

Montgomery County Community College  
MLT 245  
Clinical Practicum in MLT II  
6-0-24

**COURSE DESCRIPTION:**

This course is a structured practical experience at a clinical site. The student spends 24 hours per week for three weeks at an off-campus laboratory in each of the following areas: blood bank, hematology/ coagulation/ urinalysis, microbiology/serology, and chemistry. Emphasis is on supervised performance of routine tests, efficiency, operation of instrumentation and development of professional traits. The student will participate on a blood collection team and tour several off-campus enrichment sites. This course is subject to a course fee. Refer to <http://mc3.edu/adm-finaid/paying/tuition/course-fees> for current rates.

**REQUISITES***Previous Course Requirements*

- MLT 233 Clinical Chemistry Lecture with a minimum grade of "C"
- MLT 234 Clinical Chemistry Laboratory with a minimum grade of "C"
- MLT 235 Clinical Practicum in MLT I with a minimum grade of "C"
- BIO 241 Clinical Microbiology II with a minimum grade of "C"

*Concurrent Course Requirements*

None

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Demonstrate proficiency collecting blood samples from a variety of patients.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations
2. Perform clerical tasks related to processing of laboratory tests.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations
3. Handle reagents according to standard protocol while preparing clinical specimens for analysis.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
4. Operate instruments independently according to redefined instructions and perform analyses according to prescribed methods.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations Practical Examinations
5. Organize samples, reference materials, reagents, equipment and instruments according to analytical requirements proficiently.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations
6. Interpret patient and quality control data generated during testing.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations Written Examinations Practical Examinations
7. Analyze errors (e.g., "out-of-control" data, abnormal results, instrument malfunctions) which occur during testing and take appropriate corrective actions.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations Written Examinations Practical Examinations
8. Work safely to minimize hazards to self, co-workers, patients and the environment.	Clinical Rotation/ Demonstration and Practice	Daily Clinic Record Evaluations Summative Clinic Evaluations
9. Integrate information learned in MLT and first semester clinical courses to pertinent test results and other patient data to the extent required for understanding the analyses.	Clinical Rotation/ Demonstration and Practice Enrichment Site Visits Writing Assignments	Written Examinations Practical Examinations Clinical Rotation Review Questions

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
10. Demonstrate behavior and attitudes consistent with those of a laboratory professional.	Clinical Rotation/ Demonstration and Practice Enrichment Site Visits Written Assignments	Daily Clinic Record Evaluations Summative Clinic Evaluations Enrichment Site Student Evaluations

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Associate Vice President of Academic Affairs. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

#### SEQUENCE OF TOPICS:

##### **Blood Bank Rotation**

1. Quality Control, ABO, Rh, Weak D, Direct Antoglobulin Test, Antibody Screen, Prenatal Workups
2. Panels, Crossmatches, Rh Immune Globulin
3. Issue Blood, Component Preparation, Transfusion Reaction Workups

##### **Chemistry Rotation**

1. Specimen Accession and Processing
2. Automated Chemistry Analyzers
3. Immunoassays, Toxicology, Arterial Blood Gases

##### **Hematology/Coagulation/Urinalysis Rotation**

1. Automated Complete Blood Counts, Urinalysis, Stools, Body Fluid Counts, Normal Differentials
2. Abnormal Differentials
3. Automated Coagulation Studies

##### **Microbiology/Serology Rotation**

1. Set-ups, Gram Stains, Blood Cultures, Plate Reading
2. Plate Reading, Subcultures, Serology Tests
3. AFB Stains, O & Ps, Mycology, Anaerobic Cultures

#### LEARNING MATERIALS:

##### **Textbooks and Required Materials:**

Harr. (2019). *Clinical Laboratory Sciences Review* (5<sup>th</sup> ed.). F.A. Davis.

Those textbooks assigned in previous MLT courses will be used as references for additional review.

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

