King Saud University
Department of Clinical Laboratory Sciences
CLS 241 Haematology Syllabus
Dr. Abdullah Aljedai

Lecture Time:

Tues: 10 - 12 AM

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. Two credit hours will be designated for lectures and two credit hours 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 form 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..

• Absence form class for >25% 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.
• Students should not depend solely on lecture materials and are encouraged to read text books and other online resources to gain an in-depth knowledge of the module.
• 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:
aaljedai@ksu.edu.sa

CLS 241: Lecture Schedule

Weeks	Subjects
1	Haemopoiesis: physiology and pathology of Red cells and platelets
2	Granulocytes, Monocytes, and reticuloendothelial system
3	Benign disorders of white cells
4	Red cell disorders
5	Blood coagulation and Haemostasis
6	Iron: Physiology and deficiency, iron Overload and sideroblastic anaemia
7	Megalohlastic anaemia:Vitamin B12, and Folate deficiency
8	Haemolytic anaemias: Genetic defects of haemoglobin
9	Inherited defects of haemogolobin-sickle cell disease

10	Haematological malignancies-General concepts
11	Acute leukaemia
12	Chronic lymphocytic leukaemia
13	Myeloproliferative disorders
14	Diagnosis of haematolgical malignancies by flow cytometry

CLS 241 Laboratory Schedule

Week	Subject
1	Collection of blood from patients
2	Basic haematological techniques
3	Preparation and staining methods for peripheral blood and bone marrow films
4	Blood-cell morphology in health and disease
5	Blood-cell cytochemistry and supplementary techniques
6	Laboratory methods used in the investigation of the haemolytic anaemias
7	Investigation of the hereditary haemolytic anaemias
8	Investigation of the haemoglobinopathies
9	Laboratory methods used in the investigation of paroxysmal nocturnal haemoglobinuria
10	Quantitative assay of coagulation factors
11	Investigation of platelet function
12	Laboratory control of anticoagulant and thrombolytic therapy
13	Investigation of megaloblastic and iron-deficiency anaemias
14	Miscellaneous tests

Text Books:

1- 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

2- Practical Hematology

Authors: Sir John V. Dace & SM Lewwis

ISBN: 0 443 01981 9

Assessment

1-Theory examination (20% Med Term and Final 30%);

2- Assignment (10%).

3- Practical examination (20% Med Term and 20% Final)