

Montgomery County Community College
MLT 124
Immunochemistry Laboratory
1-0-3

COURSE DESCRIPTION:

The student develops proficiency in basic laboratory procedures for the blood bank, including specimen collection and handling, blood typing, neonatal testing, antibody screening and identification and compatibility testing. This course is subject to a course fee. Refer to <http://mc3.edu/adm-fin-aid/paying/tuition/course-fees> for current rates.

REQUISITES

Previous Course Requirements

- MLT 110 Introduction for the Medical Laboratory Technician 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. Follow specimen collection and handling procedures and evaluate the suitability of specimens for analyses requested.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
2. Process specimens according to requirements of analyses and prioritize testing.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
3. Perform routine tests in blood banking and record results of analyses using appropriate terms, taking special care to write records neatly and clearly.	Laboratory Demonstration/ Practice AV/Multimedia Materials Writing Assignments Assigned Readings	Practical Examinations Daily Laboratory Evaluations Laboratory Reports/ Discussion Questions

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
4. Evaluate validity of tests.	Laboratory Practice Assigned Readings Writing Assignments Case Studies	Practical Examinations Daily Laboratory Evaluations Laboratory Reports/ Discussion Questions
5. Operate common laboratory instruments and equipment.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
6. Prepare, handle and store reagents.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
7. Work safely and recognize the biohazards involved in laboratory work.	Laboratory Practice AV/Multimedia Materials	Practical Examinations Daily Laboratory Evaluations
8. Collect blood by venipuncture from a variety of patients.	Laboratory Demonstration/ Practice AV/Multimedia Materials Models/Mannequins and Manipulatives	Practical Examinations Daily Laboratory Evaluations
9. Demonstrate behaviors and attitudes consistent with those of laboratory professionals.	Laboratory Practice	Daily Laboratory 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:

1. ABO Grouping – Tube Method
2. Rh Typing, Including Genotyping and Venipuncture
3. Indirect Antiglobulin Test (Screening) and Weak D Testing
4. Rh Immune Globulin Work-up, Fetal Screen Test
5. Phenotyping for Other Blood Group Systems
6. Indirect Antiglobulin Test (Panel), Direct Antiglobulin Test
7. Antibody Identification Panels
8. Compatibility Testing, Quality Control
9. ABO, Rh, Indirect Antiglobulin Test, Crossmatch, Antibody Identification Antigen Typing
10. Panels and Venipuncture

LEARNING MATERIALS:

Textbooks and Required Materials:

Howard, Paula R. (2017). *Basic and Applied Concepts of Immunohematology* (4th ed.). Elsevier.

“Reading and Grading Agglutination Reactions,” Kettering, #129 (Self-Instructional Guide)

Laboratory Manual (Provided by Instructor)

Suggested Reading:

American Association of Blood Banks. (2014). *Technical Manual* (18th ed.).

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.

COURSE APPROVAL:

Reapproved by: Bradley Gottfried Date: 12/3/1998

Prepared by: John C. Flynn, Jr. Date: 8/1998

Revised by: Debra Lynn Eckman, M.S., MT (ASCP) Date: 1/2009

VPAA/Provost Compliance Verification: Dr. John C. Flynn, Jr. Date: 9/11/2009

Revised by: Debra Lynn Eckman, M.S., MT (ASCP) Date: 10/12

VPAA/Provost or designee Compliance Verification:
Victoria L. Bastecki-Perez, Ed.D. Date: 11/5/2012

Revised by: Debra Lynn Eckman, M.S., MT (ASCP) Date: 1/2013

VPAA/Provost or designee Compliance Verification:
Victoria L. Bastecki-Perez, Ed.D. Date: 1/9/2013

Revised by: Debra Lynn Eckman, M.S., MT (ASCP) Date: 10/13/2017

VPAA/Provost or designee Compliance Verification: Date: 11/13/2017



This course is consistent with Montgomery County Community College’s mission. It was developed, approved and will be delivered in full compliance with the policies and procedures established by the College.