



University of Sadat City
Faculty of Veterinary Medicine
Dept. of Bacteriology, Mycology and Immunology
(2014-2015)



Mycology (Advanced)

(675P)

PhD COURSE SPECIFICATION

A. BASIC INFORMATION

University:	Sadat City
Faculty:	Veterinary Medicine
Program on which the course is given:	PhD in Veterinary Medical Sciences (Bacteriology, Mycology and Immunology)
Department offering the Course:	Bacteriology, Mycology and Immunology
Course code:	675P
Course title:	Mycology (Advanced)
Lecture (hr/week):	2
Practical (hr/week):	3
Course coordinator:	Dr. Eman Abdeen

B. PROFESSIONAL INFORMATION

1) Overall aims of course

Upon successful completion of the course, the student will be able to:

- ☐ Understand the advanced concepts of Advanced Mycology.
- ☐ Understand the most common fungal pathogens especially that of animal health impact.
- ☐ Achieve competency in modern laboratory technology of fungal infections.

2) Intended learning outcomes of course (ILOs)

a) KNOWLEDGE AND UNDERSTANDING

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

- a.1. Identify the advanced morphology of special and systematic mycology.
- a.2. Describe the host-pathogen relationship and fungal pathogenesis.
- a.3. Recognizes the advanced concepts in Advanced Mycology and host immune response.
- a.4. Describe the culture, antigenic structure and virulence factor of fungus and of detrimental role in hypersensitivity.
- a.5. Realize the most important infectious clinical conditions and the diagnosis of Fungus that cause such diseases.
- a.6. Identify the most important molecular techniques used in the field of special mycology such DNA isolation, PCR...ect.

b) INTELLECTUAL SKILLS

By the end of this course, the student should be able to:

- b.1. Interpret the results of microbiological, serological and molecular tests commonly used in the field of advanced mycology.
- b.2. Identify fungus according to standard taxonomy using advanced molecular techniques.
- b.3. Compare according evidence the causal relationship of fungus and diseases.
- b.4. Interpret the data related to microbial infections and scientific research.
- b.5. Write a professional medical report in the field of veterinary Mycology.
- b.6. Develop a plan for enhancing performance in the field of advanced mycology.
- b.7. Make creative approaches for solving technical problems or issues associated with fungal diseases.

c) PROFESSIONAL AND PRACTICAL SKILLS

By the end of this course, the student should be able to:

- c.1. Identify medically important Fungus based on microscopic examination of stained preparations and molecular techniques.
- c.2. Choose and prepare appropriate culture media for each fungus.
- c.3. Apply biochemical tests commonly used for Fungus identification.
- c.4. Perform different serological tests for identification of different fungus.
- c.5. Conduct modern biotechnology techniques such as PCR for detection and classification of Fungus.

d) GENERAL AND TRANSFERABLE SKILL

By the end of this course, the student should be able to:

- d.1. Communicate effectively.
- d.2. Demonstrate an ability to learn independently for a career of lifelong learning.
- d.3. Use information technology to serve the professional practice.

- d.4. Manage time efficiently.
- d.5. Set tools and indicators for assessment of the performance of others.

3) Topics and contents

Topics	Lecture(h r	practical (hour)	Total hours
1- types of bacteria and fungi which cause mastitis) Advanced).	22	...	22
2- Types of bacteria and fungi which cause abortion) Advanced).	33	.....	33
3- Types of bacteria and fungi which infect neonates) Advanced).	33	....	33
4- The diagnostic serological test (Advanced).	.....	30	15
5- Staining and morphological studies for all microbes taken through the course) Advanced).	....	20	20
6- Uses of recent techniques in diagnosis) Advanced).	...	30	30
7- Sterilization and disinfection) Advanced).	...	24	40
8- Chemotherapeutic agents (Advanced).	...	12	12
9- Diagnosis of fungal diseases) Advanced).	...	16	16
Total	88	132	220

4) Teaching and learning methods

- a. Lectures to gain knowledge and understanding skills. The teacher usually uses all the available teaching tools like data show. The lectures usually take the form of open discussion.
- b. Writing a review paper about the field of specialization to gain the skills of information collection, self-learning and presentation.
- c. Practical and lab sessions to gain practical skills.

5) Student assessment

- a. **METHODS:**
 - ☑ Written exam to assess knowledge, information and intellectual skills.
 - ☑ Practical exam to assess professional and practical skills.
 - ☑ Oral exam to assess knowledge and information and intellectual skills.

b. MATRIX ALIGNMENT OF THE MEASURED ILOS/ ASSESSMENTS METHODS:

	K.U (a)	I.S (b)	P.P.S (c)	G.S (d)
Written exam	1-6	1-7		
Practical exam		1,3,4	1-5	
Oral exam	1-6	1-7		
Student activities				1-5

c. WEIGHT OF ASSESSMENTS:

Self-Learning Activities included:		
Assay on a specific topic Self-Assessment Exercise Enhancing Questioning Skills Open discussion		
Student Assessment Methods		
	Exams and activities	Weight (%)
	1- Final written exam	50
	2- Final Practical exam	20
	3- Final oral exam	20
	4- Self-learning activities	10
	Total	100

Assessment	Evidence
Final written exam	Marked and signed written paper
Practical exam	Marked and signed practical exam paper
Oral exam	Signed list of oral exam marks
Student activities	For assessment of knowledge and general and transferable skills

d. List of references

6.1. Essential textbooks

- ❑ Jawetz, Melnick and Adelberg's *Medical Microbiology*.
- ❑ Merchant and Packer. *Veterinary Bacteriology and Virology*.

6.2. Recommended books

- ❑ Janeway and Travers *Immunobiology: The immune system in health and disease*.

6.3. Periodicals

- ❑ *Veterinary Microbiology*
- ❑ *Diagnostic Microbiology and Infectious Disease*
- ❑ *FEMS Immunology and Medical Microbiology*
- ❑ *FEMS Microbiology Reviews*
- ❑ *International Journal of Food Microbiology*
- ❑ *Journal of Microbiology, Immunology and Infection*
- ❑ *Research in Microbiology*
- ❑ *Systematic and Applied Microbiology*
- ❑ *Journal of Microbiology Research*

6.4. Web sites

- ❑ *Veterinary Microbiology* – ResearchGate- <http://www.researchgate.net/journal/0378->

1135_Veterinary_Microbiology

- ☐ American Society Of Microbiology
- ☐ Veterinary Microbiologist - Animal Careers - About.com
- ☐ Bacteriology: Bacteriology: Animal Health Diagnostic Center- <https://ahdc.vet.cornell.edu/sects/bact/>
- ☐ o asmnews@asmusa.org
- ☐ VetBact- <http://www.vetbact.org/vetbact/>
- ☐ o <http://www.phage.org/black09.htm>
- ☐ o http://www.microbe.org/microbes/virus_or_bacterium.asp
- ☐ o <http://www.bact.wisc.edu/Bact330/330Lecturetopics>
- ☐ o http://whyfiles.org/012mad_cow/7.html
- ☐ o <http://www.microbelibrary.org/>
- ☐ o <http://www.hepnet.com/hepb.htm>
- ☐ o http://www.tulane.edu/~dmsander/Big_Virology/BVHomePage.html
- ☐ o <http://www.mic.ki.se/Diseases/c2.html>
- ☐ o <http://www.med.sc.edu:85/book/welcome.htm>
- ☐ o http://www.biology.arizona.edu/immunology/microbiology_immunology.html.

6) Facilities required for teaching and learning

- 7.1 Data-show.
- 7.2 Microscopes and media for characterization of microorganisms.
- 7.3 Network for technology transfer.
- 7.4 Bacteriology lab.
- 7.5 Biotechnology lab.
- 7.6 Computer.

	Course coordinators	Head of department
Name	Dr. Eman Abdeen	Dr. Alaa El Din Moustapha
Signature		

Matrix alignment of course topics and ILOs

Topics	Lecture(h r	practical (hour)	Total hours	KU	ILS	PPS	GTS
1- types of bacteria and fungi which cause mastitis) Advanced).	22	...	22	1-6	1-7		1-5
2- Types of bacteria and fungi which cause abortion) Advanced).	33	.....	33	1-6	1-7		1-5
3- Types of bacteria and fungi which infect neonates) Advanced).	33	....	33	1-6	1-7		1-5
4- The diagnostic serological test (Advanced).	.....	30	15		4-5	4	1-5
5- Staining and morphological studies for all microbes taken through the course) Advanced).	....	20	20		1-4	1	1-5
6- Uses of recent techniques in diagnosis) Advanced).	...	30	30		1-4	5	1-5
7- Sterilization and disinfection) Advanced).	...	24	40		1-4	1-5	1-5
8- Chemotherapeutic agents (Advanced).	...	12	12		1-4	1-2	1-5
9- Diagnosis of fungal diseases) Advanced).	...	16	16		1-4	1-5	1-5
Total	88	132	220				

