

# Medical Laboratory Technology

## Medical Laboratory Technology (A45420)

### Degree Awarded

The Associate in Applied Science Degree - Medical Laboratory Technology is awarded by the College upon completing this program.

### Admissions

- Complete an admissions application to Central Piedmont.
- Submit high school transcripts as well as any college transcripts to Admissions, Records & Registration.
- Take the required placement tests.
- Complete any required Developmental classes with a "C" or better.
- Complete and submit an MLT admissions packet.
- Complete the TEAS test and submit scores with admissions packet.  
\*Students holding a BS degree are except from the TEAS test\*
- Applicants must present evidence of good physical and mental health. A physical examination documenting the applicant's ability to complete all program requirements is required.
- Students must be selected to enter the Medical Laboratory Technology program. Upon acceptance and enrollment in the program, students must take all courses as scheduled and sequenced.
- Continued progression in the program requires a grade of "C" or better in each MLT prefix course each semester.
- Many courses have prerequisites or co-requisites; check the Courses section for details.

### Program Accreditation

The National Accrediting Agency accredits the Medical Laboratory Technology Program for Laboratory Sciences (NAACLS), 5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119. 847.939.3597, 773.714.8880.

### Notes

In addition to tuition and textbooks, this program's costs include uniforms, professional white shoes, fluid-resistant lab coat, safety glasses/goggles, and a physical examination, including immunizations and drug screening.

To participate in clinical education experiences at health care facilities, students may be required to submit results of a North Carolina state or national criminal background check at their own expense. As a condition of program admission, students may be required to verify that they are United States citizens or are otherwise legally authorized residents of the United States.

### Contact Information

For more information, visit the Medical Careers Laboratory Program website. If further assistance is needed, contact the Program Chair at 704.330.2722 ext. 3425.

#### General Education Requirements

ENG 111	Writing and Inquiry	3.0
PSY 150	General Psychology	3.0
ACA 122	College Transfer Success	1.0

Select 3 credits of the following: 3.0

ENG 112	Writing and Research in the Disciplines
ENG 113	Literature-Based Research
ENG 114	Professional Research & Reporting

Select 3 credits of the following: 3.0

ART 111	Art Appreciation
ART 114	Art History Survey I
ART 115	Art History Survey II
DRA 111	Theatre Appreciation
HUM 120	Cultural Studies
HUM 130	Myth in Human Culture
MUS 110	Music Appreciation
MUS 112	Introduction to Jazz
PHI 215	Philosophical Issues
PHI 240	Introduction to Ethics
REL 110	World Religions

Select 3 credits of the following: 3.0

MAT 143	Quantitative Literacy
MAT 152	Statistical Methods I

#### Major Requirements

MLT 110	Introduction to Mlt	3.0
MLT 111	Urinalysis & Body Fluids	2.0
MLT 120	Hematology/Hemostasis I	4.0
MLT 130	Clinical Chemistry I	4.0
MLT 140	Introduction to Microbiology	3.0
MLT 240	Special Clinical Microbiology	3.0
BIO 163	Basic Anatomy & Physiology	5.0
CHM 130	General, Organic, & Biochemistry	3.0
CHM 130A	General, Organic, & Biochemistry Lab	1.0
MLT 251	MLT Practicum I	1.0
MLT 266	MLT Practicum II	6.0
MLT 276	MLT Practicum III	6.0
MLT 126	Immunology and Serology	2.0
MLT 127	Transfusion Medicine	3.0
MLT 220	Hematology/Hemostasis II	3.0
MLT 230	Clinical Chemistry II	3.0
MLT 216	Professional Issues	1.0

**Total Credits 69**

**MLT 110. Introduction to Mlt. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces all aspects of the medical laboratory profession. Topics include health care/laboratory organization, professional ethics, basic laboratory techniques, safety, quality assurance, and specimen collection. Upon completion, students should be able to demonstrate a basic understanding of laboratory operations and be able to perform basic laboratory skills.

**MLT 111. Urinalysis & Body Fluids. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the laboratory analysis of urine and body fluids. Topics include physical, chemical, and microscopic examination of the urine and body fluids. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting urinalysis and body fluid tests.

Prerequisites: Take MLT 120, minimum grade of C

**MLT 120. Hematology/Hemostasis I. 4.0 Credits.** Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the theory and technology used in analyzing blood cells and the study of hemostasis. Topics include hematology, hemostasis, and related laboratory testing. Upon completion, students should be able to demonstrate theoretical comprehension of hematology/hemostasis, perform diagnostic techniques, and correlate laboratory findings with disorders.

**MLT 126. Immunology and Serology. 2.0 Credits.** Class-1.0. Clinical-0.0. Lab-2.0. Work-0.0

This course introduces the immune system and response and basic concepts of antigens, antibodies, and their reactions. Emphasis is placed on basic principles of immunologic and serodiagnostic techniques and concepts of cellular and humoral immunity in health and disease. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing and interpreting routine immunologic and serodiagnostic procedures.

**MLT 127. Transfusion Medicine. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the blood group systems and their applications in transfusion medicine. Emphasis is placed on blood bank techniques including blood grouping and typing, pretransfusion testing, donor selection and processing, and blood component preparation and therapy. Upon completion, students should be able to demonstrate theoretical comprehension and application in performing/interpreting routine blood bank procedures and recognizing/resolving common problems.

Prerequisites: Take MLT 126, minimum grade of C

**MLT 130. Clinical Chemistry I. 4.0 Credits.** Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the quantitative analysis of blood and body fluids and their variations in health and disease. Topics include clinical biochemistry, methodologies, instrumentation, and quality control. Upon completion, students should be able to demonstrate theoretical comprehension of clinical chemistry, perform diagnostic techniques, and correlate laboratory findings with disorders.

Prerequisites: Take CHM 130 CHM 130A

**MLT 140. Introduction to Microbiology. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces basic techniques and safety procedures in clinical microbiology. Emphasis is placed on the morphology and identification of common pathogenic organisms, aseptic technique, staining techniques, and usage of common media. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting basic clinical microbiology procedures.

**MLT 216. Professional Issues. 1.0 Credit.** Class-0.0. Clinical-0.0. Lab-2.0. Work-0.0

This course surveys professional issues in preparation for career entry. Emphasis is placed on work readiness and theoretical concepts in microbiology, immunohematology, hematology, and clinical chemistry. Upon completion, students should be able to demonstrate competence in career entry-level areas and be prepared for the national certification examination.

**MLT 220. Hematology/Hemostasis II. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers the theories and techniques used in the advanced analysis of human blood cells and hemostasis. Emphasis is placed on the study of hematologic disorders, abnormal cell development and morphology, and related testing. Upon completion, students should be able to demonstrate a theoretical comprehension and application of abnormal hematology and normal and abnormal hemostasis.

Prerequisites: Take MLT 120, minimum grade of C

**MLT 230. Clinical Chemistry II. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to supplement the biochemical and physiologic theory presented in MLT 130. Emphasis is placed on special chemistry techniques and methodologies. Upon completion, students should be able to recognize and differentiate technical and physiological causes of unexpected test results.

Prerequisites: Take MLT 130

**MLT 240. Special Clinical Microbiology. 3.0 Credits.** Class-2.0. Clinical-0.0. Lab-3.0. Work-0.0

This course is designed to introduce special techniques in clinical microbiology. Emphasis is placed on advanced areas in microbiology. Upon completion, students should be able to demonstrate theoretical comprehension in performing and interpreting specialized clinical microbiology procedures.

Prerequisites: Take MLT 140

**MLT 251. MLT Practicum I. 1.0 Credit.** Class-0.0. Clinical-3.0. Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations. MLT Practicum I.

Prerequisites: Take MLT 110, minimum grade of C

**MLT 266. MLT Practicum II. 6.0 Credits.** Class-0.0. Clinical-18.0. Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

**MLT 267. MLT Practicum II. 8.0 Credits.** Class-0.0. Clinical-24.0. Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

**MLT 276. MLT Practicum III. 6.0 Credits.** Class-0.0. Clinical-18.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.

**MLT 277. MLT Practicum III. 8.0 Credits.** Class-0.0. Clinical-24.0.

Lab-0.0. Work-0.0

This course provides entry-level clinical laboratory experience. Emphasis is placed on technique, accuracy, and precision. Upon completion, students should be able to demonstrate entry-level competence on final clinical evaluations.