

Minnesota State College Southeast

MEDL 1121: Hematology 1

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course explores the essential aspects of hematology. Emphasis is placed on hematopoiesis theory and blood cell production, structure, function, identification and differentiation. Students will be introduced to basic techniques and instrumentation utilized in the hematology laboratory. (Prerequisite: Must be a Medical Laboratory Technician accepted student) (3 credits: 2 lecture/1 lab)

B. COURSE EFFECTIVE DATES: 10/15/2012 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Understand the basic principles of hematopoiesis
2. Describe basic anatomy and cellular structure and function
3. Demonstrate laboratory procedures, automated and manual used in the clinical hematology laboratory
4. Develop proficiency in normal blood cell identification
5. Correlate automated testing with manual laboratory procedures
6. Describe special hematology procedures and populations
7. Exhibit an awareness of regulatory requirements in hematology

D. LEARNING OUTCOMES (General)

1. Outline the basic principles of hematology
2. Diagram the cell structure and describe the organelles
3. Illustrate basic anatomy and cellular structure and function as it relates to hematopoiesis and cellular production in the human body
4. Diagram red blood cell, white blood cell, and platelet development, differentiation, morphology and maturation
5. Describe white blood cell kinetics and function
6. Describe the red blood cell metabolism, hemoglobin metabolism, and iron metabolism
7. Describe laboratory procedures, automated and manual, commonly used in the clinical laboratory
8. Set up and perform the basic laboratory techniques used in hematology, including slide preparation and staining, normal automated and manual differential, sedimentation rates, reticulocyte counts, chamber counts, calculated red cell parameters, absolute neutrophil count, and white blood cell correction for elevated nucleated red cell
9. Describe bone marrow collections and body fluids
10. Differentiate hematology parameters in adult, infant, child, and geriatric populations
11. Evaluate basic quality control procedures used in the hematology laboratory
12. Operate automated hematology instrument to analyze samples
13. Adopt proper policies and procedures provided to complete hematological testing in the laboratory setting

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted