

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
MDL 216 - BLOOD BANKING (4 CR.)**

Course Description

Teaches fundamentals of blood grouping and typing, compatibility testing, antibody screening, component preparation, donor selection, and transfusion reactions and investigation. Lecture 2 hours. Laboratory 6 hours. Total 8 hours per week.

General Course Purpose

This course will teach the student the basic principles necessary to perform competently in a clinical blood bank. Weekly laboratories will stress actual student performance of the routine blood bank and serology procedures.

Course Prerequisites/Corequisites

Students should be enrolled in the second year of the Medical Laboratory Technology AAS degree program. Prerequisite: MDL 215 with a minimum grade of "C" or program director approval. Completion of the first-year core courses with a grade of "C" or better is required.

Course Objectives

Upon completion of the course students will be able to:

- Discuss the history of transfusion, genetics and the immune response with regard to Blood Banking
- Describe distinctive properties of antigens and antibodies
- Explain theory behind procedures performed in the blood bank
- Discuss the characteristics and significance of various blood group system
- Interpret unexpected antibody reactions in panels using the cross-out method
- Explain causes and symptoms of hemolytic disease of the newborn
- Describe the preparation and appropriate use of various blood components including expiration times and storage temperature
- Discuss causes of auto immune disease including drug induced hemolytic anemia
- Describe medical history and criteria necessary for blood donation
- List various forms of adverse reactions caused by blood transfusion
- Compare and contrast quality control and quality assurance in the blood bank
- Interpret HLA and paternity problems
- Effectively Communicate processes, procedures and results in a multicultural environment

Major Topics to be Include

Antigen-antibody characteristics and reactions
 Basic genetics
 ABO system
 Rh system
 Anti human globulin testing
 Other blood group systems
 Detection, identification, and titration of antibodies
 Compatibility
 Blood donation and components
 Hemolytic disease of the newborn
 Quality control