UNIVERSITY OF WISCONSIN OSHKOSH
MEDICAL TECHNOLOGY PROGRAM

Biology 344 INTRODUCTION TO HEMATOLOGY

Section 001 – Spring 2012

INSTRUCTOR: **John E. Strous, MS, MLS(ASCP)**
Director, Medical Technology Program
OFFICE: Halsey Science Center - Room 127
OFFICE HOURS: Many times available, by appointment
PHONE: 424-1487

CLASS: Medical Technology Lab HS 28
TIME: Lecture: M 11:30--12:30 HS 28
F 10:20--12:30 HS 28
Lab: W 11:30--1:40 HS 28
CREDITS: 3

TEXTS: The Morphology of Human Blood Cells, 6th edition, Diggs, L.W., Sturm, D., and A. Bell. Abbott Laboratories, Abbott Park, IL., 1985. [Handout]

Clinical Hematology and Fundamentals of Hemostasis, 5th edition, D.M. Harmening. F.A. Davis Company, Philadelphia, 2009. [Recommended]

Medical Technology Program Student Achievement Goals:

1) Graduates of the Medical Technology Program will demonstrate a broad foundation in basic chemistry, biology and microbiology.

2) Medical Technology graduates will demonstrate the theoretical knowledge and technical skills necessary to effectively function in the following major disciplines of Medical Technology: Clinical Chemistry, Hematology, Immunohematology (Blood Banking), Immunology and Microbiology. In each of these disciplines our students will be able to perform the relevant routine clinical laboratory tests according to the procedures in place at their internship site. Moreover, they will evaluate normal and abnormal controls and demonstrate proficiency with the instrumentation in use at their clinical site.

3) Our Medical Technology graduates will be able to anticipate and correlate expected results within the disciplines of Medical Technology to provide identification and confirmation of disease processes.

4) Medical Technology graduates will critically evaluate new analytical procedures and new instrumentation in order to keep pace with developing technologies.

5) Medical Technology graduates will be conscientious professionals in the clinical laboratory setting who can communicate with their peers, doctors and patients. They will function effectively as members of the health care system.

Course Objectives

Each student will be given laboratory exercises and objectives prior to the scheduled exercise.

Grading Policy

	No.	Points	Total Points
Examinations	3	100 each	300 points
Practical Evaluation:			
Complete Blood count with Blood Indices & Differential			
Automated		50	50
Manual		50	50
Differentials			
Making			
Staining			100
Counting			

A	=	450 points or above
B+	=	440-450 points
B	=	410-440 points
B-	=	410-400 points
C	=	350-400 points
D	=	300-350 points
F	=	below 300 points

*Attendance is mandatory, habitual tardiness is not acceptable; - 3% of point total for each unexcused absence.

Laboratory Safety and Professionalism Minus 0-100 Minus 0-100

MAXIMUM TOTAL 500

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WEEK OF:	LECTURE DAY	LECTURE TOPIC	READING ASSIGNMENT
(1) Jan. 30	1 2	General Instructions Hemostasis	 Chapter 24
(2) Feb. 6	3 4	Hemostatsis Bleeding Disorders	Chapter 24 Chapters 25, 26, 27
(3) Feb. 13	5 6	Bleeding Disorders Principles of Staining	Chapters 25, 26, 27 To be assigned
(4) Feb. 20	7 8	The Organelles of the Cell The Organelles of the Cell	To be assigned
(5) Feb. 27	9 10	Hematopoiesis Hematopoiesis	Harmening Chapter 1
(6) March 5	11 12	**Examination I** Differentiation and Development	
(7) March 12	13 14	Differentiation and Development Differentiation of Granulocytes	Chapter 1
March 19		**SPRING BREAK!** Have Fun!!!	
(8) March 26	15 16	Differentiation of Lymphocytes Differentiation of Monocytes	Chapter 1
(9) April 2	17 18	Erythrocytes: Development Erythrocytes: Structure and Function	Chapter 1 (p. 11-14) Chapter 3
(10) April 9	19 20	Production of Hemoglobin Production of Hemoglobin	Chapter 3 Chapter 3
(11) April 16	21 22	**Examination** Erythrocyte Disorders	 Chapter 4
(12) April 23	23 24	Erythrocyte Disorders Erythrocyte Disorders	Chapter 6 Chapter 7
(13) April 30	25 26	Erythrocyte Disorders Leukocyte Disorders	Chapter 9 Chapter 15
(14) May 7	27 28	Leukocyte Disorders **Final Examination**	Chapters 16,17,19,20

*NOTE: This schedule will be modified after a review of the Medical Bacteriology (Biology 312/313) and Introduction to Instrumental Analysis (Chem 320) semester schedules. (also Junior Medical Technology major Spring courses.) Changes will be made to minimize examination conflicts and will be announced in class.

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WEEK	LABORATORY	READING ASSIGNMENT
1	OSHA Regulations	
2	Bleeding Time Clot Retraction Whole Blood Clotting Time Prothrombin Time Partial Thromboplastin Time	Diggs Harmening (852-853) Handout Harmening (856-857)
3	Preparation and Staining of Differential Smears	Harmening (768-770)
4	Examination of Normal Differentials	Diggs Harmening (770-771)
5	Differential Counting	Handout Diggs
6	General Phlebotomy Unknown Differentials	Diggs
7	Examination of Abnormal Differentials	Diggs
	SPRING BREAK!	
8	Hematocrit and Hemoglobin	Hemoglobin Handout Harmening (771-772)
9	Erythrocyte and Leukocyte Count	Harmening (765-768)
10	Erythrocyte and Leukocyte Count	Harmening (765-768)
11	Reticulocyte Count Blood Indices Examination of Slides	Harmening (772-775) Diggs
12	Platelet Count Examination of Slides	Harmening (767-768) Diggs
13	Examination (Laboratory) CBC with Differential, Automated	
14	Examination (Laboratory) CBC without Differential, Manual	

***This schedule will be modified - see note on previous page.**

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WEEK OF:	LECTURE DAY	LECTURE TOPIC		READING ASSIGNMENT
(1) Jan. 30	1 2	General Instructions Hemostasis		 Chapter 24
(2) Feb. 6	3 4	Hemostatsis Bleeding Disorders		Chapter 24 Chapters 25, 26, 27
(3) Feb. 13	5 6	Bleeding Disorders Principles of Staining	**New Lecture and Lab Exam Schedule below for Spring 2012**	Chapters 25, 26, 27 To be assigned
(4) Feb. 20	7 8	The Organelles of the Cell The Organelles of the Cell		To be assigned
(5) Feb. 27	9 10	Hematopoiesis Hematopoiesis		Harmening Chapter 1
(6) March 5	11 12	**Examination I** Differentiation and Development	**Monday March 5 Exam I (through Hematopoiesis)**	
(7) March 12	13 14	Differentiation and Development Differentiation of Granulocytes		Chapter 1
March 19		**SPRING BREAK!**	Have Fun!!!	
(8) March 26	15 16	Differentiation of Lymphocytes Differentiation of Monocytes	**Friday March 30 Exam II (through Hemoglobin)**	Chapter 1
(9) April 2	17 18	Erythrocytes: Development Erythrocytes: Structure and Function		Chapter 1 (p. 11-14) Chapter 3
(10) April 9	19 20	Production of Hemoglobin Production of Hemoglobin		Chapter 3 Chapter 3
(11) April 16	21 22	**Examination** Erythrocyte Disorders		 Chapter 4
(12) April 23	23 24	Erythrocyte Disorders Erythrocyte Disorders	**Monday April 23 Exam III (through leukocytes)**	Chapter 6 Chapter 7
(13) April 30	25 26	Erythrocyte Disorders Leukocyte Disorders		Chapter 9 Chapter 15
(14) May 7	27 28	Leukocyte Disorders **Final Examination**	**Monday May 7, Tuesday May 8, Friday May 11 Lab Practicals**	Chapters 16,17,19,20

New Lecture and Lab Exam Schedule above for Spring 2012.

*NOTE: This schedule will be modified after a review of the Medical Bacteriology (Biology 312/313) and Introduction to Instrumental Analysis (Chem 320) semester schedules. (also Junior Medical Technology major Spring courses.) Changes will be made to minimize examination conflicts and will be announced in class.

NOTIFICATIONS:

DISABILITY SERVICES
The University of Wisconsin Oshkosh is committed to providing reasonable accommodation for students with disabilities. Please contact the Disability Services [Dean of Students Office, 125 Dempsey Hall, 424-3100 (Voice), 424-1319 (TTY)] for the University's accommodation request form or visit their website at http://www.uwosh.edu/dean/disabilities.htm. Information related to an individual's accommodation request or other arrangements will be confidential and will be shared with relevant University personnel or offices on a "need to know" basis.

ELECTRONIC DEVICES
The use of electronic devices (computers, cell phones, recorders, etc) during class, lab exercises, or exams must be individually approved by the course instructor.

ATTENDANCE
Attendance is required – if a student must miss class they must obtain permission/provide notification prior to that class. Unexcused absence will result in loss of 3% of a students total points.

CONTACT INFORMATION
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