



# CLT Program Spring 2024 Information for Prospective Students

## Overview

The application deadline each year is January 31 for admission to the following fall semester.

The program was developed in response to area demand for clinical laboratory technicians and the positive growth outlook for the profession. It is housed within the Biology Department on the Brighton Campus.

The curriculum consists of Biology, Chemistry, and Mathematics courses in addition to General Education and CLT-specific courses. The final semester includes clinical rotations in area clinical laboratories. The Associate in Applied Science (A.A.S.) degree is awarded upon completion of the requirements for this program.

## Accreditation

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 N River Rd

Suite 720

Rosemont, IL 60018

773.714.8880

773.714.8886 (FAX)

[www.naacls.org](http://www.naacls.org)

## Is This Career a Good Fit?

A Clinical Laboratory Technician (also known as Medical Laboratory Technician) should be strong in sciences and mathematics, be comfortable with computers and complicated instrumentation, and be interested in working in healthcare but not necessarily interested in having extensive patient contact. Critical skills include attention to detail, active listening, critical thinking, using scientific processes to solve problems, willingness to follow rules and specific instructions, and good judgment and decision making. A CLT must have good manual dexterity, hand-eye coordination, close vision, and reasoning ability. More details about the characteristics of a CLT can be found at [O\\*NET Online](#).

If this sounds good so far, read on!

## Program Mission Statement

The mission of the MCC CLT program is to prepare students for certification/licensure and employment as clinical laboratory technicians by providing a high-quality, comprehensive course of study in clinical laboratory science. This is accomplished by focusing on in-depth technical knowledge, offering hands-on clinical experience, and providing guidance in ethics and professionalism.

## Program Goals

- Prepare students for entry level positions as Clinical Laboratory Technicians
- Support the College mission by offering a program that allows diverse students to transform their lives with a medical career that is in high demand in the Rochester area and beyond.

- Support MCC's Strategic Plan by: a) providing CLT students experiential learning opportunities with community partners and b) forming partnerships with secondary schools and colleges and universities to create a career pathway for clinical laboratory students.
- Meet or exceed a 3-year running average of
  - 75% certification examination pass rate
  - 70% graduation rate (as defined by NAACLS)
  - 70% placement rate (as defined by NAACLS)

## Competencies for an Entry Level CLT

At entry level, the clinical laboratory technician will possess the entry level competencies necessary to perform routine clinical laboratory tests in areas such as Clinical Chemistry, Hematology/Hemostasis, Immunology, Immunohematology/Transfusion medicine, Microbiology, Urine and Body Fluid Analysis, and Laboratory Operations.

The level of analysis ranges from waived and point of care testing to complex testing encompassing all major areas of the clinical laboratory. The clinical laboratory technician will have diverse functions in areas of preanalytical, analytical, postanalytical processes. The medical laboratory technician will have responsibilities for information processing, training, and quality control monitoring wherever clinical laboratory testing is performed.

At entry level, the clinical laboratory technician will have the following basic knowledge and skills in:

- A. Application of safety and governmental regulations compliance;
- B. Principles and practices of professional conduct and the significance of continuing professional development;
- C. Communications sufficient to serve the needs of patients, the public and members of the health care team.<sup>1</sup>

The CLT Program at MCC is designed to prepare our graduates for these entry-level expectations.

## Program Objectives

Graduates of the CLT Program will be able to:

- Properly collect patient samples.
- Properly process patient samples.
- Perform analytical testing accurately on patient samples.
- Explain or demonstrate appropriate post-analytical procedures.
- Explain the methodologies of common clinical laboratory tests.
- Correlate clinical laboratory test results with human health.
- Comply with organizational, state, and federal regulations for clinical laboratories.
- Demonstrate professional conduct.
- Explain the significance of continuing professional development within the profession.
- Demonstrate communication skills appropriate to clinical situations.

## Academic Admission Requirements

- High school diploma or GED

- Intermediate Algebra II with Trigonometry Regents score of 83 or higher (or MTH 165 with a C or higher)
- Biology with a C or higher

High school Chemistry (or equivalent) is strongly recommended.

## Applying to the Program

- The program uses competitive enrollment, using a quality point system similar to other MCC health-related programs. Details are available from Admissions and Advising.
- Current MCC students must complete a program change request by clicking the Change Major tile within the Student Home tile in myMCC.
- Prospective students who are not current MCC students must complete and submit the MCC Application for Admission, indicating the CLT Program (Program Code is CL01) in section E of the application. A link to the application can be found on the MCC homepage.

## Program Essential Functions\*

Essential functions are those capabilities required of all individuals enrolled in a course of study and are essential for completion of the curriculum. The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), which accredits CLT educational programs, and the Americans with Disabilities Act mandate that the essential functions be made available to prospective students and the public. A student applying to the CLT Program must confirm that they are able to perform these essential functions with or without reasonable accommodation as a requirement for admission. The following are the essential functions for the CLT Program at MCC.<sup>2</sup>

### *Visual and Observation Skills*

A student in the CLT program must possess sufficient visual skills and skills of observation to perform and interpret laboratory assays, including the ability to:

- Observe laboratory demonstrations in which lab procedures are performed on patient samples (i.e. body fluids, culture materials, tissue sections, and cellular specimens).
- Characterize the color, consistency, and clarity of biological samples or reagents.
- Use a clinical grade binocular microscope to discriminate among fine differences in structure and color (i.e. hue, shading, and intensity) in microscopic specimens.
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor.
- Recognize alarms.

### *Motor and Mobility Skills*

A CLT student must possess adequate motor and mobility skills to:

- Perform laboratory tests adhering to existing laboratory safety standards.
- Move freely and safely about a laboratory.
- Perform moderately taxing continuous physical work. This work may require prolonged sitting and/or standing over several hours and some may take place in cramped positions.
- Lift and move objects of at least 20 pounds.
- Reach laboratory bench tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture.

- Perform fine motor tasks such as pipetting, inoculating media, withdrawing a blood sample from a patient, handling small tools and/or parts to repair and correct equipment malfunctions, and transferring drops into tubes of small diameter.
- Use a computer keyboard to operate laboratory instruments to calculate, record, evaluate, and transmit laboratory information.

### ***Communication Skills***

A CLT student must possess adequate communication skills to:

- Read and comprehend technical and professional materials (i.e. textbooks, magazine and journal articles, handbooks, standard operating procedures, and instruction manuals)
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures
- Clearly instruct patients prior to specimen collection.
- Communicate with individuals and groups in English (i.e. faculty members, fellow students, staff, patients, and other health care professionals) verbally and in recorded format (person-to-person, by telephone, and in writing and email).

### ***Behavioral Skills***

A CLT student must possess adequate behavioral skills to:

- Be able to manage the use of time and be able to prioritize actions in order to complete professional and technical tasks within realistic constraints.
- Possess the emotional health necessary to effectively apply knowledge and exercise appropriate judgment.
- Be able to provide professional and technical services while experiencing the stresses of task related uncertainty (i.e., ambiguous test order, ambivalent test interpretation), emergent demands (i.e. “stat” test orders), and distracting environment (i.e., high noise levels, crowding, complex visual stimuli.)
- Be flexible and creative and adapt to professional and technical change.
- Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals.
- Adapt to working with infectious and possibly unpleasant biological specimens.
- Support and promote the activities of fellow students and of health care professionals. Promotion of peers helps furnish a team approach to learning, task completion, problem solving, and patient care.
- Be honest, compassionate, ethical, and responsible. The student must be forthright about errors or uncertainty. The student must be able to critically evaluate her or his own performance, accept constructive criticism, and look for ways to improve (i.e. participate in enriched educational activities).
- Show respect for individuals of different age, ethnic background, religion, gender, and/or sexual orientation.
- Exhibit professional behavior and self-respect by conforming to appropriate standards of dress, appearance, language and public behavior. (For example, body piercings other than ears and visible tattoos are often not considered professional appearance and are not acceptable at some clinical sites. This includes tongue piercing.)

MCC recognizes the importance of encouraging and helping students with disabilities to reach their full potential. In accordance with the Americans With Disabilities Act and Section 504 of the Rehabilitation Act, the

College ensures that admission, services, activities, facilities and academic programs are accessible to and usable by qualified students with disabilities. Reasonable accommodations are available to students who identify themselves as having a disability and as being otherwise qualified for admission to the College. Each student is responsible for requesting and verifying the need for appropriate accommodations (contact Services for Students with Disabilities). The intent of reasonable accommodations is to provide all students with the same opportunities for success and for mastery of academic skills.

\*Certain disabilities may limit employment opportunities. Moreover, immunocompromised individuals may put themselves at personal risk due to exposure to infectious agents that occurs in all aspects of the laboratory. If you are not sure that you will be able to meet these essential functions, please consult with the Program Director for further information and to discuss your individual situation.

## Medical Certification

- A. Applicants to the CLT Program Each applicant must have a preadmission health screening that includes:
  - a. A health assessment and physical examination
  - b. Proof of immunity to:
    - i. Rubella
    - ii. Rubeola
    - iii. Mumps
    - iv. Varicella Zoster
    - v. Hepatitis B or signed waiver declining immunization for hepatitis B
  - c. Documentation of a tetanus (TD or TDaP) vaccine within the past 10 years
  - d. Documentation of meningitis vaccine or waiver of vaccine
  - e. Proof of results of current (within the past 12 months) negative test for tuberculosis or acceptable evidence of freedom from communicability
  - f. Review of health status to determine that the applicant is able to perform the essential functions for the CLT Program
- B. Participants in the CLT Program: To continue participation in the CLT Program, each student must:
  - a. Maintain the ability to perform the Essential Functions for the CLT Program
  - b. Complete a reassessment of health status each May
  - c. Annually provide MCC Health Services proof of negative results of test for tuberculosis, or acceptable evidence of freedom from communicability
  - d. On or before November 30<sup>th</sup> before clinical rotations, provide proof of influenza immunization (or provide a waiver signed by a physician stating the health reason for not receiving the influenza vaccine)

## Health Insurance

CLT students are required to purchase health insurance from the College for the semesters they are registered for CLT 150 and CLT 251, 253, & 255. The health insurance may be waived if the student is covered under another policy. Liability insurance is also required for CLT 251, 253, & 255.

## CLT Curriculum

CLT courses are taught only during the semester they are listed, and many have prerequisites or corequisites. It is important that the student follows this schedule closely. Students are admitted to the program fall semester

only. Upon satisfactory completion of the program, graduates are eligible to sit for the American Society of Clinical Pathologists (ASCP) Board of Certification MLT Examination.

### ***Full-time Students***

#### Semester 1- Fall

- BIO 134 Anatomy & Physiology I
- CHE 145 Preparation for General College Chemistry
- CLT 100 Introduction to CLT
- ENG 101 College Composition
- MTH 160 Statistics I
- PHL 103 Introduction to Ethics or PHL 250 Professional Ethics (consult with program director before taking PHL 250)

#### Semester 2 – Spring

- BIO 135 Anatomy & Physiology II
- BIO 148 Fundamentals of Biology & Inheritance
- CLT 110 Specimen Processing and Procurement
- CLT 201 Immunology
- CLT 202 Serological Techniques
- CLT 204 Clinical Microbiology I

#### Semester 3 – Summer

- CLT 130 Body Fluids and Urinalysis
- CLT 150 Histology Techniques

#### Semester 4 – Fall

- CLT 205 Clinical Microbiology II
- CLT 210 Clinical Chemistry
- CLT 220 Immunohematology
- CLT 230 Hematology/Coagulation

#### CLT 251 Clinical Rotation I

- CLT 253 Clinical Rotation II
- CLT 255 Clinical Rotation III
- CLT 260 CLT Seminar
- SUNY WC or SUNY OWC
- Health/Wellness elective

### ***Part time students***

Please contact the Program Director for an alternate curriculum.

## Students interested in a more advanced degree

A student interested in going on to earn a BS in clinical laboratory science should seek specific advisement from the program director PRIOR to beginning the program. More advanced biology, chemistry, and anatomy & physiology courses are recommended.

## Clinical Rotations

During the last semester of the student's course of study, they are required to enroll in CLT 251, 233, and 235, which are clinical rotations at local hospital or private laboratories. Each rotation is 8 hours a day/4 days a week. The student must provide his or her own transportation to the clinical site. The need for public transportation will be considered as rotations are assigned, but cannot necessarily be accommodated for all rotations.

### *Clinical Rotation Sites*

- Rochester General Hospital Laboratory at Elmgrove – Rochester, NY
- American Red Cross – Henrietta, NY
- FF Thompson Hospital – Canandaigua, NY
- Geneva General Hospital – Geneva, NY
- Highland Hospital – Rochester, NY
- Jones Memorial Hospital – Wellsville, NY
- Nicholas Noyes Memorial Hospital – Dansville, NY
- Rochester General Hospital (histology only) – Rochester, NY
- Strong Memorial Hospital and Central Labs – Rochester, NY
- United Memorial Medical Center – Batavia, NY
- Unity Hospital – Rochester, NY

During this semester, students also attend CLT 260 on campus. In CLT 260, job placement and Board of Certification Exam and Licensure preparation will be addressed as part of the syllabus.

The program will work to insure that an adequate number of clinical seats are maintained. Should a clinical affiliate not have space during a specific rotation or for the semester, students will be assigned to clinical rotations based on a mini GPA calculated from the CLT courses completed to date. Students with the highest mini-GPA will be assigned first, with the remaining students schedule as soon as it is feasible. If the problem arises during the semester the student(s) will be transferred to another clinical site based on availability.

## Program Retention Information

A minimum grade of "C" in all math, science and CLT courses is required for continued matriculation in the program. An overall GPA of 2.0 is required to be eligible to attend clinical rotations.

Readmission to the program is not automatic and is dependent on several factors. Students seeking readmission to the program (or seeking admission after unsuccessful attempts in a program at another college) should contact the CLT Program Director for information. Readmission, if approved, is always on a space available basis and is only allowed once. A student who fails to achieve a C in the CLT courses the final semester will be ineligible for graduation from the CLT program.

## Academic Advisement

All students enrolled in the MCC CLT program will be assigned to either Prof. Graney or Prof. Mizelle for academic advisement. CLT students must meet with their assigned advisor each semester prior to registering for

classes for the next semester. The advisor will act in a confidential and impartial manner to ensure that each student is making appropriate progress towards graduation. Advisement meetings will be documented in DegreeWorks, and the student will be provided with an Advisement Key (Alternate PIN), which will allow access to course registration.

## Student Handbook

A CLT Student Handbook will be provided to all students matriculated in the program. This handbook provides detailed information about the program, the faculty, and program rules and regulations. It is meant to serve as a guide for the CLT student throughout the program. Contact the Program Director if you would like to preview a CLT student handbook.

## Mandatory Professional Licensure Disclosure

New York State prides itself in the high quality of its licensed and certified professionals. For the protection of its citizens, each license and certificate has requirements that individuals must meet in order to be licensed or certified in New York State. SUNY's academic programs leading to licensure or certification are carefully designed to meet and exceed these State requirements. This is a role SUNY plays in protecting the public. Other states frequently have their own requirements, so if your goal is to practice in another state, this disclosure will help you check to see what that state requires.

Per U.S. Federal Regulations, §668.43 (2019 Rule), and in compliance with the State Authorization Reciprocity Agreements (SARA) Manual version 19.2, SUNY Monroe Community College provides the following disclosure related to the educational requirements for professional licensure and certification.

This Disclosure is strictly limited to the Monroe Community College's determination of whether its educational program, *Clinical Laboratory Technician Associate in Applied Science*, that if successfully completed, would be sufficient to meet the educational licensure requirements in a State for clinical laboratory professionals. Monroe Community College cannot provide verification of an individual's ability to meet licensure requirements unrelated to its educational programming. Such individual determinations are made by state licensing boards, and are fact-specific determinations.

This disclosure does **not** provide any guarantee that any particular state licensure will approve or deny your application. Furthermore, this disclosure does **not** account for changes in state law or regulation that may affect your application for licensure and occur after this disclosure has been made. **Enrolled students and prospective students are strongly encouraged to contact their State's licensure to review all licensure requirements imposed by their state(s) of choice.**

Monroe Community College has designed an educational program curriculum for a Clinical Laboratory Technician Associate in Applied Science, which if successfully completed, **is sufficient to meet** the licensure requirements for a clinical laboratory technician license in New York.

Monroe Community College has made no determination whether the curriculum is sufficient to meet the licensure requirements for clinical laboratory professionals in any other state.

## Program Outcome Measures as of March 2024

### *Graduation Rate*

- 2023: 100% (10/10)
- 2022: 100% (8/8)
- 2021: 100% (8/8)



### ***Placement Rate***

- 2023: 90% (9/10)
- 2022: 87.5% (7/8) within a year of graduation; 100% total (8/8)
- 2021:100% (8/8)

### ***Certification Exam Pass Rate***

- 2023: 80% (8/10)
- 2022: 100% (7/7 students who took the exam)
- 2021: 62.5% (5/8) within a year of graduation; 87.5% (7/8) total

### **References**

<sup>1</sup>NAACLS Standards for Accredited and Approved Programs: Unique Standards Medical Laboratory Technician; adopted 2012.

<sup>2</sup>Adapted from: Fritsma, G.A., B.J. Fiorella, and M. Murphy. Essential Requirements for Clinical Laboratory Science. Clin. Lab. Sci. 9(1):40-3. 1996.