



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Medical Virology Course
2	Course number	0334445
3	Credit hours (theory, practical)	2 (2+0)
	Contact hours (theory, practical)	2 (2+0)
4	Prerequisites/corequisites	General Microbiology course
5	Program title	Biological Sciences (BSc) and Medical Analysis (BSc) Programs
6	Program code	4
7	Awarding institution	The University of Jordan
8	Faculty	Faculty of Science
9	Department	Department of Biological Sciences
10	Level of course	Senior level
11	Year of study and semester (s)	Second Semester (2015/2016)
12	Final Qualification	Biological Sciences (BSc) and Medical Analysis (BSc) Programs
13	Other department (s) involved in teaching the course	_____
14	Language of Instruction	English
15	Date of production/revision	Feb. 2016

16. Course Coordinator:

Prof. Salwa Bdour
 Office numbers: Biology 312
 Phone number: 5355000 ext. 22233
 e-mail: bsalwa@ju.edu.jo
 Office hours: Monday and Wednesday (12-1)

17. Course Description:

This course begins with basic virology which includes: virus structure, genome organization, replication and gene expression strategies of different viruses, propagation of viruses in the laboratory, classification and nomenclature of viruses. This background allows students to deal with specific groups of human viruses, diagnosis of viral infections, control measures including immunization and anti-viral therapies.

18. Course aims and outcomes

A-Aims

This course is designed for the medical laboratory students. Its primary object is to provide students with just enough basic virology which allows them to deal with specific groups of human viruses, diagnosis of viral infections, control measures including immunization and anti-viral therapies. Although the course is taught without a practical part, the commonly used virology techniques will be described: cell culture technique, detection, isolation and identification of different human viruses by serological and molecular techniques. The student will be able to practice some of these techniques in the hospital during the training period of the medical analysis program.

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course students will be:

- B1. able to differentiate human RNA viruses from DNA viruses with respect to structure, replication and gene expression strategies and infectivity.
- B2. able to know how the newly discovered viruses are emerged.
- B3. familiar with diagnosis (detection, isolation and identification) of different human viruses.
- B4. able to deduce the consequences of transmission and infection with human viruses.
- B5. familiar with prevention and treatment strategies associated with various viral infections.
- B6. able to apply all above knowledge to some questions of current interest in the field of virology e.g. vaccination, antiviral drugs,-----etc.

19. Topic Outline and Schedule:

Topic	Lect. No.	Chapter No.	Page No.	Achieved ILOs	Evaluation Methods
A. General Virology					
General properties of viruses Architecture of viruses: basic components of viruses, virus symmetry, virus genomes, classification and nomenclature of viruses, diseases caused by viruses.	1-3	2	8-16	B1-B2	21-1
Viral replication and genetics Virus infection and replication in a host cell: recognition of the host cell, strategies of genomic replication and gene expression in DNA and RNA viruses, control of viral replication, virus assembly, release from the host cell and maturation, genetic variation of viruses.	4-8	3	18-25	B1-B2	21-1
Propagation of viruses in the laboratory Virus isolation in cell cultures, cytopathic effects and identification of viruses.	9	4 36	29-30 322-324	B3	21-1

B. Specific Viral Infections					
General properties of human viruses, pathogenesis of viruses, mode of transmission, types of infection, clinical features of infections, epidemiology, immune response to infections, treatment, prevention & control and laboratory diagnosis of the following:					
Herpesviruses: alpha herpesviruses: herpes simplex and varicella beta herpesviruses: cytomegalovirus gamma herpesviruses: Epstein-Barr virus	10-15	17 18 19 20 31	165-169 170-180 181-184 187-194 291-294	B3-B6	21-1
Measles, Mumps and Rubella	16-19	9 12 31	85-91, 94-97 122-126 289-292	B3-B6	21-1
Hepatitis viruses The enteric hepatitis viruses A and E. The bloodborne hepatitis B, C and D viruses.	20-25	21 22 23 24	195-197 198-209 210-217 218-222	B3-B6	21-1
Retroviruses HIV	26-27	25	223-236	B3-B6	21-1
Respiratory viruses Influenza virus	28-29	10	98-109	B3-B6	21-1
Gastroenteritis viruses Rotavirus, adenoviruses and norovirus.	30-31	11	110-118	B3-B6	21-1
Picornaviruses Poliovirus	32	16	153-164	B3-B6	21-1
C. Unconventional agents					
Prions and spongiform encephalopathies	33	29	270-277	B3-B6	21-1
D. Assignment					
Resistance of the human body to virus infections (interferons)	-----	5	40-42	B3-B6	21-2
The laboratory diagnosis of viral infections	---	36	317-326	B3-B6	21-2
Antiviral chemotherapy	---	38	337-347	B3-B6	21-2
Rabies	---	26	237-244	B3-B6	21-2
Coronaviruses and SARS	---	8	79-82	B3-B6	21-2
Papilloma virus	---	15	143-150	B3-B6	21-2
Ebola virus	---	28	261-265	B3-B6	21-2
Scientific Papers and Reviews about some new emerging viruses which are not included in the text book e.g. Zika virus and the new antiviral agents used for treatment of HCV infection.					

20. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

1. Lectures
2. Discussions
3. Assignments.

21. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

1. Exams
2. Assignments.

22. Course Policies:**A- Attendance policies:**

According to the University Regulations.

B- Absences from exams and handing in assignments on time:

According to the University Regulations.

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

According to the University Regulations.

E- Grading policy:

Evaluation	Point %	Date
Midterm Exam	40%	Wednesday 30/ 3/ 2016
Assignment	10%	Monday 8/ 4/ 2016
Final Exam	50%	Will be announced in due time.

F- Available university services that support achievement in the course:

The University Main Library.

The University e-library.

23. Required equipment:

Data Show

24. References:**A- Required book:**

Collier, L., Kellam, P., and Oxford J. (2011). Human Virology. Fourth Edition. Oxford University Press, U.K.

B- Recommended books and Journals:

1. Zuckerman, A.J., Banatvala, J.E. and Pattison, J.R., Griffiths P.D., and Schoub, B.D. (2004). Principles and Practice of Clinical Virology. 5th edition. John Wiley & Sons, New York.
2. Fields, B.N., Knipe, D.M., Chanock, R.M., Hirsch, M.S., Melnick, J.L., Monath, T.P. and Roizman, B. (1996). Virology. Vol. 1&2. 3rdEd. Raven Press, New York.
3. Galasso, G.J. (1993). Practical Diagnosis of Viral Infections. Raven Press, New York.
4. Journals: Journal of Medical Virology
Journal of Clinical Virology
Journal of Virology
Journal of General Virology

25. Additional information:**Intended Grading Scale**

0-39	F	40-49	D-
50-54	D	55-59	D+
60-64	C-	65-69	C
70-73	C+	74-76	B-
77-80	B	81-84	B+
85-89	A-	90-100	A

Notes:

- Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.
- For more details on University regulations please visit:
<http://www.ju.edu.jo/rules/index.htm>

Name of Course Coordinator: -Prof. Salwa Bdour-----Signature: ----- Date:12/6/ 2016----

--Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

Copy to:

Head of Department

Assistant Dean for Quality Assurance

Course File