 2026
- **Sem 6:** Winter 2027

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent, or mature student status
- Grade 12 Mathematics (C or U)
- Grade 12 English (C or U)
- Grade 11 or 12 Biology (C or U)
- Grade 12 Chemistry (C or U)

Graduates from the Medical Laboratory Assistant (MLBA) program at Georgian College can apply to the Medical Laboratory Technology (MLBT) program with advanced standing. A minimum grade point average of 65% is recommended.

Admission requirements may be met by completing the Pre-Health Sciences Pathway to Advanced Diplomas and Degrees certificate, or equivalent courses from the Academic Upgrading programs offered by Colleges across Ontario.

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: www.georgiancollege.ca/admissions/academic-regulations/ (https://www.georgiancollege.ca/admissions/academic-regulations/)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit for Prior Learning website for details: www.georgiancollege.ca/admissions/credit-transfer/ (https://www.georgiancollege.ca/admissions/credit-transfer/)

Selection Process

Applicants will be assessed and ranked based on academic grades.

Criminal Reference/Vulnerable Sector Check

Placement agencies require an up-to-date clear criminal reference check and vulnerable sector check prior to going out on placement. Students should obtain their criminal reference three months prior to placement; checks conducted earlier may not be considered current. As some jurisdictions require longer lead-time for processing, please check with the program coordinator to ensure you allow for sufficient turn-around time. It is the student's responsibility to provide the completed document prior to placement start.

NOTE: Individuals who have been charged or convicted criminally and not pardoned will be prohibited from proceeding to a clinical or work placement.

Additional Information

Prior to beginning clinical placements, students must complete the following:

- A mask fit test, renewed every two years;
- Level HCP CPR and Standard First Aid (On-line courses are not acceptable);
- Up-to-date immunization records in compliance with the Public Hospitals Act. Completion and submission of this record is required to ensure your placement in clinical and field placement facilities;
- An up-to-date clear criminal reference check and vulnerable sector screen (renewed regularly so that it is never more than 6 months old).

Placement agencies require an up-to-date clear criminal reference check and vulnerable sector check prior to going out on placement. Students should obtain their criminal reference no more than three months prior to placement; checks conducted earlier may not be considered current. As some jurisdictions require longer lead-time for processing, please check with the program coordinator to ensure you allow for sufficient turn-

around time. It is the student's responsibility to provide the completed document prior to placement start.

NOTE: Individuals who have been charged or convicted criminally and not pardoned will be prohibited from proceeding to a clinical or work placement.

Applicants are encouraged to obtain volunteer or work experience in a health or human service field to assist them in making a career choice.

In order to provide quality practicum placements, students are placed in a variety of agencies in the region serviced by the campus. Students are required to provide their own transportation to practicum placements. Placements may be 6, 8, 10- or 12-hour days and may include holidays, weekends, nights and evenings starting as early as 0600.

Graduation Requirements

33 Program Courses
2 Clinical Placements
2 Communications Courses
3 General Education Courses

Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, from year to year, and to graduate is 60%. Additionally, a student must attain a minimum on 60% or a letter grade of P (Pass) or S (Satisfactory) in each program course or clinical in each semester, and must attain a minimum of 50% in general education and communication courses unless otherwise stated on the course outline.

Program Tracking

The following reflects the planned course sequence for full-time offerings of the Fall intake of the program. Where more than one intake is offered contact the program co-ordinator for the program tracking.

Semester 1		Hours
Program Courses		
BIOL 1044	Anatomy, Physiology and Medical Terminology	42
MATH 1045	Medical Laboratory Mathematics	42
MLAB 1000	Quality Assurance and Control	42
MLAB 1001	Lab Equipment and Safety	42
Communications Course		
Select 1 course from the communications list during registration.		42
General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	252
Semester 2		
Program Courses		
BIOL 1045	Molecular Techniques	42
BIOL 1046	Specimen Collection Lab	42
BIOL 1047	Histo - Cyto Specimen Collection	42
BIOL 1048	Lab Techniques - Hematology	42
BIOL 1049	Lab Techniques - Microbiology	56
CHEM 1015	Lab Techniques - Chemistry	42
MLAB 1002	Introduction to Transfusion	42
	Hours	308
Semester 3		
Program Courses		
BIOL 2027	Clinical Microbiology 1	28

BIOL 2028	Clinical Microbiology Lab 1	42
CHEM 2007	Clinical Chemistry 1	28
CHEM 2008	Clinical Chemistry Lab 1	42
MLAB 2000	Clinical Histotechnology 1	28
MLAB 2001	Clinical Histotechnology Lab 1	42
MLAB 2002	Transfusion Science 1	28
MLAB 2003	Transfusion Science Lab 1	42
MLAB 2004	Clinical Hematology 1	28
MLAB 2005	Clinical Hematology Lab 1	42
	Hours	**350**

Semester 4

Program Courses		
BIOL 2029	Clinical Microbiology 2	28
BIOL 2030	Clinical Microbiology Lab 2	42
CHEM 2009	Clinical Chemistry 2	28
CHEM 2010	Clinical Chemistry Lab 2	42
MLAB 2006	Clinical Histotechnology 2	28
MLAB 2007	Clinical Histotechnology Lab 2	42
MLAB 2008	Clinical Hematology 2	28
MLAB 2009	Clinical Hematology Lab 2	42
MLAB 2010	Transfusion Science 2	28
MLAB 2011	Transfusion Science Lab 2	42
	Hours	**350**

Semester 5

Program Courses		
MLAB 3000	Comprehensive Review 1	28
Clinical Placement		
MLAB 3001	Clinical Placement 1	210
Communications Course		
Select 1 course from the communications list during registration.		42
General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	**322**

Semester 6

Program Courses		
MLAB 3002	Comprehensive Review 2	28
Clinical Placement		
MLAB 3003	Clinical Placement 2	210
General Education Course		
Select 1 course from the general education list during registration.		42
	Hours	**280**
	Total Hours	**1862**

Graduation Window

Students unable to adhere to the program duration of three years (as stated above) may take a maximum of six 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.

Disclaimer: *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.