



A DUAL ENROLLMENT CAREER PATHWAY FOR MEDICAL LABORATORY TECHNOLOGY

tctc.edu/careerpathways

About the Program

- Upon completion of the MLT program, become a Medical Laboratory Technician and pass the ASCP (American Society of Clinical Pathologists) National Board of Certification exam

About the Pathway

- Take your dual enrollment courses at one of TCTC's campuses alongside college students or at a college site in your school district.
- As an MLT, qualify for employment with hospitals, physician's offices, or other labs.
- After earning your associate degree at TCTC, continue studies at Clemson University, or at other universities.
- The number of Medical Technologists/Technicians employed in this region is expected to increase by 10% over the next four years.

Medical Laboratory Technology CAREER PATHWAY

IN HIGH SCHOOL

Required:
High School Chemistry and Biology with grade C or better.

- FALL
- BIO 112
 - ENG 101

- SPRING
- MAT 120

*Optional, but needed to complete 4-year B.S. degree.

High School **OR** Summer courses optional:

- SPC 205 or PSY 201 or Humanities Requirement

**HIGH SCHOOL GRADUATION
AND
13 HOURS COLLEGE CREDIT**

AFTER HIGH SCHOOL Medical Laboratory Technology Associate in Applied Science Degree

FALL
• MLT 101 • MLT 130 • MLT 105 • MLT 115

SPRING
• MLT 230 • MLT 110 • MLT 120 • SPC 205

SUMMER
• MLT 205 • MLT 210 • MLT 108

FALL
• MLT 251 • MLT 252 • Humanities Requirement • Elective

SPRING
• MLT 253 • MLT 254 • MLT 241 • PSY 201

SC Mean Annual Wages
\$44,741

AFTER TCTC GRADUATION

Bachelor of Science Pathways
with 4-year universities

MICROBIOLOGY WITH BIOMEDICINE CONCENTRATION

BACHELOR OF SCIENCE DEGREE

Clemson University

MEDICAL LABORATORY SCIENCE (MLS) OR BACHELOR OF SCIENCE DEGREE

Other Universities (online)

CONNECT WITH US

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MEDICAL LABORATORY TECHNOLOGY COURSE DESCRIPTIONS

Medical laboratory tests play an important part in the detection, diagnosis, and treatment of illness and disease, and as a student in this program, you will learn the methods and procedures used to perform these tests. One of the fastest growing sectors of the health care field, this program offers trained technicians excellent employment opportunities.

BIO 112 - Basic Anatomy and Physiology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course is a basic integrated study of the structure and function of the human body. Topics include the anatomy and physiology of cells, tissues, organs, and systems. Laboratory requirement supplements lectures.

Prerequisites: BIO 100 or BIO 105 with a grade of C or better.

Note: This course cannot be used for an AA or AS degree.

ENG 101 - English Composition I

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This is a (college transfer) course in which the following topics are presented: a study of composition in conjunction with appropriate literary selections, with frequent theme assignments to reinforce effective writing. A review of standard usage and the basic techniques of research are also presented.

Prerequisites: Satisfactory Writing placement score or a grade of C or higher in ENG 100 or in ENG 155 and satisfactory Reading placement score or a grade of C or higher in RDG 100.

MAT 120 - Probability and Statistics

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes the following topics: introductory probability and statistics, including organization of data; sample space concepts; random variables; counting problems; binomial and normal distributions; central limit theorem; confidence intervals and test hypothesis for large and small samples; types I and II errors; linear regression and correlation.

Prerequisites: Satisfactory math placement score; or MAT 102 with a grade of "C" or higher, or MAT 101 with a grade of A and a satisfactory reading placement score or RDG 100 with a grade of "C" or higher or ENG 101 or ENG 103 with a grade of "C" or higher.

MLT 101 - Introduction to Medical Laboratory Technology

Class Hours: 1 Lab Hours: 3 Credit Hours: 2

This course provides an introduction to laboratory medicine, including techniques for routine laboratory procedures, medical terminology, safety, and an overview of each area within the laboratory.

MLT 130 - Clinical Chemistry

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course focuses on the study of nutritional, functional, and excretional chemicals in blood and body fluids including testing techniques and clinical significance.

MLT 105 - Medical Microbiology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course provides a survey of organisms encountered in the clinical microbiology laboratory, including sterilization and disinfection techniques.

MLT 115 - Immunology

Class Hours: 2 Lab Hours: 3 Credit Hours: 3

This course provides a study of the immune system, disease states, and the basic principles of immunological testing.

MLT 230 - Advanced Clinical Chemistry

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course includes advanced theory, principles, and instrument techniques used in clinical chemistry.

Prerequisites: MLT 130 and BIO 112.

MLT 110 - Hematology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course provides a study of the basic principles of hematology, including hemoglobins, hematocrits, white and red counts, and identification of blood cells.

MLT 120 - Immunochemistry

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course introduces the theory and practice of blood banking, including the ABO, RH and other blood group systems, compatibility testing, and HDN.

Prerequisites: MLT 115.

MLT 205 - Advanced Microbiology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4

This course provides a detailed study of microorganisms and the currently accepted procedures for identification of these microorganisms in the clinical laboratory. Prerequisites: MLT 105.

MLT 210 - Advanced Hematology

Class Hours: 3 Lab Hours: 3 Credit Hours: 4 This course provides a study of the diseases of blood cells and other hematologic procedures including coagulation.

Prerequisites: MLT 110.

MLT 108 - URINALYSIS AND BODY FLUIDS

Class Hours: 2 Lab Hours: 3 Credit Hours: 3

This course introduces the routine analysis and clinical significance of urine and other body fluids.

MLT 251 - Clinical Experience I

Class Hours: 0 Lab Hours: 15 Credit Hours: 5

This course correlates laboratory procedures and concepts with emphasis on higher level cognitive applications.

Prerequisites: MLT 101, MLT 105, MLT 108, MLT 110, MLT 110, MLT 115, MLT 120, MLT 130, MLT 205, MLT 210, MLT 230.

Note: Course is only offered in Fall.

MLT 252 - Clinical Experience II

Class Hours: 0 Lab Hours: 15 Credit Hours: 5

This course provides an integrated, clinically based rotation which correlates cognitive and technical skills in selected areas of the clinical laboratory.

Prerequisites: MLT 251.

MLT 253 - Clinical Experience III

Class Hours: 0 Lab Hours: 15 Credit Hours: 5

This course provides an integrated, clinically based rotation which correlates cognitive and technical skills in selected areas of the clinical laboratory.

Prerequisites: MLT 252.

MLT 254 - Clinical Experience IV

Class Hours: 0 Lab Hours: 15 Credit Hours: 5

This course provides an integrated, clinically based rotation which correlates cognitive and technical skills in selected areas of the clinical laboratory.

Prerequisites: MLT 253.

MLT 241 - Medical Lab Transition

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course correlates laboratory procedures and concepts with emphasis on higher level cognitive applications.

Prerequisites: MLT 101, MLT 105, MLT 108, MLT 110, MLT 115, MLT 120, MLT 130, MLT 205, MLT 210, MLT 230.

Note: Course is only offered in Spring.

SPC 205 - Public Speaking

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course is an introduction to principles of public speaking with application of speaking skills.

Prerequisites: ENG 101, ENG 103, ENG 155, or ENG 156 with a grade of "C" or higher.

PSY 201 - General Psychology

Class Hours: 3 Lab Hours: 0 Credit Hours: 3

This course includes the following topics and concepts in the science of behavior: scientific method, biological bases for behavior, perception, motivation, learning memory, development, personality, abnormal behavior, therapeutic techniques, and social psychology.

Prerequisites: Satisfactory reading and English placement scores for ENG 101; or satisfactory English scores for ENG 101 and completion of RDG 100 with a grade of "C" or higher; or completion of ENG 100, ENG 101, ENG 103 or ENG 155 with a grade of "C" or higher. BIO 101 strongly recommended.



TCTC
Tri-County Technical College