Specification for Bacteriology, Immunology and Mycology course 2019/2020

A-Affiliation

1.	**Relevant program**	Bachelor of Veterinary Medical Science (BVMSc)
2.	**Department offering the course**	Bacteriology, Immunology and Mycology

Date of specification approval: ministerial decree No. 1727 on 26/4/2017
(Approved in this template by the department council on 1/10/2019**)**

B-Basic information

1.	**Course title**	Bacteriology, Immunology and Mycology
2.	**Course code**	302 (A) I
3.	**Level**	3rd year
4.	**Semester**	First semester
5.	**Total hours**	5
6.	**Lecture hours**	2
7.	**Practical hours**	3

C-Professional Information

1- Course learning objectives

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

2- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding

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- Mention the physiology of bacteria and fungi.
a4- Identify 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 – Identify types of hypersensitivity

b- Intellectual skills

After successful completion of the course the 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- 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

After successful completion of the course the students should be able to:

c1- Apply 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 equipment in microbiology laboratory as; autoclave, hot air oven, laminar air flow, incubator and colony counter

d- General and transferable skills

After successful completion of the course the students should have the following skills

d1- Presentation skill.
d2- Searching skill.
d3-Communication skill
d4- Working in team skill

3- Course contribution in the program ILOs:

Course ILOS		Program ILOS
A	**Knowledge and understanding**	a7,9
B	**Intellectual skills**	,b6,7
C	**Professional and practical skills**	$c^{4,13}$
D	**General and transferable skills**	$d^{1,5,6}$

3.1- Course contents:

Topic	**Lecture hours**	**Practical hours**
General Bacteriology	**12**	**-**

Immunology	**10**	**-**
Mycology	**8**	**-**
Microscopy and micrometry	**-**	**6**
Smear preparation and staining	**-**	**6**
Sterilization	**-**	**3**
Preparation of culture media	**-**	**6**
Biochemical reactions	**-**	**12**
Serological tests	**-**	**6**
Antibiotic Sensitivity tests	**-**	**6**
Total	**30**	**45**

The midterm and practical exams are included during the semester

3.2- ILOs matrix:

Topic	A) Knowledge and understanding	B) Intellectual skills	C) Professional and practical skills	D) General and transferable skills
General Bacteriology	**a1, a2,a3, a4**	**b7**	**c3, c5**	**d1, d2,d3**
Immunology	**a6, a7, a8**	**b4, b5, b6**	**c1**	**d1, d2, d3,**
Mycology	**a1, a2, a3**	**b1, b2,b7**	**c2**	**d1, d2, d3,**
Microscopy and micrometry	**a1, a2**	**b7**	**c3**	**d3, d4**
Smear preparation and staining	**a1, a2**	**b8**	**c3**	**d2, d3**
Sterilization	**a5**	**b3**	**c5**	**d2, d3, d4**
Preparation of culture media	**a2, a3**	**b1, b7**	**c2, c5**	**d3, d4**
Biochemical reactions	**a1, a2, a3**	**b2, b7**	**c2 , c5**	**d2, d3, d4**
Serological tests	**a2, a7, a8**	**b4, b5, b6**	**c1**	**d1, d2, d3, d4**
Antibiotic Sensitivity tests	**a1, a2**	**b1, b7**	**c4**	**d3, d4**

4- Teaching, learning and assessment methods:

ILOs		Teaching and Learning methods						assessment method				
		L	P&M	D	P	Ps	Bs	semester	midterm	oral	practical	written
and understandi	a1	x	x	x	**0**	**0**	x	x	x	x	**0**	x
	a2	x	x	x	**0**	**0**	x	x	x	x	**0**	x
	a3	x	x	x	**0**	**0**	x	x	x	x	**0**	x
	a4	x	x	x	**0**	**0**	x	x	x	x	**0**	x

	a5	x	x	x	**0**	**0**	x	x	**0**	x	**0**	x
	a6	x	x	x	**0**	**0**	x	x	**0**	x	**0**	x
	a7	x	x	x	**0**	**0**	x	x	**0**	x	**0**	x
	a8	x	x	x	**0**	**0**	x	x	**0**	x	**0**	x
Intellectual skills	b1	x	x	x	x	x	x	x	x	x	**0**	x
	b2	x	x	x	x	x	x	x	x	x	**0**	x
	b3	x	x	x	x	x	x	x	x	x	**0**	x
	b4	x	x	x	x	x	x	x	x	x	**0**	x
	b5	x	x	x	x	x	x	x	**0**	x	**0**	x
	b6	x	x	x	x	x	x	x	**0**	x	**0**	x
	b7	x	x	x	x	x	x	x	**0**	x	**0**	x
	b8	x	x	x	x	x	x	x	**0**	x	**0**	x
Professional and practical skills	c1	**0**	x	x	x	x	**0**	x	**0**	x	x	**0**
	c2	**0**	x	x	x	x	**0**	x	**0**	x	x	**0**
	c3	**0**	x	x	x	x	**0**	x	**0**	x	x	**0**
	c4	**0**	x	x	x	x	**0**	x	**0**	x	x	**0**
	c5	**0**	x	x	x	x	**0**	x	**0**	x	x	**0**
General skills	d1	**0**	x	**0**	**0**	**0**	**0**	x	**0**	x	**0**	**0**
	d2	x	**0**	x	**0**	**0**	**0**	x	**0**	x	**0**	x
	d3	x	**0**	**0**	x	x	x	x	**0**	x	**0**	**0**
	d4	**0**	**0**	x	x	**0**	**0**	x	**0**	x	**0**	**0**

L **:Lecture,** P&M**: Presentations & Movies,** D&S: **Discussions & Seminars PT: Practical,** Ps: **Problem solving,** Bs: **Brain storming**

5- Assessment timing and grading:

Assessment method	timing	grade
Mid-term exam and semester work	6th week	15
Practical exam	14th week	20
oral exam	End of semester	15
Written exam	End of semester	50
total		100

6- List of references

6.1- Course notes:

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

6.2- Essential books (text books)

- Marjorie Kelly Cowan (2016) Micobiology Fundamantals
- Dr.R.C. Dubey (2014) Practical Microbiology
- Michael J Day (2011) Veterinary Immunology
- B . S . Malik (2002) Veterinary Bacteriology & Mycology

6.3- Recommended books

- **Course note**.
- Marjorie Kelly Cowan (2016) Micobiology Fundamantals
- Michael J Day (2011) Veterinary Immunology
- B . S . Malik (2002) Veterinary Bacteriology & Mycology.

6.4- Periodicals, Web sites, . . . etc

- Journal of Veterinary Microbiology.
- Vaccine
- http://www.bact.wisc.edu/Bact330/330Lecturetopics
- http://www.microbelibrary.org
- www.ekb.eg .

7- Facilities required for teaching and learning

- Teaching hall..
- A laboratory of microbiology.
- Teaching hospital
- Teaching farm

Course coordinator: Prof. Dr. ASHRAF AWAD ABD EL-TAWAB.

Head of department Prof. Dr. ASHRAF AWAD ABD EL-TAWAB

Signature ……

Date…1/10/2019