



COURSE SPECIFICATION

(2016 / 2017)

1 - Basic Information:

Course title: Bacteriology, Mycology and Immunology(A&B)

Academic Year: Third year of B. V. Sc. Program

Total teaching hours: 120 hrs

- Lectures: 60 hours.

- Practical: 60 hours.

2- OVERALL AIMS OF THE COURSE:

- Providing basic knowledge on general characters of bacteria and fungi of medical importance.
- Gaining more understanding on how these organisms cause disease in man and animals.
- Achieving the recent information on the immune system and serological identification.
- Enable the Students to handle microorganisms inside the laboratory with adequate safety.

3- INTENDED LEARNING OUTCOMES (I. L. Os.):

3-A: KNOWLEDGE and UNDERSTANDING:

By the end of the course, students should be able to:

- A1- Define and classify bacteria and fungi of medical importance.
- A2- Describe the general characteristics of bacteria and fungi
- A3- Recognize the physiology of bacteria and fungi
- A4- Recognize bacterial genetics
- A5- Describe different methods of sterilization, disinfection and chemotherapeutic agents.

3-B: INTELLECTUAL SKILLS:

By the end of the course, students should be able to:

- B1- Practice on preparation of different media used for cultivation of bacteria and fungi.
- B2- Differentiate between different biochemical reactions used in identification of bacteria and fungi.
- B3- Assemble different disinfectants used in lab.
- B4- Illustrate the different types of autoimmune diseases.
- B5- Distinguish between innate and cell mediated immunity.



3- C: PRACTICAL AND PROFESSIONAL SKILLS:

By the end of the course, students should be able to:

- C1-** Use slide and tube agglutination and precipitation tests.
- C2-** Employ different media used for cultivation of fungi.
- C3-** Perform different methods for detection of bacterial motility.
- C4-** Practice on antimicrobial susceptibility tests.
- C5-** Manipulate with the equipments in microbiology laboratory as; autoclave, hot air oven, laminar air flow, incubator and colony counter.

3- D: GENERAL SKILLS:

By the end of studying the course, the graduate should be able to:

- D1-** Using power point presentation in seminars.
- D2-** Using internet for getting more information.
- D3-** Communicate with others for improving quality of learning.
- D4-** Retrieve information from different sources independently.
- D5-** Coordinate for conference, workshop.

4- COURSE CONTENTS:

4- A: First semester topics (Bacteriology, Mycology and Immunology A):-

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
General Bacteriology	10	10	-
Immunology	10	10	-
Mycology	10	10	-
Microscopy and micrometry	2	-	2
Smear preparation and staining	4	-	4
Sterilization	2	-	2
Preparation of culture media	6	-	6
Biochemical reactions	8	-	8
Serological tests	4	-	4
Antibiotic Sensitivity tests	4	-	4
Total	60	30	30



4- B: Second semester topics (Bacteriology, Mycology and Immunology B):

TOPIC	Total hours (Semester)	Hours for lecture	Hours for practical
Gram positive bacteria	10	10	-
Gram negative bacteria	10	10	-
yeast	5	5	-
moulds	4	4	-
Dimorphic fungi	1	1	-
Staining of bacteria	4	-	4
Gram staining	18	-	18
ZiehlNeelsen's staining	4	-	4
LoefflersMethylene Blue stain	4	-	4
Staining of fungi	4	-	4
Total	60	30	30

5- TEACHING & LEARNING METHODS:

***Lectures**

- Lecture notes and textbooks
- Lectures prepared on multimedia as PowerPoint presentations

***Practical and small group sessions:**

- 1: Practical training.
- (Practical demonstrations, practice of skills, and discussions)

*** Self learning**

- **Computer researches and faculty library visits to prepare essays and presentations:**
 - Library researches.
 - Internet researches.
 - Discussion in the researches.
 - Preparation of posters
 - Preparation of scientific reports.

*** Audiovisual**

- Video show.

6. METHODS FOR STUDENTS With limited capabilities:

- No disabled students until now, but if present the methods are:
 - Activation of office hours.
 - Discussion with them during practical session.

7. STUDENT ASSESSMENT:

<u>7.a Used methods</u>	Written examination	Oral examination	Practical examination	Activities
<u>7.b time</u>	Two hours. at 16 th week in the first term Two hours at 16 th week in the second term	At 16 th week in the first term 16 th weeks in the second term	One hour at 15 th week in the first term One hour at 15 th week in the second term	- Several work shop were held during the course - preparation of posters
<u>7.c grads</u>	50	20	20	10

8. LEARNING AND REFERENCE MATERIALS:

8-1: BASIC MATERIALS:

- **Department notes:** General bacteriology, Immunology and Mycology: summarized integrated course for 3rd grade students
- Available for students to purchase from the department.

8-2: Recmended books:

- **8.2.a-** Cruickshank, Mermion and Swain. Medical Microbiology. Vol. I & II.
- **8.2.b-** Merchant and Packer. Veterinary Bacteriology and Virology.
- **8.2.c-** Topley and Wilson. Textbook of Microbiology and Microbial infections.
- **8.2.d-** Wight, Hirsh, Maclachlan and Walker. Veterinary Microbiology.
- **8.2.e-** Quinn, Carter, Carter and Markey. Clinical Veterinary Microbiology.

8-3: SUGGESTED books:

- Jawetz, Melnick and Adelberg's Medical Microbiology
- Janeway and Travers Immunobiology: The immune system in health and disease



8.4: web sites and jouranlsand so on

- Journal of Veterinary Microbiology.
- Web sites: .http://www.microbe.org/microbes/virus_or_bacterium.asp
- <http://www.bact.wisc.edu/Bact330/330Lecturetopics>
- <http://www.microbelibrary.org/>
- <http://www.mic.ki.se/Diseases/c2.html>

Intended learning out comes of each topic in first and second semester

TOPIC	K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)				
1 st Semister								
General Bacteriology	A1-A4	B1-B2-, B3, B4	-	D1-D2- D3D4				
Immunology	A3-A4	B1-B2-, B3, B4	-	D1-D2- D3-D4				
General Mycology	A2	B1, B2- B3-B4	-	D1-D2- D3-D4				
Microscope		B1- B3- B4	C1-C2- C3- C5	D1-D2- D3-D4- D5				
sterilization		B4	C4- C5	D1-D2- D3-D4- D5				
Preparation of media		B1-B2- B3-B4	C1-C2- C3, C4	D1-D2- D3-D4				
Biochemical reactions		B1-B2- B3-B4	C1-C2- C3, C4	D1-D2- D3-D4				
Serological tests		B1-B2- B3-B4	C1-C2- C3	D1-D2- D3-D4				



TOPIC	K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)				
Antibiotic sensitivity test		B1-B2- B3-B4	C1-C2- C3	D1-D2- D3-D4		√	-	√
2 nd Semester								
Gram positive bacteria	A1-A2- A3-A4- A5	B1-B2- B3-B4	-	D1-D2- D3-D4- D5-	√	-	-	√
Gram negative bacteria	A1-A2- A3-A4- A5	B1-B2- B3-B4	-	D1-D2- D3-D4- D5-	√	-	-	√
Yeast	A1-A2- A3-A4- A5	B1-B2- B3-B4	-	D1-D2- D3-D4- D5-	√	-	-	-
Moulds	A1-A4	B1-B2- B3-B4	-	D1-D2- D3-D4- D5-	√	-	-	√
Di morphic fungi	A1, A2, A4-A5	B1-B2- B3-B4	C1-C2- C3-C4- C5	D1-D2- D3-D4- D5-	√	-	-	√
Staining of bacteria	-	B1-B2- B3-B4	C1-C2- C3-C4	D1-D2- D3-D4- D5-	-	√	√	√
Gram staining	-	B1-B2- B3-B4	C1-C2- C3-C4	D1-D2- D3-D4- D5-	-	√		√
LoefflersMethylene blue	-	B1-B2-	C1-C2-	D1-D2- D3-D4-	-	√		√



Kafrelsheikh University
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TOPIC	K.U (a)	I.S (b)	P.P.S (c)	G.T.S (d)				
staining		B3-B4	C3-C4	D5-				
Total								

Intended learning out comes Evaluation

Methods	I.L.O.S Evaluation				Marks allocated
	Knowledge	Intellectual	Practical	general	
Written examination	A1.A2.A3.A4.A5.	B1, B2, B3	-	-	50
Oral examination	A1.A2.A3.A4.A5.	B1.B2.B3.B4	-	D4	20
Practical examination	-	B3	C1.C2.C3.C4. C5	D4.D5	20
Activities	-	B2, B4		D1.D2.D3.D4.D5. D1, D2, D3, D4	10

Course Coordinator

Head of Department

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