

MLTC 203

Integrated Laboratory Concepts

2 Credits

Community College of Baltimore County
Common Course Outline

Description

MLTC 203 – Integrated Laboratory Concepts: integrates theory and clinical skills with new developments and advanced technology in laboratory medicine. The course correlates laboratory procedures and concepts, with emphasis on higher level cognitive applications. The course provides the theory and application of clinical laboratory instrumentation, including calibration, operation, maintenance and daily function through a simulated laboratory environment.

Co-requisites: MLTC 202

Overall Course Objectives

Upon completion of this course, students will be able to:

1. follow departmental protocol and demonstrate safe work practices;
2. perform, evaluate, and document quality control procedures;
3. perform the various periodic (daily, weekly) maintenance routines for each piece of equipment used within the student laboratory;
4. demonstrate entry-level competency in the major areas of the clinical laboratory;
5. integrate laboratory data through the use of case studies;
6. correlate laboratory test results with normal and disease processes;
7. develop a course of corrective action given a case study scenario;
8. conduct structured investigations (e.g., root cause analysis) of identified errors to prevent recurrences;
9. evaluate time management techniques for taking time sensitive laboratory testing; and
10. demonstrate effective communication skills within the laboratory and within a hospital setting.

Major Topics

- I. Quality Assurance and Quality Control
- II. Laboratory Safety
- III. Professionalism and Communication
- IV. Root Cause Analysis
- V. Comprehensive Review of Normal and Disease Processes and Associated Laboratory Data Interpretation and Testing Procedures
 - a. Hematology and Coagulation
 - b. Immunology and Blood Bank
 - c. Medical Microbiology

The Common Course Outline (CCO) determines the essential nature of each course.

For more information, see your professor's syllabus.

d. Clinical Chemistry and Urinalysis/Body Fluids

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- Weekly Case Studies
- Weekly Quizzes
- Laboratory Practical
- Professional Evaluation

Other Course Information

This course is a Medical Laboratory Technology Program core course.

This course is part of a program sequence, which requires admission to the program.

This course is offered in the summer only.

Date Revised: 10/7/2025