



## MED 215: Immunohematology

The course consists of integrated instruction between the College and an affiliated hospital laboratory. Emphasis is placed on the genetic basis and immunological interaction of the major blood group antigens and antibodies. Topics will include compatibility testing, antibody screen and identification techniques, blood donations and transfusion therapy, record keeping and quality control techniques. Prerequisite: MED 205 with a grade of C or better. This course includes 30 hours of lecture and 30 hours of teaching laboratory to be completed at the College during the first half of the spring semester and 120 hours of clinical laboratory experience at an affiliate hospital laboratory and 6 hours of clinical seminar at the College during the second half of the semester. Instructional Support Fee applies.

### Course Student Learning Outcomes

1. Discuss the history of blood transfusion services, the major contributors, recent advantages and trends.
2. Discuss the basic theories of human genetics and apply them to major blood groups.
3. Correlate population genetics and antigen frequency differences within indigenous groups and apply this knowledge to compatibility testing and the application of DNA probing to parentage testing and forensic science.
4. Discuss the basic theories of innate and acquired immunity and their relationships to immunohematology.
5. Perform routine serological procedures inclusive of ABO grouping, Rh typing, compatibility testing, antibody detection and identification, solving of ABO discrepancies, Rh typing and antibody identification problems.
6. Demonstrate and apply knowledge of the Rh, Lewis, Kell, Duffy, MNS, P, I, Kidd and Lutheran blood group systems.
7. Follow universal/standard precautions, OSHA safety policies and CDC recommendations in the performance of assigned tasks.
8. Discuss the regulatory process and its special impact on the blood bank industry.
9. Summarize the principles and methods of enzyme treatment, neutralizations, lectins and elutions.

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1. Discuss the acceptability of a donor in accordance with AABB standards for whole blood and component donations.

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1. Describe the transfusion process and identify patient risks and potential adverse reactions of transfusion.

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1. Discuss the types of blood components that are available for transfusion therapy including collection, preparation, storage and appropriate use of each component.

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1. Compare serological and clinical characteristics of immune hemolytic anemia.

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1. Describe the quality control and the record keeping processes for donors and recipients.

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15. Identify and describe current testing for transfusion transmitted diseases.

**Credits:** 5

**Program:** Clinical Laboratory Science