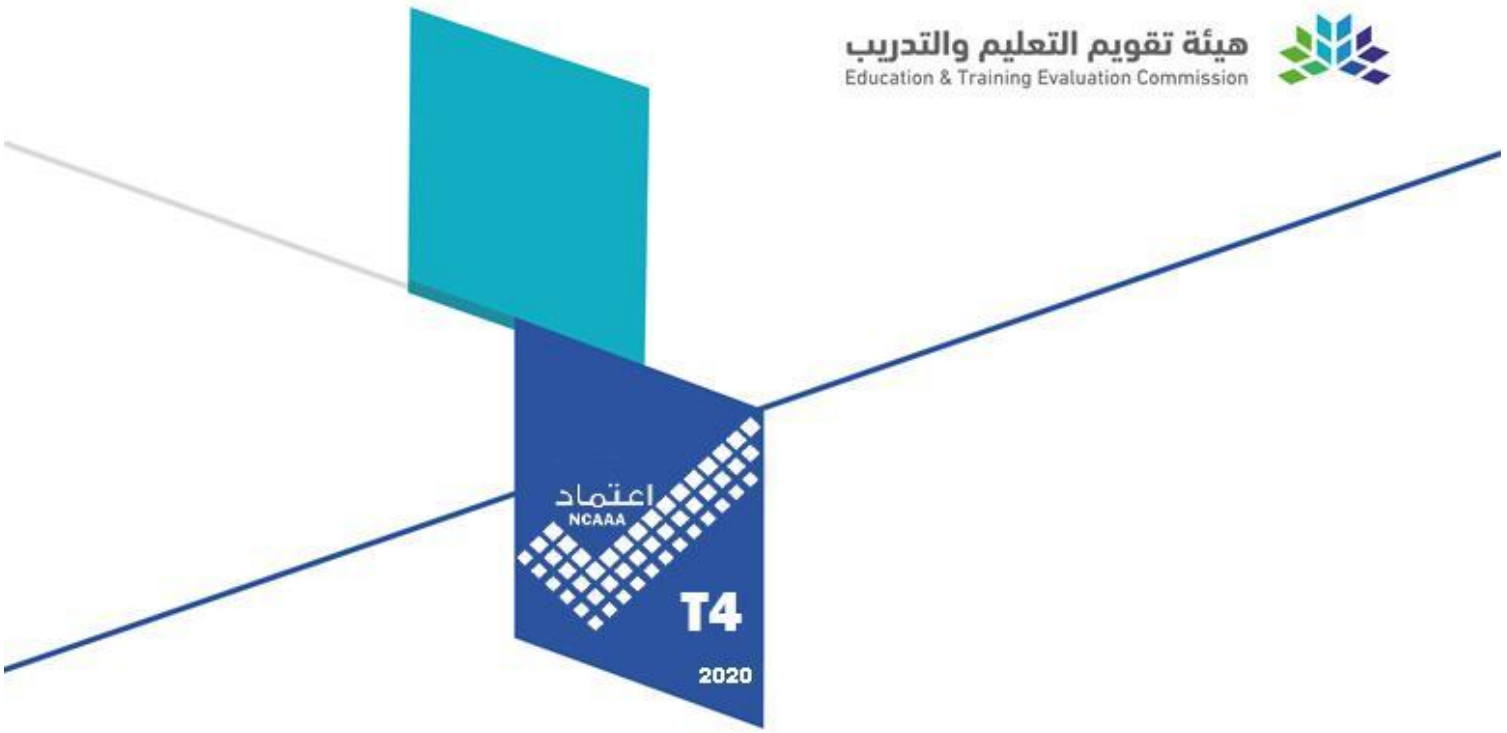
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Virology	
Course Code:	**232 MIC – 2**	
Program:	**Biology**	
Department:	**Biology**	
College:	**Science**	
Institution:	**Jazan University**	

Table of Contents

A. Course Identification

1. Credit hours: 2h
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Four/Two (level4 / year 2nd)
4. Pre-requisites for this course (if any)**: None**
5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	h 15	75%
2	**Blended**	h 5	25%
3	**E-learning**	-	-
4	**Distance learning**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
Contact Hours		
1	**Lecture**	**15**
2	**Laboratory/Studio**	**30**
3	**Tutorial**	**-**
4	**Others** (specify)	**-**
	Total	**45**
Other Learning Hours*		
1	**Study**	**26**
2	**Assignments**	**4**
3	**Library**	**2**
4	**Projects/Research Essays** Lab reports	**-** **2**
5	**Others**(specify)- Exam preparation (mid + final)- -Office hours	**10** **1**
	Total	**45**
	Grand Total (Contact hours + Other learning hours)	**90**

B. Course Objectives and Learning Outcomes

1. Course Description Course Description:

Course Title	Course No.	Credit Units			Year	Level	Pre-Req uisite
		Theoretical	Practical	Total			
VIROLOGY	232MIC	1	1	2	2nd	4th	231Mic

1) Course Objectives:
The nature of viruses and their relationships with the other living organisms, and to study their characteristics and their medical and economical importance

2) Course Contents:
General characteristics of viruses. Virus structure and shapes, viroids, prions ,satellites, multiplication of viruses, virus. Taxonomy and cultivation, viral pathogenesis, patterns of some viral diseases, cell transformation by viruses, interferon, antiviral agents, immunization and vaccination

3) Practical:
- Structure of the particles of different families of viruses.
- Virus isolation (tissue culture, chick embryo and laboratory animals) .
- Isolation and characteristics of bacteriophage.
- Enumeration of viruses: Haemagglutination.
- Hospital Visits: to know the laboratory diagnosis methods of virus infection

4) Assessment:
Exams: Objective (MCQs), class work, Quiz, Written.
Practical: Identifying samples and slides, drawings.
Theory 15%
Quiz 10%
Practical 25%
Final 50%

5) Teaching Methods:
Lectures, photographs, slides, multimedia, web-based learning. Samples, light microscopes, glassware, chemicals.

6) Text Books:
- Carter J., Venetia (2005) Virology. John and John Wiley & Sons, London.

7) References:
-W. A. Volk (1994) Essentials of Medical Microbiology. Lippincott, Philadelphia.
- Levine, A.J. (1992) Viruses. Scientific American Library.
- Belshe, R.B . (1984) Human Virology. PSG. Publishing Com. INC.
- Alan, J. C. (2005) Principles of Molecular Virology. Elsevier, Amsterdam.
- Pleczar, M.J., Cang E.C.S., Krieg N.R. (1993) Microbiology. McGraw Hill, New York.

2. Course Main Objective

This course aims at giving the student knowledge in the fields:
- Viruses, Viroids and Prions.
- Viruses Classification/Cultivation/Replication/Diseases.
- Clinical types, Properties, epidemiology, structure and classification of:

Influenza Viruses/Enteroviruses/Rabies/Herpes/Hepatitis
- Rotavirus, adenovirus, calciviruses and astroviruses.
- Cytomegalovirus and congenital and postnatal problems.
- Benefits of using antiviral therapy for treatment the viral disease.
- Virus and cancer. (Sarcoma and leukaemia viruses)
- Morphology, genome structure, epidemiology and transmission of retroviruses.
- Clinical features of HIV.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.2	Label all drawings, diagrams biological microscopic pictures and specimens related to Virology.	K1
1.1	Differentiate (compare) between different mechanisms, functions, practices and aspects related to Virology.	K2
1.1	Apply your knowledge of Virology to solve some applied techniques and problems.	K3
2	**Skills :**	
2.3	Examine theoretically or practically the slides photos, diagrams or statements of Virology.	S1
2.1	Predict the results of some Virology problems and experiments.	S2
2.3	Propose solutions for different complex virology approaches.	S3
3	**Values:**	
3.2	Integrate prior knowledge of virology technology along with new knowledge in the profession for the sake of self-continuing professional development	V1

C. Course Content

No	List of Topics	Contact Hours
1	**Viruses, general properties; disease and host response**	1
2	**Virus replication**	1
3	**Influenza and Other respiratory tract infections**	1
4	**Neurological diseases due to viruses and Enterovirus infections -**	2
5	Viral gastroenteritis	1
6	**Arthropod-borne virus infections and Rabies, non-arthropod-born haemorrhagic fevers**	2
7	Herpesvirus diseases and Childhood fevers	2
8	Poxvirus diseases - Viral hepatitis	2
9	Warts and Retroviruses	2
10	Antiviral therapy	1
Total		**15**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
K1.2	Label all drawings, diagrams biological microscopic pictures and specimens related to Virology.	Lectures,	Quizzes, Short Answer Question, MCQs
K2.1	Differentiate (compare) between different mechanisms, functions, practices and aspects related to Virology.	Lectures,	Quizzes, Short Answer Question, MCQs, Assignments
K3.1	Apply your knowledge of Virology to solve some applied techniques and problems.	Lectures	Assignments, Quizes, MCQs, Short answers
2.0	**Skills**		
S1.3	Explain aspects, theories, mechanisms, functions, and processes relevant to Virology courses,	Lectures/ Labwork/Assignment	Quizzes, Short Answer Question
S2.1	Compare different structures, mechanisms, functions, and features related to Virology courses,	Lectures/Labwork/ assignment	Quizzes, Short Answer Question, Assignment
S3.2	Perform experimental biological design and methodology in lab/field, interpret biological data and analyze these data statistically.	Lab work/Assignment	Lab work/ assessment
3.0	**Values**		
V1.2	Conduct independent research in biological laboratories, either individually or in groups using IT resources considering risk assessment and lab safety,	Lab work/Assignment	Lab work / assessment

2. Assessment Tasks for Students

#	*Assessment task	Week Due	Percentage of Total Assessment Score
1	Lecture Quizzes 1	4	5
2	Mid-term Theory exam	6	10
3	Practical Midterm exam	8	10
4	Homework assignment	10	5
5	Lecture Quizzes 2	12	5
6	Final practical exam	14	15
7	Final Exam	15	50

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Each group of students is assigned to a member of staff who will be available for help and academic guidance office hours at specific hours on daily basis.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**- Carter J., Venetia (2005) Virology. John and John Wiley & Sons, London.**	
Essential References Materials	**- Alan, J. C. (2005) Principles of Molecular Virology. Elsevier, Amsterdam.**	
Electronic Materials	E-Journals in Virology.	
Other Learning Materials	None	

2. Facilities Required

Item	Resources
Accommodation Classrooms, laboratories, demonstration) (.rooms/labs, etc	**1 Lecture room(s) for groups of 50 students. 1 Laboratory for group of 25 students.**
Technology Resources AV, data show, Smart Board, software,) (.etc	AV, data show, Smart Board.
Other Resources Specify, e.g. if specific laboratory) equipment is required, list requirements or (attach a list	Light microscopes, glassware, chemicals, consumables, Dissection tools.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students, Faculty	Direct (Questionnaire)
Effectiveness of assessment	Peer Reviewer	Direct (Cross Check marking)
Extent of achievement of course learning outcomes	Program Leader	Indirect (QA Committee)
Quality of learning resources	QA. Committee	Indirect (Benchmarking)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Consultant Committee/ Board of Biology Department	

Reference No.	6th MEETING OF THE BOARD OF BIOLOGY DEPARTMENT 1440-1441	
Date	08/03/2020	