DEPT. Medical Laboratory Technician                        COURSE NUMBER: MDLT 1130

NUMBER OF CREDITS: 3 (2 lecture/1 lab)

COURSE TITLE: Hematology I

CATALOG DESCRIPTION: This course is the first part of a two part course in Hematology, the study of diseases in the blood. Students will begin with a basic study to the blood cells called hematopoiesis. Students will study the disease processes that occur in the white blood cells of the blood with emphasis on leukemia and lymphoma. The student will prepare a research paper on a type of leukemia or lymphoma. Note: Lab is not considered a separate course

AUDIENCE: Medical Laboratory Technician Student or student interested in hematology (must have phlebotomy skills)

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)

PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: MDLT 1100 Introduction to Laboratory Science

LENGTH OF COURSE: 1 semester

THIS COURSE IS USUALLY OFFERED: Fall Semester only

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT: The academic objectives of this course are:
   a. Understand hematopoiesis, with emphasis on leukopoiesis
   b. Differentiate the different benign disorders based on laboratory observations, etiology, clinical symptoms and pathophysiology
c. Differentiate the various chronic and acute leukemias and lymphomas based on laboratory observations, etiology, clinical symptoms and pathophysiology
d. Operate hematological instrumentation
e. Proficiently perform and understand laboratory procedures as used in the clinical laboratories

2) THINKING SKILLS: This course will help students improve the effectiveness of their thinking skills through:
   a. Identifying normal and abnormal white blood cells in the laboratory
   b. Performing mathematical calculations
   c. Correlating lab tests with hematological disorders

3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
   a. Writing research paper on a leukemia or lymphoma
   b. Working with classmates in the laboratory environment

4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
   a. Working in small groups in the laboratory
   b. Discussing hematological conditions in reference to percentage seen in different populations

TOPICS TO BE COVERED:
1. Safety and infection control
2. Specimen collection
3. Microscopy
4. Hematopoiesis with emphasis on leucopoiesis
5. Routine testing in Hematology
6. Examination of peripheral blood smears
7. Bone marrow overview
8. Nonmalignant Alterations of Leukocytes
9. Leukemias
10. Lymphomas
11. Myelodysplastic syndromes

LIST OF EXPECTED COURSE OUTCOMES:
1. Improvement of phlebotomy skills, including enhancement of communication skills
2. Perform mathematical hematological calculations
3. Accurately make and stain blood smears
4. Proficient count and report normal white blood cell differentiation blood smears
5. Recognize abnormal cells in differential smear
6. Understand the different types of leukemia and lymphomas
7. Understand the different kinds of benign leukocyte disorders as discussed in the power point
8. Understand the basic treatment of leukemias
9. Understand and perform quality control
10. Learn to work with others in the laboratory

LEARNING/TEACHING TECHNIQUES used in the course are:
X Collaborative Learning    X Problem Solving
☐ Student Presentations    ☐ Interactive Lectures
☐ Creative Projects    X Individual Coaching
X Lecture    X Films/Videos/Slides
X Demonstrations    Other (describe below)
X Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
☐ Reading    X Tests    X Individual Projects (lab)
☐ Oral Presentations (lab)    X Worksheets    X Collaborative Projects
☐ Textbook Problems    X Research Paper
X Group Problems    ☐ Term Paper
☐ Other (describe below)

EXPECTED STUDENT LEARNING OUTCOMES: See course outcomes above.

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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