



Philadelphia University
Faculty of Science
Department of Biotechnology & Genetic Engineering
Second semester, 2009/2010

Course Syllabus

Course Title: Virology	Course code: 240314
Course Level: Second year	Course prerequisite (s) and/or corequisite (s): 240314
Lecture Time: Section 1: 11:10-12:00 Sun, Tue, Thurs	Credit hours: 3

Academic Staff

Specifics

Name	Rank	Office Number and Location	E-mail Address
Dr. Nabil A.S. NIMER	Assistant Professor	1114S	nabil_nimer@philadelphia.edu.jo

Course module description:

The course covers the fundamental principles related to the interaction mainly animal viruses with host cells. General topics include chemical and physical properties of viruses, virus classification, cultivation and assay of viruses, molecular events during viral replication and morphogenesis. Persistent infections and viruses as the cause of disease and neoplasma.

Course module objectives and knowledge outcome:

At the end of this module, student will be able to :

- * Differentiate the nature of viruses as particles or structures
- * The special techniques by which we can replicate viruses
- * Laboratory diagnosis of viruses using different techniques (such as: Molecular, immunological etc..)
- * Classification of viruses.
- * Understanding the main and new emerging threats of viral diseases eg. HIV , influenza

* How to combat viral infections.

Teaching methods:

The 45 hours in total will be mainly lectures with few tutorials and including two one hour exams.

Learning outcomes:

- **Cognitive skills (thinking and analysis).**

The capacity to identify different perspectives, theories and models potentially relevant to different subject matter and to appraise their strengths and weaknesses.

The capacity to be aware of the limitations of existing knowledge and understanding and to recognize the relevance of developing new approaches to situations and problems.

Learning logical thinking through taking the important ideas, facts and conclusions involved in a problem and arranging them in a chains like progression that takes on a meaning in and of itself.

- **Communication skills**

Speak with more confidence and listen carefully to build rapport.

Students will be encouraged to express themselves more effectively

Assessment instruments

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	20
Second examination	20
Final examination: 50 marks	50
Reports, Quizzes, Home works.	10
Total	100

Course/ module components

week	Basic and support material to be covered
(1)	Introduction to virology

(2)	General properties and classification of viruses
(3)	General features of viral replication and genetics
(4)	How viruses cause disease
(5)	Viruses and cancer
(6)	First Exam
(7)	Resistant to infection
(8)	The laboratory diagnosis of viral infections
(9)	Safety precautions
(10)	Hepatitis viruses
(11)	Second examination
(12)	Retroviruses and AIDS Orthomyxoviruses and influenza
(13)	The herpes viruses
(14)	Prion diseases
(15)	Antiviral chemotherapy
(16) Final Examination	Control of viral disease by immunization

Expected workload:

On average students need to spend 3 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy:

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the faculty of science shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

Module references

Title: Human Virology , Second Edition 2002

Author(s)/Editor(s): Collier, L and Oxford , J

Publisher: Oxford University Press

ISBN: 0 19 262820 8

Students will be expected to give the same attention to these references , as given to the Module textbook(s)

1. Introduction to Modern Virology , Dimmok N.J. *etal*
Blackwell Science Fifth edition, 2001

2. Microbiology, Prescott L.M. *etal*
McGraw-Hill Fifth Edition 2002

In addition to the above, the students will be provided with handouts by the lecturer.