

Montgomery County Community College
MLT 123
Immunohematology Lecture
2-2-0

COURSE DESCRIPTION:

This is a comprehensive course in fundamentals of theory and practice in blood banking, including blood group systems, neonatal testing, antibody detection and identification, compatibility testing, donor selection and processing, component therapy and transfusion reactions.

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. Compare and contrast major blood group systems including properties which affect outcomes in vitro and in vivo.	Lecture/Discussion Assigned Readings Journal Article Review and Summary	Written Examinations Article Evaluation/Rubric
2. Describe acquired/immune hemolytic disorders related to immunohematology.	Lecture/Discussion Assigned Readings Journal Article Review and Summary	Written Examinations Article Evaluation/Rubric
3. Identify causes of incompatible crossmatches and discrepancies in blood bank testing.	Lecture/Discussion Assigned Readings Case Studies	Written Examinations
4. Discuss methods of problem resolution encountered in testing and treatment.	Lecture/Discussion Assigned Readings Case Studies	Written Examinations
5. Describe hemolytic disease of the newborn, its prevention and treatment.	Lecture/Discussion Assigned Readings Journal Article Review and Summary	Written Examinations Article Evaluation/Rubric

LEARNING OUTCOMES	LEARNING ACTIVITIES	EVALUATION METHODS
6. Discuss transfusion reactions, their prevention and treatment.	Lecture/Discussion Assigned Readings Journal Article Review and Summary	Written Examinations Article Evaluation/Rubric
7. Outline the rationale for component therapy to include components available, choice of components for treatment, and necessary follow-up.	Lecture/Discussion Assigned Readings	Written Examinations

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. Introduction to Immunology, Antiglobulin Tests and Immuno-hemolytic Anemias
2. The ABO Blood Group System
3. The Rh Blood Group System
4. Other Blood Group Systems
5. Detection and Identification of Alloantibodies
6. Hemolytic Disease of the Newborn: Causes, Treatment and Prevention
7. Compatibility Testing; Quality Control and Regulatory Requirements
8. Donor Selection, Blood Collection and Processing
9. Blood Components and Transfusion Practice
10. "The Hazards of Transfusion," a Presentation by the MLT Medical Director
11. Instrumentation and New Technologies

LEARNING MATERIALS:

Textbooks and Required Materials:

Howard, Paula R. (2017). *Basic and Applied Concepts of Blood Banking and Transfusion Practices* (4th ed.). Elsevier.

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

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: B. 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: 10/26/2016
VPAA/Provost or designee Compliance Verification: Victoria L. Bastecki-Perez, Ed.D.	Date: 11/5/2016
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.