



**The University of Jordan**

**Accreditation & Quality Assurance Center**

**COURSE Syllabus**

# The University of Jordan

## COURSE Syllabus

<b>1</b>	Course title	<b>Medical Virology Course</b>
<b>2</b>	Course number	0334445
<b>3</b>	Credit hours (theory, practical)	2 (2+0)
	Contact hours (theory, practical)	2 (2+0)
<b>4</b>	Prerequisites/corequisites	General Microbiology course
<b>5</b>	Program title	Medical Analysis (BSc) and Biological Sciences (BSc) Programs
<b>6</b>	Program code	4
<b>7</b>	Awarding institution	The University of Jordan
<b>8</b>	Faculty	Faculty of Science
<b>9</b>	Department	Department of Biological Sciences
<b>10</b>	Level of course	Senior level
<b>11</b>	Year of study and semester (s)	First Semester (2016/2017)
<b>12</b>	Final Qualification	Medical Analysis (BSc) and Biological Sciences (BSc) degrees
<b>13</b>	Other department (s) involved in teaching the course	_____
<b>14</b>	Language of Instruction	English
<b>15</b>	Date of production/revision	2016

### 16. Course Coordinator:

Prof. Salwa Bdour  
 Office numbers: Biology 312  
 Phone number: 5355000 ext. 22233  
 e-mail: bsalwa@ju.edu.jo  
 Office hours: Sunday (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 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 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
<b>A. General Virology</b>					
<b>General properties of viruses</b> 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
<b>Viral replication and genetics</b> 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
<b>Propagation of viruses in the laboratory</b> Virus isolation in cell cultures, cytopathic effects and identification of viruses.	9	4 36	29-30 322-324	B3	21-1

<b>B. Specific Viral Infections</b>					
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:					
<b>Herpesviruses:</b> alphaherpesviruses: herpes simplex and varicella betaherpesviruses: cytomegalovirus gammaherpesviruses: Epstein-Barr virus	10-15	17 18 19 20 31	165-169 170-180 181-184 187-194 291-294	B3-B6	21-1
<b>Measles, Mumps and Rubella</b>	16-19	9 12 31	85-91, 94-97 122-126 289-292	B3-B6	21-1
<b>Hepatitis viruses</b> 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
<b>Retroviruses</b> HIV	26-27	25	223-236	B3-B6	21-1
<b>Respiratory viruses</b> Influenza virus	28-29	10	98-109	B3-B6	21-1
<b>Gastroenteritis viruses</b> Rotavirus, adenoviruses and norovirus.	30-31	11	110-118	B3-B6	21-1
<b>Picornaviruses</b> Poliovirus	32	16	153-164	B3-B6	21-1
<b>C. Unconventional agents</b>					
<b>Prions and spongiform encephalopathies</b>	33	29	270-277	B3-B6	21-1
<b>D. Assignment</b>					
<b>Resistance of the human body to virus infections</b> (interferons)	-----	5	40-42	B3-B6	21-2
<b>The laboratory diagnosis of viral infections</b>	---	36	317-326	B3-B6	21-2
<b>Antiviral chemotherapy</b>	---	38	337-347	B3-B6	21-2
<b>Rabies</b>	---	26	237-244	B3-B6	21-2
<b>Coronaviruses and SARS</b>	---	8	79-82	B3-B6	21-2
<b>Papilloma virus</b>	---	15	143-150	B3-B6	21-2
<b>Ebola virus</b>	---	28	261-265	B3-B6	21-2
<b>Scientific Papers and Reviews about some new emerging viruses which are not included in the text book e.g. Zika virus, .....ect..</b>					

**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:**

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**D- Honesty policy regarding cheating, plagiarism, misbehavior:**

According to the University Regulations.

**E- Grading policy:**

<b>Evaluation</b>	<b>Point %</b>	<b>Date</b>
<b>First Hour Exam</b>	10%	25/ 10/ 2016
<b>Midterm Exam</b>	30%	21/ 11/ 2015
<b>Assignment</b>	10%	11/ 12/ 2015
<b>Final Exam</b>	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:**

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**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: الاستاذة الدكتورة سلوى البدر Signature: ----- Date: 12/ 01/ 2016

Head of curriculum committee/Department: الاستاذة الدكتورة سوسن العوران Signature: -----

Head of Department: الدكتورة هناء العبوس Signature: -----

Head of curriculum committee/Faculty: الاستاذة الدكتورة أمل العابودي Signature: -----

Dean: الاستاذ الدكتور صالح محمود Signature: -----

Copy to:

Head of Department  
Assistant Dean for Quality Assurance  
Course File