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/Co-requisites

Students must have completed MDL 215, Immunology and be entered in the second year of the Medical Laboratory program or program approval.

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 systems
- 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

Major Topics to be Included

- 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