

FLORIDA STATE COLLEGE AT JACKSONVILLE

COLLEGE CREDIT COURSE OUTLINE

COURSE NUMBER:	MLT 2525C
COURSE TITLE:	Immunohematology
PREREQUISITE(S):	None
COREQUISITE(S):	None
CREDIT HOURS:	3
CONTACT HOURS/WEEK:	4
CONTACT HOUR BREAKDOWN:	
Lecture/Discussion:	
Laboratory:	
Other _____:	4 (Lecture/laboratory Combination)
FACULTY WORKLOAD POINTS:	4
STANDARDIZED CLASS SIZE ALLOCATION:	20
CATALOG COURSE DESCRIPTION:	
<p>This course relates the concepts of immunology to blood banking procedures using the guidelines of the American Association of Blood Bank (AABB). The course content includes antigen-antibody reactions, immunoglobulin structures and functions, complement interaction, clinically significant blood group systems, antibody detection and identification, immunologic disease of the newborn, compatibility testing and component therapy.</p>	
SUGGESTED TEXT(S):	Blaney, K.D. and Howard, P.R. <u>Basic and Applied Concepts or Immunohematology</u> , Current Edition, Mosby
IMPLEMENTATION DATE:	January, 1989
REVIEW OR MODIFICATION DATE:	Fall Term, 1996 (971) Fall Term, 2002 (20031) Fall Term, 2008 (20091) - Outline Review 2007

COURSE TOPICS	<u>CONTACT HOURS PER TOPIC</u>
I. Review of <i>Genetics and Gene Products</i>	3
A. Terminology	
B. Patterns of Inheritance	
C. Expression of <i>Gene Products</i>	
II. Review of <i>Antibodies</i>	2
A. Types and Structures	
B. Complement	
C. Immunity	
III. <i>Antigen-Antibody Reactions</i>	3
A. In Vivo Reactions	
B. In Vitro Reactions	
C. Antihuman Globulin Procedures	
IV. <i>ABO Blood Grouping</i>	10
A. In Vivo Reactions	
B. Inheritance Patterns and Expressions of <i>ABH System</i>	
C. Naturally-Occurring Antibodies	
D. Subgroups	
E. Lab Procedures	
V. <i>Rh System</i>	10
A. Historical Aspects	
B. Nomenclature	
C. Inheritance Patterns and Expression of <i>Rh System Antigens</i>	
D. Lab Procedures	
VI. <i>Lewis System</i>	4
A. Lewis Antigens	
B. Inheritance and Expression of Lewis System Antigens	
C. Lewis Antibodies	
D. Antibody Screening Techniques	
VII. <i>Other Blood Group Systems</i>	10
A. Major Antigen Systems	
B. High Incidence & Low Incidence Antigens	
VIII. <i>Antibody Detection and Identification</i>	3
A. Purpose	
B. Laboratory Procedures	
C. Panel Interpretations	

COURSE TOPICS (CONTINUED)	<u>CONTACT HOURS PER TOPIC</u>
D. Antibody Titers	
IX. Donor Selection, Unit Collection and Processing	2
A. Donor Selection Criteria	
B. Unit Collection Technique	
C. Tests Performed on Donor Units	
D. Anticoagulants and Storage Requirements	
X. Compatibility Testing	3
A. Selection of Donor Units	
B. Purpose of Crossmatch	
C. Laboratory Procedures	
D. Interpretation of Results	
XI. Transfusion Reactions and Quality Control	2
A. Causes and Symptoms	
B. Investigative Procedures	
C. Blood Bank Quality Control Measures	
XII. Hemolytic Disease of the Newborn	2
A. Etiology	
B. Comparison of Types of HDN	
C. Prenatal Investigation of HDN	
D. Diagnosis of HDN in Newborn	
E. Exchange Transfusions	
F. Prophylaxis	
G. Laboratory Techniques	
XIII. Immune Hemolytic Anemia	2
A. Alloimmunization	
B. Autoimmune Hemolytic Diseases	
C. Investigative Procedures	
D. Direct Antiglobulin Technique	
XIV. Component Therapy	1
A. Preparation of Components	
B. Use of Components	
C. Storage of Components	
D. Apheresis Techniques	
XV. Laboratory Operations	3
A. OSHA Blood Borne Pathogens Standard	
B. General Lab Safety	
C. Oral Communication Skills/Oral Presentation	

PROGRAM TITLE: Medical Laboratory Technology

COURSE TITLE: Immunoematology

CIP NUMBER: 0317.030900

LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S): TITLES(S):

25.0 DISCUSS ANATOMY AND PHYSIOLOGY OF THE HUMAN BODY AS IT RELATES TO THE FIELD OF MEDICAL LABORATORY TECHNOLOGY-- The student will be able to:

25.01 Identify the major body systems and their anatomical features.

25.02 Explain the physiology processes in the human system necessary to influence and maintain homeostasis.

26.0 DISCUSS THE GENERAL RESPONSIBILITIES AND FUNCTIONS ENCOUNTERED BY A MEDICAL TECHNICIAN-- The student will be able to:

26.01 Ask appropriate scientific questions and recognize what is involved in experimental approaches to the solutions of such questions.

26.02 Organize and communicate the results obtained by observation and experimentation.

26.03 Demonstrate ability to evaluate and draw conclusions.

26.04 Demonstrate knowledge of anatomy and physiology of body systems.

26.05 Demonstrate ability to report observations in written or oral form.

27.0 APPLY QUALITY ASSURANCE PRINCIPLES AND SAFETY PROTOCOLS -- The student will be able to:

27.01 Recognize specimen suitability and determine need for rejection/recollection using factors described in clinical protocol.

27.02 Describe special procedures for transporting and processing specimens.

27.03 Describe clinical laboratory role in providing quality assurance in laboratory testing, reporting, and use and maintenance.

27.04 Demonstrate all required calibration procedures.

27.05 Demonstrate and record all quality control procedures unacceptable results.

27.06 Identify and report problems encountered in daily quality control according to standard operating procedures.

27.07 Adhere to current OSHA regulations regarding laboratory hazards.

33.0 DEMONSTRATE KNOWLEDGE OF IMMUNOHEMATOLOGICAL PRINCIPLES AND PROCEDURES -- The student will be able to:

33.01 Discuss basic genetics of the antigen system.

33.02 Discuss the ABO, Rh and other blood group systems.

33.03 Perform antigen and antibody testing to establish ABO group and Rh.

33.04 Discuss and perform routine compatibility testing.

LIST PERFORMANCE STANDARD ADDRESSED: (CONTINUED)

NUMBER(S):

TITLES(S):

- 33.05 Discuss and perform antibody screening and identification of common single antibodies.
- 33.06 Discuss donor interview, criteria for selection, phlebotomy preparation, and donor blood processing.
- 33.07 Identify symptoms of and required laboratory protocol for handling suspected transfusion reactions.
- 33.08 Discuss immune hemolytic diseases commonly investigated through immunohematological procedures.
- 33.09 Discuss multiple antibody identification procedures.
- 33.10 Discuss appropriate absorption and elution techniques.
- 33.11 Discuss component collection and preparation.

