Course Specifications

General Information

Course name	Basic Immunology
Course number	MEDI1261
Faculty	
Department	
Course type	College Needs
Course level	1
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Introduce the students with the basics of immunology
2 - understanding the structure and function of lymphoid organs and tissues
3 - Studying the concepts and cells involved in innate immunity
4 - Studing the structure and functions of immunoglobulins and antigens
5 - Understanding the functions of antigen presenting cells
6 - The knowledge about B cell development and activation
7 - Study the T-cell receptor education and activation
8 - Studing the complement system
9 - Understanding types and functions and genetics of MHC
10 - Study the cytokines communications in the immune system
11 - tolerance and autoimmune diseases

Intended Learning Outcomes

Knowledge and Understanding	* This course covers both the basic structure and functions of immune cells * students should be able to understand the correlations of all immune cells and the mediators secreted from the different cells * ability to understand the mechanisms of many diseases * Understanding the different immune techniques used in diagnoses
Intellectual Skills	* ability to know the role of immune system in defense against forgien bodies
Professional Skills	* adds knowledge for the students how the immune system can differentiate between self and none self
General Skill	* to understand the role of immune system in defense and the use of immune techniques in diagnosing different diseases

Course Contents

1 - basic concepts about immunity and immune system
2 - cellular components of innate immunity
3 - basic structure and functions of immunoglobulis
4 - genetics and class switching of immunoglobulins
5 - antigen types and conditions of antigenecity
6 - complement system
7 - development and activations of B-cells
8 - T--cell receptor
9 - T-cell education and activations
10 - Types of MHC molecules ,structure and genetics
11 - cytokines
12 - immunoregulations
13 - tolerance and autoimmune diseases
14 - Antigen presenting cells

Teaching and Learning Methods

1 - Lectures
2 - discussion groups
3 - students presentations and discussion

Teaching and Learning Methods for the Disabled Students

1 - none

Students Assessment

Assessment Method	TIME	MARKS
first hour exam	Week 6	20%
Second hour exam	Week 11	20%
Attendance and Quises	over the semester	10%
Final exam	Week 16	50%

Books and References

Course note	Power Point Presentations
	Mark Peakman Basic And Clinical Immunology second Edition 2009 Churchill Livingstone
Recommended books	Warren Leinson,Review of Medical Microbiology and Immunology,Eleventh Eddition 2010.By The McGraw-Hi;;Companies,New York

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Anatomy and cells of the immune system	1	to know what is the cells and organs of the immune system	ability to know how the immune system works		
Innate immunity,physical physiological and cellular mechanisms	2	Understanding the different cells involved in innate immunity			
Complement system	3	Understanding the complement proteins,activation,pathways,functions and regulations			Comprehensive knowledge about complement proteins and its role in immunity
Antigens and antibodies	4	Understanding different types of antigens, immunoglobulin structure, classes subclasses and functions			
Immunoglobulin genes and diversity	5	to know the genetic structure of immunoglobulin components	ability how the our body can generates millions of different antibodies		
Human leukocyte antigens	6	Understanding around a collection of genes	,Knowledge about different types of MHC molecules		
Antigen Presenting Cells APC	7	Understanding the cells involved in presentations	ability to know the difference between cellc		
Acquired immunity - Bcells	8	Understanding source, surface molecules development , plasma cells and activations			
T-lymphocyte and natural killer cells	9	Understanding the TCR diversity and generation,T-cell educations	Thinking about T-cell recognitions and rejections		Get good knowledge about t-cell population and subpopulations

Cytokines	11	studying the importance of cytokines in immune activations and communications	Ability to know the function of cytokine	importance of cytokines in therapeutic uses	
Tolerance	12	Knowledge the mechanisms of tolerance	To know the central and peripheral tolerance		Role of tolerance in autoimmune disease
Mechanisms of autoimmune diseases	13	Understanding the different types of autoimmune disease	ability to know the role of HLA in disease		