



Umm Al-Qura University
College of Applied Medical Sciences
Laboratory Medicine Department



Course Overview - Diagnostic Immunology
(1435-1436H)

Course code	1701251-3
Course title	Diagnostic Immunology
Level/semester	2nd year / 2nd semester
Credit hours	3 (2 hours lecture + 1 hour practical)
Instructor	<ul style="list-style-type: none">• Dr. Naeem Qusty: Assistant professor of immunology qusty_n@hotmail.com Mobile: 0506554465• Dr. Manar Ismail: Associate Professor of immunology. manarismail4@yahoo.com Mobile: 0505524982
Office Hours	4 hours for each staff members/ week

Overview

This course is designed to teach the students the basic components of the immune system and how they work and interact with each other and discuss briefly some of the related immunological diseases and the main domain of the course is to explain the basic laboratory methods used to diagnose immunological disorders or evaluation of its function.

Objectives:

By the end of this course students will be able to:

- Identify the basic components of the immune system
- Differentiate between innate and adaptive immune response and how they work and interact
- Realize the effect of loss of some functional immunological molecules in the development of different diseases
- Identify the basic laboratory methods used to diagnose immunological disorders or evaluation of its function.
- Appreciate the role of immunology lab in the diagnosis of infectious diseases and autoimmune diseases

Course Description

I. Topics to be Covered (theoretical section- lectures)		
List of Topics	No. of Weeks	Contact Hours
1-Introduction to basic immunology and role of immunology lab in the medical field.	1	2
2-Innate immunity	1	2
3-Inflammatory response	1	2
4-Antigen and antibody	1	2
5-Complement system	2	4
6-Adaptive immune system and lymphocyte development	2	4
7-Humoral immune response (B cells) and its Laboratory evaluation	2	4
9- Human Leukocyte Antigen (HLA)	2	4
10-Cell mediated immune response and its Laboratory evaluation	2	4
12-Autoimmune diseases	1	2
Total	15	30

II. Topics to be Covered (practical section)		
List of Topics	No of Weeks	Contact hours
Laboratory safety measures	1	2
Lab quality measures	1	2
Introduction to immunodiagnostic techniques	1	2
Immuno-agglutination tests	2	4
Immune-precipitation	2	4
Labeled immunoassay	2	4
Serological diagnosis of viral hepatitis	1	2
Flowcytometry	1	2
Serological markers of autoimmune diseases	1	2
The most common immunological tests	2	4
Revision	1	2
Total	15	30

Evaluation: (70% theoretical and 30% practical)

Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1 st periodic theoretical exam	4th	10%
Delivery of the assignment	7th	5%
2 nd periodic theoretical exam	9th	10%
Group presentation (scientific activity)	10th	5%
Final practical exam (clinical reports, written exam , continuous practical evaluation and home work)	All through	30%
Final theoretical exam	17th	40%
Total		100%

Learning Resources

Required Text(s)

1. Abo-Elabbas et al (2009): Basic immunology, function and disorders of the immune system
2. Abo-Elabbas et al (2006): Cellular and molecular Immunology
3. Hana Zein: Immunology: Theoretical & practical concepts in laboratory medicine
4. Mary Louise Turgeon: Immunology & Serology in Laboratory Medicine

Essential References (Journals, Reports, etc.)

Nature immunology

International journal of laboratory medicine

Annual review of immunology

Current Opinion in Immunology

Immunological investigations

Journal of Immunological Methods.

GOOD LUCK