بسم الله الرحمن الرحيم

جامعة آل البيت

كلية العلوم

قسم العلوم الطبية المخبرية

جامعة آل البيت
دائرة ضمان الجودة والتخطيط

توصيف مساق.Immunology and Serology

علم المناعة و الامصال (0406374)

1. معلومات مدرس المساق (Instructor)

اســـم (مدرس / منسق) المساق :	Prof. Adnan S. Jaran أ.د عدنان سليم خليل جرن
الساعـــــات المكتبيـــــــــة :	ثن – ربع 9.30 – 11
رقم المكتب والرقـــم الفرعـــــي :	2119
البريـــــــــد الالكترونـــــــي :	jaran@aabu.edu.jo
مساعد البحث والتدريس/المشرف/الفني (إن وجد):	

2. وصف المساق (Course Description)

The major content of the course is medical immunology and the understanding of the mechanisms behind how the immune system is continuously prepared to defend us against infections. In addition, the course contains an overview over how the immune system can sometimes damage our bodies, as in autoimmune disease and allergy.

3. بيانات المساق (Course Title)

رقم المساق: 406374	**اسم المساق: علم المناعة و الامصال**	**المستوى: الثالث**
طبيعة المساق: نظري	**المتطلب السابق 0406251 و 0406342**	**وقت المحاضرة: 9.15 – 10.15**
العام الجامعي: 2019 / 2020	**الفصل الدراسي: second**	**عدد الساعات الدراسية: 2**

4. أهداف المساق (Course Objectives)

أ-	Understand innate and active immune system and the components of the immune system
ب-	Understand basic cells and organs of the immune system and the roles of these components in the immune system.
ج-	Understand the structure and function of antibodies, know types and characterizations antibodies

د-	Know and understand the principle of immunological methods in antigen antibody interactions

5. مخرجات التعلم (Intended Student Learning Outcomes)

(المعرفة والمهارات والكفايات)

يفترض بالطالب بعد دراسته لهذا المساق أن يكون قادرا على:

1. Explain innate and active immune system and the components of the immune system
2. Explain the basic cells and organs of the immune system and the roles of these components in the immune system.
3. Explain the structure and function of antibodies, know types and characterizations antibodies
4. Know and explain the principle of immunological methods in antigen antibody interactions.....

6. محتوى المساق (Course Content)

الأسبوع	الموضــوع
الأول	Introduction: Definition of immunology, Historical Perspectives, The scope of immunology.
الثاني	Innate Immunity: External barriers, mucus membranes, Gastric acids, Normal flora, Phagocytic cells, Plasma proteins, Inflammatory response.
الثالث	Specific acquired immunity: Humoral immunity, Antibody production, Cellular basis of Antibody production, Acquired memory,
الرابع	Specific acquired immunity: Cell-mediated immunity, Intracellular organisms, Immunopathology.
الخامس	Antibodies: Structure of Antibodies, Classes of Antibodies, Function, IgG, IgM, Genetics of Antibody diversity.
الامتحان الأول (الاثنين 2020/3/9)	
السادس	Membrane receptors for Antigen: The B cell receptor (BCR), The T cell receptor (TCR), The generation of diversity for antigen recognition
الثامن	Membrane receptors for Antigen: Natural Killer cells (NK) receptors, The Major Histocompatibility complex (MHC) I + II.
التاسع	The primary interaction with antigen: What antibodies see? Identifying B-cell epitopes, Antibody-Antigen interactions, Specific and cross-reactivity of antibodies.
العاشر	The primary interaction with antigen: What the T-cell see? Processing of intracellular antigen for presentation by Class I MHC, Processing of antigen for Class II MHC.
الامتحان الثاني (الاثنين 2020/4/6)	

الحادي عشر	Immunological Methods and Applications: Making Antibodies to order, Purification of Antibodies by affinity chromatography, Immunodetection of antigen in cells and tissues, detection and quantification of antigen by antibody, Other techniques. The anatomy of the immune response: Lymphoid tissue, Lymph node, Spleen, Bone marrow, Mucosal immunity.
الثالث عشر	Lymphocyte activation: Clustering of membrane receptors, B-cell activation, T-cell activation, Signaling and Cytokines. Vaccines: Passively acquired immunity, Vaccination, killed organisms, live attenuated organisms, Subunit vaccine Current vaccines, Adjuvants
الرابع عشر	Immunodeficiency, Hypersensitivity, Transplantation
الخامس عشر	Tumor immunology: Tumor antigens. Autoimmune diseases: The scope of autoimmune diseases.
السادس عشر	**الامتحان النهائي**

7. استراتيجيات التعليم والتعلم وطرق التقويم
(Teaching and learning Strategies and Evaluation Methods)

ت	مخرجات التعلم	استراتيجيات التدريس	أنشطة التعلم	نوع التقويم/القياس (امتحان/عروض صفية/مناقشة/واجبات)
1	The students should know history and pioneers of Immunology	Brain storming, discussion	**lecture**	**Exam/quiz**
2	The student should know component and function of Innate immunity	Brain storming, discussion	**Lecture**	**Exam/quiz**
3	The students should know the component and function of active immunity	Brain storming, discussion	**lecture**	**Exam/quiz**
4	The students should know the structure, development and function of B cells and Antibody types	Group discussion brain storming	**Lecture**	Exam/assignment
5	The students should know the structure, development and function of T cells and cell	Group discussion and brain storming	**Lecture**	**Exam /assignment**

			mediated immunity	
Exam/quiz	**Lecture**	**Brain storming**	The students should know the types of hypersensitivity, tumor immunity and the methods used to asses immunity	6

8. تقييم الطلبة (Assessment)

الأساليب المستخدمة	توقيت التقييم	توزيع الدرجات لكل أسلوب
1-أعمال الفصل: (تقرير، وظائف، حضور)	خلال الفصل	10
2-امتحان تحريري أول	الأسبوع الخامس	20
2-امتحان تحريري ثاني	الأسبوع العاشر	20
3-امتحان تحريري نهائي	أسبوع الامتحانات النهائية	50

9. الكتاب المقرر (Text Book)

المرجع الرئيس	ROITT'S Essential Immunology
المؤلف	David Roitt
الناشر	Blackwell
السنة	2008
الطبعة	7th edition
الموقع الالكتروني للمرجع	

10. المراجع الإضافية (References) (وتشمل الكتب والبحوث المنشورة في الدوريات او المواقع الالكترونية)

1-	Lecture Notes Immunology (2008), Ian Todd & Gavin Spickett, 5th edition Blackwell
2-	Immunology (1993), Weir D. & Stewart J. 7th edition.
3-	