



Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Allied Medical Sciences Department

LM735 Advanced Clinical Microbiology And Immunology Ii

First Semester 2021-2022

Course Catalog

3 Credit Hours. The virology part of this course discusses advanced concepts relating to select human viral pathogens, including pathogenesis, relevant clinical symptoms, treatment, and diagnostic criteria. Course also includes discussions of latest virology research articles. The parasitology part of the course merges classical and modern medical parasitology. It provides detailed knowledge and understanding of the parasites of medical importance, specialized skills in: advanced diagnostic and immunological aspects of the subject. Students learn the up to date laboratory techniques used in the identification of different parasite stages in clinical specimens. The molecular diagnostic methods used to identify the species of the parasite or the genotype to distinguish between pathogenic and non-pathogenic parasites that are morphologically indistinguishable (e.g., Entamoeba histolytica/E. dispar, Cryptosporidium, Plasmodium spp. and Leishmania spp.). The biological and clinical perspectives gained in this course will assist students in the recognition, evaluation and management of public health problems and clinical practice especially involving medically important protozoa.

Text Book

Title	Jawetz, Melnick, & Adelberg's Medical Microbiology
Author(s)	Karen C. C., Jeffery A. H., and others.
Edition	27th Edition
Short Name	Ref #1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Medical Parasitology (Markel and Voges)	DT John and WA Petri Jr.	9th Edition	

Instructor

Name	Dr. Samer Swedan
Office Location	N3L-3

Office Hours	
Email	sfswedan4@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 14:30 - 17:30 Room: M2203

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Course Introduction; Introduction to Virology	From Ref #1
Week 2	Introduction to Virology	From Ref #1
Week 3	RNA Interference - Assignment and in-class discussion; Replication of RNA and DNA Viruses	From Ref #1
Week 4	Hepatitis Viruses; Paper discussion	From Ref #1
Week 5	Herpes Viruses; Paper discussion	From Ref #1
Week 6	Retroviruses AIDS and Cancer; Paper discussion	From Ref #1
Week 7	Virology Exam	
Week 8	Introduction to Parasitology	From Ref #2
Weeks 9, 10	Intestinal Protozoa (Entamoeba histolytica, Giardia lamblia, Cryptosporidium etc?.)	From Ref #2
Week 11	Intestinal Helminthes (Ascaris lumbricoides, Taenia spp., Enterobius vermicularis)	From Ref #2
Week 12	Tissue, and Blood Helminth Parasites (Echinococcus granulosus, Schistosoma spp., etc?); Student presentations	From Ref #2
Week 13	Tissue, and Blood Protozoan Parasites (Plasmodium spp., Leishmania spp., Toxoplasma, etc.); Student presentations	From Ref #2
Week 14	Malaria Parasitology Techniques; Student presentations	From Ref #2
Weeks 15, 16	Final Exams	

Relationship to Program Student Outcomes (Out of 100%)

A	B	C	D	E	F

Policy

Policies	<p>? Attendance policy: Attendance of all lectures is mandatory. Official excuse should be submitted in case of absence according to the university rules. Absences of each student will be entered electronically into the University site.</p> <p>? If absence is more than 20% of the lectures student will be notified by the university through student e-mail and will be banned from the course.</p> <p>Expected workload: On average, 3 hours per week readings from textbooks, research articles, and handouts.</p> <p>Student Presentations:</p> <p>I. Parasitology Section: Students are expected to prepare presentations regarding current/up-to-date topics in Parasitology that are not covered in the syllabus. Topics include latest diagnostic techniques, high-risk pathogens, or other interesting topics. All topics need to be approved by the course instructor using email (sfswedan4@just.edu.jo) or during office hours and MUST be selected no later than 9/11/2021.</p> <p>Presentations should last 12-15 minutes. Short or very long presentations will be penalized. Grading criteria for the presentation includes the following:</p> <ol style="list-style-type: none"> a. Use of proper English and scientific terms b. Presentation skills c. Quality of slides (clear, simple, professional) d. Adequate time spent presenting the topic?s introduction e. Adequate background material f. Logical progression of ideas g. Adequate understanding of the topic. h. Ability to answer questions <p>II. Virology Section:</p> <p>? THREE students will be given (or will be allowed to choose) recent research articles in the field of virology. Review articles are not acceptable.</p> <p>? The title of the chosen article should be sent by email (sfswedan4@just.edu.jo) to the course instructor for approval. All articles should be selected and approved no later than the 21/10/2021. Each student should make sure that their chosen article is suitable as a topic for group discussion. Ideally such an article should contain a good introduction, clear ideas, and multiple figures (e.g., blots, graphs, etc.)</p> <p>? Research article discussions start on 4/11/2021.</p> <p>? A PDF copy of the chosen articles will be posted on the e-Learning website for reading and dissection by ALL students one week before each class.</p> <p>? ALL students are expected to thoroughly read and understand each article, interpret the figures and ideas, and be able to discuss the results in class each week.</p> <p>? At the day of the presentation, the student presenting the article has up to 15 minutes to present the article?s introduction, discuss any additional background information, ideas, or topics important for the discussion of the article, and to present the article?s hypothesis and aims. Next the student will present each of the article figures and students in the class will be chosen randomly to discuss each of the figures (this includes the reason for performing the experiment [i.e., what question or problem the researcher is trying to answer/solve], discussing the experiment performed, discussing the results of the experiment and the interpretation, and the conclusions from the experiment)</p> <p>? All articles, course syllabus, and other material will be available on the JUST e-learning website (http://elearning.just.edu.jo/)</p> <p>? For any questions email me at (sfswedan4@just.edu.jo) or meet me at my designated office hours.</p> <p>Grading:</p> <p>I. The student presenting the article will be graded based on the following criteria:</p>
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- a. Use of proper English
- b. Good presentation skills
- c. Quality of slides (clear, simple, professional)
- d. Adequate time spent presenting the topic's introduction
- e. Adequate background material
- f. Logical progression of ideas
- g. Adequate understanding of the article, hypothesis, ideas, aims, and results
- II. The remaining students are also evaluated at each class for their understanding of each article and their ability to discuss and interpret the results (20 points divided on all sessions)

Makeup Exams:

Any student who did not attend any of the scheduled exams a

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