KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

Immunology Syllabus			
Course Title	**Immunology**		
Course Code	**MLS3325**	**No. of Credits**	**3**
Department	**MLS**	**College**	**Science**
Pre-requisites Course Code	**Principles of Hematology & Lab MLS2410C**	**Co-requisites Course Code**	
Course Coordinator(s)	**Dr. Salih Ahmed Hama**		
Email	**Salih.hama@komar.edu.iq**	**IP No.**	
Other Course Teacher(s)/Tutor(s)			
Learning Hours	**Monday SI 8:00-9:30; SII 13:00-14:30** **Thursday SI 8:00-9:30; SII 12:00-13:30**		
Contact Hours	**Monday 9:30 – 10:00 AM; 14:30 – 16:00** **Thursday 9:30 – 10:00 AM; 13:30 – 14:00**		
Course Type	***Departmental***		
Offer in Academic Year	**Spring 2016**		

Course Description

The immunity is the ability of the body to protect (eliminate, control, and slow down) the action of harmful agents, or disease-causing invaders through identifying and neutralizing their threats. The course of Immunology is designed to deliver the principle concerns of the body defense system, its composition, the central roles, and the main defects which may occur. It concentrates on the main types of immunity, the particular cells and organs of the immune system, antigens and antibodies and interaction between them, complement system and its activation, immunologically complaints……, etc.

Course Goals and Aims

This course is designed to provide students a necessary knowledge about:

- The immunity and the major parts of the immune system
- The body defense lines and biological barriers to infections
- Innate and adaptive immunity
- The central organs and cells of the immune system and their importance.
- Antigens and antibodies and interaction between them, as well as immunological and serological applications of Ag-Ab interaction.
- The complement proteins, their activation pathways and the roles of these proteins.
- How the immune system able to discriminate self from non-self- antigens and the role of MHC.
- The adverse effects of immune response, allergy and hypersensitivities
- Principles of autoimmunity and tumor immunology

Course Learning Outcomes

Upon completion of the immunology course, students would be able to:

1. Differentiate between innate and adaptive immunity, and explain the main defense lines as well as biological barriers to infections.
2. Illustrate the cell types and organs involved in the process of the immune response.
3. Emphasize and describe antigens-immunogens- antibodies as well as the interaction between them.
4. Employ antigen-Antibody interaction to conduct different immunological and serological tests in the laboratory.
5. Interpret the complement system, components, their roles, activation pathways and their biological roles
6. Relate the roles and importance of cytokines with immune responses in both health and disease conditions.
7. Illustrate the adverse effects of the immune system including Allergy and hypersensitivity.
8. Interpret the important immunologic disorders, and the principles of autoimmunity.
9. Relate between immunologic disorders and tumor, immunization–vaccination- and its role in protection against disease

Guidelines on Grading Policy

Points	*Percentage Scores*	*Grade*
A *A-*	*95–100* *90-94*	*4.0* *3.7*
B+ *B* *B-*	*87–89* *83-86* *80-82*	*3.3* *3.0* *2.7*
C+ *C* *C-*	*75–79* *70-74* *65-69*	*2.3* *2.0* *1.7*
D+ *D* *D-*	*60–64* *55-59* *50-54*	*1.3* *1.0* *0.7*
F	*0–49*	*0*
I	*Incomplete Course Work*	
W	*Official Withdrawal*	

Course Teaching and Learning Activities

Course Teaching and Learning Activities: (short description)

Lectures:

The students are responsible for all material covered in the lectures, and they should make every effort to attend the lectures and take complete and accurate notes.

Methods of Presentation and Evaluation:

Information will be presented through power point lectures and class discussion using data show and appropriate visual aids.

Course Assessment Tools

Assessment Method	Assessment Weight
Quizzes (at least five quizzes during the course)	10 %
Homework (at least two homework during the course)	10 %
Reports (at two reports during the course)	10 %
Class Activity (Participation in the class, other activities…)	5 %
Tests (at least one test during the course)	10 %
Midterm Exam (After 7th week)	25 %
Final Exam	30%
Total	**100%**

Grading: Passing Grade: 65%

Essential Readings: (Journals, textbooks, website addresses, etc.)

Textbooks:

1. Name of the Textbook: IMMUNOLOGY A Short Course
   Authors: Richard Coico, Geoffrey Sunshine
   Publisher: John Wiley & Sons Ltd
   ISBN: 978-1-118-39691-9 (Pbk.)
   Year: 2015
2. Name of the Textbook: Textbook of Immunology Course
   Authors: Sunil Kumar Mohanty; K Sai Leela;
   Publisher: Jaypee Brothers Medical Publishers (P) Ltd
   ISBN: 978-93-5090-474-9
   Year: 2014

Useful References:

1. Christine Dorresteyn Stevens. 2010. Clinical Immunology and Serology. 3rd edition. United States of America.
2. Shetty N. 2005. Immunology introductory textbook. 2nd edition. New Age International (P) Limited Publishers, New Delhi. India.
3. Rechard M. Hyde. 2000. NMS Immunology. 4th edition. USA.

Course Policy *(including plagiarism, academic honesty, attendance, etc.)*

General Guidelines for MLS Students:

Useful guidelines:

1. Work both independently and in groups of your peers, who can help you understand the course material**.**
2. Attend every lecture, discussion, and lab.
3. Make every effort to interact with your class partner(s).
4. Try to stay active throughout the class period.
5. Don't hesitate to ask questions in class.
6. Put your fair share of efforts in preparing the term projects and the term paper.
7. Be cooperative at all times.
8. Spend at least 2-3 hours each day for studying and doing homework.

Portable Electronic Devices:

- Using of any electronic devices, like cell phones, MP3 players during class are not allowed.
- In Case of necessity for using electronic devices, approval should be given by the instructor.
- If students use a portable electronic device during tests, quizzes, or other assessment, they are eligible to receive a failing grade or zero.

Class attendance:

Attendance is important and will be taken at each lecture. Students will attend all class meetings, except in cases of reasonable extenuating circumstances. In cases of an emergency, students should contact their instructor. Students need to be in the class to take notes, ask questions and stay involved in the course, and they are personally responsible for the assignments and all information missed due to an absence. Absence (excused or unexcused) may affect on student's grades.

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Course Schedule

Weeks	Subject Title	Outcome achievement	Assessments	
Week 1	Immunology: An Introduction	Outcome -1-		
	The main Types of immunity			
Week 2	Innate and Adaptive Immunity			Quiz 1
	Biological Barriers			
Week 3	Organs of the immune system	Outcome -2-	HW 1	
	Cells of the immune system I			
Week 4	Cells of the immune system II			Quiz 2
	Phagocytosis			
Week 5	Antigens (Immunogens) I	Outcome -3-		
	Antigens (Immunogens) II			
Week 6	Antibodies (Immunoglobulins) I			Quiz 3
	Antibodies (Immunoglobulins) II			
Week 7	Antigen-Antibody Interaction I		Rep. 1	
	Antigen-Antibody Interaction II			
Mid-term Exam				
Week 8	Applications of Ag-Ab interaction I	Outcome -4-		
	Applications of Ag-Ab interaction II			
Week 9	Complement system I	Outcome -5-		Quiz 4
	Complement system II			
Week 10	Cytokines	Outcome -6-		
	Test			
Week 11	Hypersensitivities and Allergy I	Outcome -7-	HW 2	
	Hypersensitivities and Allergy II			
Week 12	Immunization and Vaccines	Outcome -8-		Quiz 5
	Tumor Immunology			
Week 13	Autoimmunity		Rep. 2	
	Immunologic Disorders I	Outcome -9-		
Week 14	Immunologic Disorders I			
	AIDS			
Week 15	**Revision**			

Slight changes may happen