

Montgomery County Community College
MLT 126
Hematology Laboratory
1-0-3

COURSE DESCRIPTION:

The student develops proficiency in basic laboratory procedures in hematology and hemostasis, including complete blood counts, platelet counts, differentials, basic coagulation tests, cell counts and specimen collection and handling. Instrumentation is introduced. 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”
- BIO 130 Introductory Anatomy and Physiology with a minimum grade of “C”
- CHE 131 Chemistry for Technology I with a minimum grade of “C”

Concurrent Course Requirements

None

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
1. Perform routine hematology tests demonstrating appropriate organizational, procedural and recording skills.	Laboratory Practice Writing Assignments	Practical Examinations Daily Laboratory Evaluations Laboratory Reports
2. Evaluate suitability of specimens for analyses requested and describe the principles on which these analyses are based.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
3. Evaluate validity of hematology test results by detecting errors and their sources.	Laboratory Practice Writing Assignments	Practical Examinations Daily Laboratory Evaluations Laboratory Reports/ Discussion Questions
4. Determine acceptability of control values.	Laboratory Practice Writing Assignments	Practical Examinations Daily Laboratory Evaluations Laboratory Reports

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
5. Prepare and operate common hematology instruments and equipment and follow routine maintenance procedures to repair malfunctions.	Laboratory Practice Assigned Readings Tour of Clinical Laboratory	Practical Examinations Daily Laboratory Evaluations
6. Follow safety procedures as appropriate for the hematology laboratory.	Laboratory Practice	Practical Examinations Daily Laboratory Evaluations
7. Prepare, handle and store reagents used in hematology testing.	Laboratory Practice Assigned Readings	Practical Examinations Daily Laboratory Evaluations
8. Discuss the relationship between test data obtained and other pertinent information.	Laboratory Practice Assigned Readings Software Tutorial Writing Assignments	Laboratory Reports/ Discussion Questions Practical Examinations
9. Describe the pathology of common hematological diseases.	Laboratory Practice Assigned Readings Software Tutorial Writing Assignments	Laboratory Reports/ Discussion Questions Practical Examinations
10. Describe and correlate physiological conditions which lead to abnormal hematologic results.	Laboratory Practice Assigned Readings Software Tutorial Writing Assignments	Laboratory Reports/ Discussion Questions Practical Examinations
11. Identify reference values for hematology tests.	Assigned Readings Writing Assignments	Laboratory Reports/ Discussion Questions Daily Laboratory Evaluations Practical Examinations
12. Demonstrate behavior 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. Platelet Counts
2. PT, APTT
3. Bleeding Times
4. D-Dimers, Fibrinogen
5. Reticulocytes, Instrument Introduction
6. Tour of Clinical Laboratory, Instrumentation
7. Osmotic Fragility, Sickle Screen, ESR
8. Normal Differential Counts
9. Abnormal Differential Counts
10. Demonstration Slide Stations

LEARNING MATERIALS:

Textbooks and Required Materials:

Carr and Rodak. (2016). *Clinical Hematology Atlas* (5th ed.). Elsevier.

Estridge and Reynolds. (2012). *Basic Medical Laboratory Techniques* (6th ed.). Thomson Delmar Learning.

Turgeon, M. (2018). *Clinical Hematology* (6th ed.). Lippincott. Laboratory Manual (Provided by Instructor)

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: 10/2012

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: 9/2014

VPAA/Provost or designee Compliance Verification:
Victoria L. Bastecki-Perez, Ed.D. Date: 9/25/2014

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.