

Philadelphia University
Department of Biotechnology and Genetic Engineering
Haematology Syllabus
Dr. Adeeb M. Al-Zoubi
First Semester, 2008-2009

Text Book: Essential Haematology, 5th Ed., 2006

Authors: A. V. Hoffbrand, J.E. Pettit, P. Moss

Distributors :

1. Blackwell Science, Inc., 350 Main St., Malden, Massachusetts, 02148, USA.
2. Blackwell Publishing Ltd., 9600 Garsington Road, Oxford, OX4 2DQ, UK.

ISBN: 0-63205-153-1

Lecture Time and place:

Sun-Tues-Thurs: 9:15 - 10:15 AM
Science Hall 1

Course Description: Haematology is a science that deals with blood and its components, their structure, function, and disorders. The course will be 4 credit hours. Three credit hours will be designated for lectures and one credit hour for laboratory. The course will contain an introductory part, in which basic concepts of haematology are introduced and major terms are defined; then, specialized topics will be tackled in a systematic approach to cover the major diseases of blood and its components.

Objectives: The course is especially designed for undergraduate students who intend to work in diagnostic laboratories. Upon the completion of the course, students would have benefited from the following objectives of the course:

1. Explain major concepts in haematology, including haemopoiesis, bone marrow structure, blood composition, and functions of blood components.
2. Elucidate the basis of blood diseases, including anemias, haemoglobinopathies, bleeding disorders, and haematological malignancies
3. Clarify in detail the major concepts regarding blood transfusion, and bone marrow transplantation
4. Provide the latest information regarding the newest techniques utilized by haematologists to treat and diagnose haematological disorders, including stem cell purification and transplantation, flow cytometry analysis, and molecular HLA matching techniques.

Course Design:

In the classroom:

- Generally, the teaching material will be introduced in an interactive presentation format.
- Some topics will require adaptation into different teaching formats. The teacher will adapt accordingly.
- Absence from class for >10% of total class time will lead to dismissal from the course.
- Related questions are strongly encouraged in the class.

Recommended study approach:

- Students should attend all lectures and not miss any lecture time.

- Additionally, for each lecture, the student should prepare and follow up with sufficient studying time to cover the material presented in the class during that lecture.
- It is highly advised not to accumulate material until before the examination time. Cramming will definitely weaken the student's ability to understand and retain valuable information.
- After-class questions can be presented directly to the instructor during advertised office hours, or can be emailed to philadelphiahematology@gmail.com

Grading System:

Lecture: 70%

1st Exam: 15%

2nd Exam: 15%,

Participation / Quizzes: 10%

Final Exam: 30%

Lab: 30%

Topic	Chapter	Lectures
Class Organization/ Approach to study Haematology		1
Bone Marrow-General Structure	1	1
Blood Cell Formation (Haemopoiesis)	1	2
RBCs-Erythropoiesis	2	1
Haemoglobin-Structure and Function	2	2
White Blood Cells-Functions and Classification	9, 10	2
Platelets	18	1
Blood Coagulation and haemostasis	18	2
First Hour Examination		
Anemia-General Aspects	2	1
Types of Anemias	3, 4, 5	2
Genetic Disorders of Haemoglobin	6	3
Bone Marrow Disorders	7	2
Benign Disorders of WBCs	9, 10	2
Second Hour Examination		
Haematological Malignancies-General Concept	11	1
Leukemias	12, 14	2
Lymphomas	15	1
Myelomas	16	1
Myeloproliferative Disorders	17	1
Diagnosis of haematological malignancies by flow cytometry	--	2
Bleeding Disorders	19	1
Coagulation Disorders	20	1
Blood Transfusion	23	1
Bone Marrow Transplantation	8	1
Stem Cell Transplantation	8	1
Final Examination		

Good luck to all of you