Bacteriology and Mycology; Code: PM 603

A- Basic Information

Programme(s) on which the course is given:	Bachelor of Pharmacy (Pharm D)
Department responsible for offering the course:	Department of Microbiology & Immunology
Department responsible for teaching the course:	Department of Microbiology & Immunology
Academic year:	Level 3 – Spring Semester
Course title and code:	Bacteriology and Mycology, PM 603
Prerequisite:	General Microbiology &Immunology
Credit hours:	Lecture: 2, Practical: 1, Total: 3
Course Coordinator:	Dr. Amr Shaker

B- Professional Information

1 - Overall Aim of the Course

The course aims at studying bacteria and fungi causing infections to human beings. Different bacterial categories including Gram positive cocci and bacilli, Gram negative cocci and bacilli, mycobacteria, chlamydiae, rickettsiae, spirochetes, mycoplasma, ureaplasma, bacteroides, superfacial, cutaneous, subcutaneous, systemic and opportunistic fungal pathogens will be covered in the course. Routes of transmission, diseases, clinical manifestation, pathogenesis, diagnosis, treatment, prevention and control for each pathogen will be studied.

2 -Course Learning Outcomes: Domain

1: Fundamental knowledge:

The students should be able to:

Program key elements	Course learning outcomes
1-1-1-1- Reveal the knowledge of micro-organisms & infectious/non-infectious diseases.	**1-1-1-1-** Demonstrate proper understanding of knowledge of bacterial and fungal infections.
1-1-2-1- Make use of genetic, microbiological & epidemiological terms in pharmacy practice.	**1-1-2-1-** Utilize the proper microbiological terms & abbreviations in pharmacy practice.

Domain 2 : Professional and Ethical practice

The student will be able to:

Program key elements	Course learning outcomes
2-2-1-1 Isolate, purify & identify synthetic/natural pharmaceutical substances	**2-2-1-1 -** Utilize the appropriate methods for purification and identification of various antimicrobial agents either natural, synthetic or semi-synthetic.

Domain 3: Pharmaceutical care

The student will be able to:

Program key elements	Course learning outcomes
3-1-2- Adopt public health of pharmaceutical microbiology basics to choose the required methods for infection control.	**3-1-2-** Apply the principles of pharmaceutical & medical microbiology to select & assess proper methods of infection control.
3-1-3- Recognize and control microbial growth & conduct lab tests needed for infectious diseases identification.	**3-1-3-** Monitor & control microbial growth & carry out laboratory tests for identification of different infections.
3-1-4-1- Relate the cause, spreading, pathological data and lab diagnosis of infections to pharmacotherapeutic approaches.	**3-1-4-1-** Relate the etiology, epidemiology, laboratory diagnosis & clinical features of infections & their pharmacotherapeutic approaches.
3-2-5- Inform patients, communities & healthcare professionals about the safe use of medicines, OTC preparations and devices.	**3-2-5-** Educate & counsel patients, other health care professionals, and communities about the safe use of antibiotics to prevent bacterial and fungal infections.

DOMAIN 4: PERSONAL PRACTICE

The student should be able to:

Program key elements	Course learning outcomes
4.2.1. Effectively communicate with professional health care team, patients, and communities.	**4.2.1.** Communicate clearly by verbal and means and express complex issues in terms that lay people can understand for health promotion of the public.
4.3.2. Perform self-learning needed for continuous professional development.	**4.3.2.** Engage in continuous learning in order to keep up with all the developments that related to the infections and their control.

3- Course Contents

Week	Lectures		Practical	
	Topic	Credit hrs. (2)	Topics	Credit hrs. (1)
1	*Staphylococci – Streptococci*	2	Culture media	1
2	*Neisseria*	2	Staphylococci	1
3	*Bacillus – Corynebacteria – Listeria -*	2	*Streptococci*	1

4	*Clostridia - Mycobacteria* (T.B)	**2**	*Bacillus – Corynebacteria*	**1**
5	*Enterobacteriaceae* *- Pseudomonas*	**2**	*Enterobacteriaceae* (part 1)	**1**
6	**Midterm**			
7	*Vibrios- till bacteroides*	**2**	*Enterobacteriaceae* (part 2)	**1**
8	Vibrios- till bacteroides	**2**	*Pseudomonas*	**1**
9	**Eid Al-Fitr (off)**			
10	Chlamydia- Rickettsiae- Mycoplasma and	**2**	*Mycology*	**1**
11	*Spirochetes -Mycoplasma*, and *Ureaplasma*	**2**	Revision	**1**
12	Medical mycology	**2**	Practical Exam	**1**
	Total credit hours	**20**	Total hours	**10**

4- Teaching and Learning Methods:

. 4.1- Lectures (tools: board, projector, data show).
4.2- Practical sessions (reagents, glassware, microscopes)
4.3- Written essays (library, internet).
4.4- E-learning
4.5- Project

5- Student Assessment Methods:

Written Midterm exam	To assess	The ability of students to follow-up the course subjects.
Practical exam and assessment of semester work (class activities)	To assess	The ability of students to apply and practice scientific knowledge
Written final exam	To assess	The overall outcomes.
Oral exam	To assess	The ability of students to follow-up the course subjects.

Assessment Schedule

Assessment 1	Periodic exams	Week 6
Assessment 2	Practical exam	Week 12
Assessment 3	Oral exam	Week 15
Assessment 4	Final written exam	Week 15

Weighting of Assessments

Periodical examination	20
Final-term Examination	75
Oral Examination	15
Practical Examination	40
Other types of assessment	---
Total	**150**

6- List of References

Course notes

- Lecture notes of bacteriology and mycology prepared by instructors.

Essential books (textbooks)

- Topley & Wilson Microbiology and Microbial Infections, 10th edition, 2007.
- Lippincott's illustrated reviews: Microbiology, 2012.

Recommended books

- Topley & Wilson Microbiology and Microbial Infections, 10th edition,2007.
- Lippincott's illustrated reviews: Microbiology, 2012.

Periodicals, Web sites, etc

- www.ncbi.com
- pubmed.com
- jmm.sgmjournals.org

7- Facilities Required for Teaching and Learning

Modern libraries, audio-visual tools, chemicals, cooperative assistants, glassware and instruments, lecture halls, data show, internet.

Course members:

Prof. Dr. Nadia Abdel-Halim Hassouna
Dr. Ahmed Saeed Abouzeid
Dr. Amr Shaker

Course Coordinator: Dr.Amr Shaker *Amr Shaker*

Sarra Saleh

Head of Department: Assoc. Prof. Dr. Sarra Ebrahim Saleh

Course name	**Bacteriology and Mycology**
Code	**PM 603**

Course Plan & Matrices

	Course Contents	Program Key Elements	Course learning outcomes	Teaching and Learning Methods	Student Assessment Methods
Week # 1	*Staphylococci* – *Streptococci* Culture media	1-1-1-1, 1-1-2-1	1-1-1-1, 1-1-2-1	Lectures Open discussion Practical training	Written Oral Practical
Week # 2	*Neisseria* Staphylococci	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	Lectures Practical training	Written Oral Practical
Week # 3	*Bacillus* – *Corynebacteria* – *Listeria* -	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1,	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1,	Lectures Open discussion brain storming Assignments,	Written Oral

	Streptococci	3-2-5	3-2-5		

				Practical training	Practical
Week # 4	*Clostridia & Mycobacteria* (T.B) *Bacillus* – *Corynebacteria*	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	Lectures Assignments, Practical training	Written Oral Practical
Week # 5	*Enterobacteriaceae* - *Pseudomonas* *Enterobacteriaceae* (part 1)	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1, 3-2-5	Lectures Open discussion brain storming, Practical training	Written Oral Practical
Week # 6	**Midterm**				
Week # 7	*Vibrios- till bacteroide* *Enterobacteriaceae* (part 2)	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-4-1, 3-2-5	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-4-1, 3-2-5	Lectures Practical training	Written Oral Practical
Week # 8	Vibrios- till bacteroides *Pseudomonas*	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-4-1, 3-1-3	1-1-1-1, 2-2-1-1, 3-1-2, 3-1-3 3-1-4-1,	Lectures Project	Written Oral
Week # 9	Eid Al-Fitr (off)				

Week # 10	Chlamydia-Rickettsiae-Mycoplasma Mycology	3-2-5	3-2-5	Lectures Practical training	Practical
Week # 11	*Spirochetes - Ureaplasma* Formative assessment *Revision*	1-1-1-1, 2-2-1-1	2-2-1-1, 1-1-1-1,	Lectures Practical training	Written Oral Practical
week# 12	Medical Mycology Practical exam	1-1-1-1, 2-2-1-1	2-2-1-1, 1-1-1-1,	Lectures	Written Oral
week#15	Final Written Exam				

In case of emergency or necessity, the study will be converted into recorded and interactive lectures.

تم الاعتماد فى محضر مجلس قسم الميكروبيولوجيا والمناعة
جلسة رقم (6) بتاريخ 4/2/2024