



Benha University
Faculty of Veterinary Medicine

Course Specifications

General Bacteriology, Immunology and Mycology

- **Program on which the course is given:** Bachelor of Veterinary Medical sciences
- **Department offering the course:** Bacteriology, Immunology and Mycology
- **Academic year / Level:** 3rd Year, 1st semester

A- Basic Information

Title: General Bacteriology, Immunology and Mycology.

Code: Vet 00632a

Lecture: 2 hours/ week

Practical: 3 hours/ week

Total: 5 hours

B- Professional Information

1 – Overall Aims of 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.
- The course intended to give recent information on the immune system and serological identification.
- Such information provides the students with skills that enable them to handle microorganisms inside the laboratory with adequate safety.

2 – Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding:

By the end of this course, students will be able to:

After successful completion of the course the 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.

a6- Mention the principles of different serological tests.

a7 – Define function of the immune system.

a8 – know types of hypersensitivity.

b- Intellectual Skills

By the end of this course, students will 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- Interpret the mechanism by which immune system defend against foreign microorganisms.

b6- Distinguish between innate and cell mediated immunity.

b7- Illustrate different growth forms of bacteria and fungi.

b8- Practice on smear preparation and staining of bacteria and fungi.

c- Professional and Practical Skills

By the end of this course, students will 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.

d-General and Transferable Skills

On successful completion of this course, students will 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.

3- Contents

	Topic	No. of hours	Lecture	Tutorial/Practical
1-	General Bacteriology	10	10	-
2-	Immunology	10	10	-
3-	Mycology	10	10	-
4-	Microscopy and micrometry		-	3
5-	Smear preparation and staining		-	6
6-	Sterilization		-	3
7-	Preparation of culture media		-	9
8-	Biochemical reactions		-	12
9-	Serological tests		-	6
10-	Antibiotic Sensitivity tests		-	6
	Total	75	30	45

4- content-ILOs matrix

	Content	ILOs			
		Knowledge and understanding	Intellectual	Professional and practical	General and transferable
1.	General Bacteriology	a1, a2,a3, a4	b7	c3, c5	d1, d2,d3
2.	Immunology	a6, a7, a8	b4, b5, b6	c1	d1, d2, d3,d4,
3.	Mycology	a1, a2, a3	b1, b2,b7	c2	d1, d2, d3,d4,
4.	Microscopy and micrometry	a1, a2	b7	c3	d4, d5
5.	Smear preparation and staining	a1, a2	b8	c3	d2, d3, d4
6.	Sterilization	a5	b3	c5	d2, d3, d4, d5
7.	Preparation of culture media	a2, a3	b1, b7	c2, c5	d3, d4, d5
8.	Biochemical reactions	a1, a2, a3	b2, b7	c2 , c5	d2, d3, d4
9.	Serological tests	a2, a7, a8	b4, b5, b6	c1	d1, d2, d3, d4, d5
10.	Antibiotic Sensitivity tests	a1, a2	b1, b7	c4	d3, d4,d5

5- Assessment-ILOS matrix

Assessment	ILOS			
	Knowledge and understanding	Intellectual	Professional and practical	General and transferable
Mid – Term exam	a2, a3, a4, a5	b1, b2		
Practical exam	a1	b1, b2,b3, b4, b5, b6	c1, c2 , c3, c4, c5	
Oral exam	a1, a2, a3, a4, a5	b1, b2,b3		
Final term exam	a2, a3, a4, a5, a6, a7, a8	b1, b2,b3, b4, b5, b6	c1, c2 , c3	
Assignments and research	a4, a5	b1		d1, d2, d3,d4, d5

6– Teaching and Learning Methods

- 4.1- Lecture notes and textbooks
- 4.2- Lectures prepared on multimedia as PowerPoint presentations.
- 4.3- Training and for all laboratory tools and equipments.

7- Student Assessment Methods

- 5.1 Mid-term examination
- 5.2 Final-term exam
- 5.3 Oral exam
- 5.4 Practical exam
- 5.5 Assignment and research

Assessment Schedule

Assessment 1: Mid-term exam	Week 8
Assessment 1: Final-term exam	Week 15
Assessment 2: Oral exam.	Week 15
Assessment 3: Practical exam.	Week 14
Assessment 4: assignment and research	Monthly

Weighting of Assessments

Mid-term examination	5%
Final-term Examination	50 %
Oral Examination.	20 %

Practical Examination	20 %
<u>Assignment and research</u>	<u>5 %</u>
Total	100%

8- List of References

8.1- Course Notes

General bacteriology, Immunology and Mycology: summarized integrated course for 3rd grade students.

8.2- Essential Books (Text Books)

- Cruckshank, Mermion and Swain. Medical Microbiology. Vol. I & II.
- Merchant and Packer. Veterinary Bacteriology and Virology.
- Topley and Wilson. Textbook of Microbiology and Microbial infections.
- Wight, Hirsh, Maclachlan and Walker. Veterinary Microbiology.
- Quinn, Carter, Carter and Markey. Clinical Veterinary Microbiology.

8.3- Periodicals, Web Sites:

Periodicals:

- Journal of Veterinary Microbiology.
- Vaccine journal.

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>

9- Facilities Required for Teaching and Learning

- A laboratory of microbiology.
- Multimedia projector, CDs and a computer.
- Instruments and media for bacteriological isolation and identification.

Course Coordinators:

Prof. Dr. Adel M. Ad El-Megeed Khalid

Prof. Dr. Ashraf Awad Abd El-Tawab

Department head:

Signature:

Date: 09-01-2011