Miami Dade College

Course Description

MLT2525 | Immunohematology | 2.00 credits

Theoretical concepts involving blood group systems, hemolytic diseases, and blood bank procedures relating to transfusion and component therapy. Prerequisite: MLT1500; corequisite: MLT2525L.

Course Competencies:

Competency 1: The student will demonstrate knowledge of blood donation and blood components by:

1. Discussing the protocol, procedure and questionnaire for donors before blood is collected
2. Identifying the different types of blood donors
3. Examining the preparation of the different blood components
4. Listing the different anticoagulants and additives used in order to preserve units of blood and the expiration dates accordingly
5. Knowing the different temperatures for storage and transportation and the expiration dates of the blood components
6. Analyzing all the testing procedures on donors

Competency 2: The student will demonstrate knowledge of the different blood groups by:

1. Examining the genetic inheritance patterns of the different blood groups
2. Explaining how to test for ABO group and resolve ABO discrepancies
3. Examining how to test for phenotyping the Rh subgroups
4. Evaluating how to test for phenotyping for Rh and other Blood groups when looking for compatible blood on patients with alloantibodies present

Competency 3: The student will demonstrate knowledge of Pretransfusion and Compatibility Testing by:

1. Comparing and contrasting the direct and indirect antiglobulin tests, including their significance, purpose and procedures
2. Explaining how to detect and identify alloantibodies and autoantibodies
3. Discussing the different types of antibodies and their reaction patterns
4. Explaining the procedure to perform crossmatches
5. Evaluating the importance of the crossmatching procedure before blood transfusion, in order to avoid transfusion reactions

Competency 4: The student will demonstrate knowledge of Clinical Considerations in Transfusion Practice by:

1. Listing the signs and symptoms that may be associated with acute transfusion reactions
2. Listing types of transfusion reactions and the steps to be followed in the case of an unexpected transfusion reaction
3. Differentiating between intravascular and extravascular hemolysis
4. Explaining the causes of Hemolytic Disease of the Newborn (HDN) and testing procedures to perform HDN studies

Learning Outcomes:

- Use quantitative analytical skills to evaluate and process numerical data
- Solve problems using critical and creative thinking and scientific reasoning
- Formulate strategies to locate, evaluate, and apply information
- Demonstrate knowledge of ethical thinking and its application to issues in society