

**LANCASTER GENERAL COLLEGE OF NURSING AND HEALTH SCIENCE
CLINICAL LABORATORY SCIENCE PROGRAM**

**SYLLABUS
Semester 1 - 2006**

I. Title: **CLS 121 Clinical Hematology I**

II. Course Description

This course covers the role of the hematology department in the diagnosis and management of blood cell disorders. The anatomy and physiology of hematopoiesis (blood cell production) will be studied in depth. Routine and specialized hematology tests will then be discussed, with an emphasis on performing and interpreting test results. Finally, theory will be applied to evaluate, classify, diagnose, and monitor blood cell abnormalities. Lectures are supplemented with class demonstrations, student practice, study questions, group discussions, and case studies.

III. Prerequisite Admission into the Clinical Laboratory Science Program

IV. Placement Fall Semester 2006

V. Time Allotment Theory: 52 hours
 Laboratory: 0 Clinical hours

VI. Faculty: Anne L. Cousar, MT (ASCP) SH, Clinical Instructor
 430 N. Lime St, Lancaster, PA Office # 3013, First Floor
 Internal Phone Ext Ext: 77354
 External Phone: (717) 544-4912 ext 77354

 Office Hours: Tuesday, Wednesday, Thursday 1200-1300
 Other – by appointment

VII. Credits: 4

VIII. Evaluation Quizzes and Assignments 20 %
 Section Exams (5) 80 %
 100 %

In order to pass this course, the student must achieve a final average score 74% or higher.

IX. Textbook: *Clinical Laboratory Hematology*, McKenzie, *Prentice Hall CLS Series*, 2004

X. Additional References

Textbooks:

- *Clinical Hematology and Fundamentals of Hemostasis, 3rd Ed.* F. A. Davis, 2002
- *Hematology Clinical Principles and Applications, 2nd Ed.* Saunders, 2002

- *A Color Atlas and Instruction Manual of Peripheral Blood Cell Morphology*, O'Connor Williams and Wilkins

Other Materials:

- Scientific publications: *Laboratory Medicine, Medical Laboratory Observer*
- ASCP Hematology Check Samples
- Tech/Check Sample Case Study Modules
- Images from LGH cases, CAP proficiency sets and ASCP workshops
- Samples and test results from LGH patients
- Inserts from Commercial Test Kits
- CD-ROM tutorials for Cell Identifications

XI. Course Objectives

At the completion of Clinical Hematology I, the student will be able to

1. Discuss the anatomy, physiology, biochemistry, production, and kinetics of erythrocytes, leukocytes, and thrombocytes.
2. Visually identify and list the functions of hematologic and specific non-hematologic (tissue) cells found in blood and marrow.
3. Classify and discuss the etiologies of erythrocyte and leukocyte disorders.
4. Explain how routine and specialized hematologic tests are used in the diagnosis and management of blood cell disorders
5. Compare and contrast all routine and selected special hematology tests with respect to principles, procedures, and techniques.
6. Calculate and interpret results for routine and special hematology tests.
7. Correlate obtained patient data with other laboratory results to make appropriate judgments about the validity of hematology results and the need for additional tests.
8. Discuss quality control processes used in hematology procedures. Apply troubleshooting, validation, statistical, computer, and preventative maintenance techniques to insure proper laboratory operation
9. Explain how quality control procedures identify system and random errors.
10. Use a problem solving approach to all areas of endeavor in the hematology lab.
11. Read case studies and apply knowledge and skills to interpret lab data.

XII. School Policies

Students are held accountable for all policies in the Student Handbook and any revisions made to those policies during the academic year.

XIII. Class:

A. Importance of Attending Class

Healthcare education comprises more than must private reading and passing of exams. Students shall recognize that active and informed participation in class is essential to the development of intellectual abilities and scholarly growth. Students must also recognize the importance, for both the present and future, of achieving an academic record that reflects their intellectual ability. Such records are seldom achieved without regular attendance and participation in class activities. Attendance will be taken.

B. Student Responsibility for Missed Material

Students are responsible for all material presented and announcements made in class, regardless of attendance. It is the student's responsibility to obtain materials and assignments if absent.

C. Unit Examinations

Examinations should only be missed in extenuating circumstances with approval of the instructor. A student who misses an exam will be required to make up the exam on the next day of lecture. Contact the appropriate instructor prior to the next lecture day to arrange to take the exam. A student who misses an exam, without instructor approval, will have ten percent (10%) deducted from the grade achieved on the exam. Example: The exam is worth sixty (60) points; the student takes the exam and achieves a grade of 52/60. The score of 52 is then decreased by 10% or five points; thus, the grade on the exam will be 47/60. An alternate exam may be given for the makeup exam.

D. Class Behavior

Once class has started, the instructor has the prerogative not to admit students into lecture. Students will be dismissed from class for any inappropriate behavior.

E. Academic Dishonesty and Plagiarism

Academic dishonesty violates the spirit and purpose of an academic community and is therefore subject to disciplinary action. Academic dishonesty includes cheating on exams and unauthorized duplicate submission of work.

Plagiarism is an act of academic dishonesty. Any work submitted that is not your own is plagiarism. In preparing assignments, you must acknowledge in writing any use of outside sources or any assistance you received in preparing an assignment

If an instructor believes a student has committed an act of academic dishonesty or has plagiarized material, the instructor will award a failing grade for that assignment. If the occurrence is during an exam, the student will receive a zero for that portion of their grade and must leave the room.

If the student disagrees with this decision, the student may follow the grievance procedure.

NOTE: The instructor reserves the right to change the syllabus at any time for various reasons. Students will be informed of these changes in a timely fashion, both by class announcement and via e-mail. It is the student's responsibility to remain informed of these changes

Course Content Tentative Schedule

CONTENT	HRS	STUDENT ACTIVITIES	COURSE OBJECTIVE
Unit 1: Erythrocytes in Health and Disease			
<u>Section 1: RBC Structure and Function</u> <ul style="list-style-type: none"> ▪ Routine Heme Procedures ▪ RBC Morphology ▪ Erythropoiesis and Kinetics ▪ RBC Structure and Function ▪ RBC Catabolism 		<u>Classroom activities:</u> Lectures, Images, PPT, Demonstrations <u>Homework assignments:</u> Study Questions, PPT tutorials, CD-ROM, Reading assignments in McKenzie <u>Assessment Tools:</u> Quizzes, Homework, Class participation Exam 1 -Sept 15, 2006	1, 2, 5, 6, 8, 10
<u>Section 2: Anemias Part 1</u> <ul style="list-style-type: none"> ▪ Diagnosis / Classification ▪ Anemia of Blood Loss ▪ Hypo/Micro Anemias ▪ Macrocytic Anemias ▪ Globin Chain Disorders 		Same as Section 1, with the addition of Case Studies Exam 2 -Oct 6, 2006	1-7 10-11
<u>Section 3: Anemias Part 2</u> <ul style="list-style-type: none"> ▪ Hemolytic Anemia (HA) ▪ Inherited (Intrinsic) HA ▪ Acquired (Extrinsic) HA ▪ Anemias of Bone Marrow Failure ▪ Anemias of Systemic Disease 		Same as Section 2 Exam 3 -Oct 25, 2006	3, 4, 5, 6, 10, 11
Unit 2: Leukocytes in Health and Disease			
<u>Section 4: WBC: Normal and Non-Malignant Disorders</u> <ul style="list-style-type: none"> ▪ Exam of Wright's stained blood smear ▪ Stem Cell Theory and Hematopoiesis ▪ WBC / PLT Kinetics and Functions ▪ WBC Morph and Cell ID ▪ Reactive WBC Disorders ▪ Inherited WBC Disorders 	10	<u>Classroom Activities:</u> Lectures, Images <u>Homework Assignments:</u> same as RBC Section 2 <u>Assessment Tools:</u> Same as RBC Section 2 Exam 4 Nov 15, 2006	1, 2, 3, 5 6, 7, 10, 11
<u>Section 5: Hematologic Malignancies</u> <ul style="list-style-type: none"> ▪ Bone Marrow Exam ▪ Myelodysplastic Syndrome ▪ Chronic Leukemias ▪ Acute Leukemias ▪ Plasma Cell Dyscrasias ▪ Malignant Lymphoma 	15	Same as Section 4, with a student class presentation Exam 5 during Finals week-date TBD	2-5, 7, 10, 11

August 23, 2006