Course Specification Clinical Microbiology

(2025)

1. Basic Information

Course Title (according to the bylaw)	(Basic) Clinical microbiology			
Course Code (according to the bylaw)	CPAT 703			
Department/s participating in delivery of the course	Clinical and Chemical pathology department			
Number of credit hours/points of the course (according to the bylaw)	**Theoretical**	**Practical**	**Other (specify)**	**Total**
	2h	**0.5 h**		
Course Type	اجباري			
Academic level at which the course is taught	الفرقة/المستوي الاول			
Academic Program	**MD of Clinical and Chemical pathology**			
Faculty/Institute	faculty of medicine			
University/Academy	Benha university			
Name of Course Coordinator	Prof. Dr. Yasser Ismail			
Course Specification Approval Date	**9/14/2025**			
Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)	**9/14/2025**			

2. Course Overview (Brief summary of scientific content)

3. Theoretical as well as practical training is imparted to the candidates in thesubspecialties viz. Bacteriology, Virology andMycology so that they can participate in good patient care and prevention ofinfectious diseases in the community.

4. _ They are introduced to basic research methodology so that they can conductfundamental and applied research.

5. _ They are also imparted training in teaching methods in the subject which may enable them to take up teaching assignments in Medical Colleges/Institutes.

6. _ Establish good clinical microbiological services in a hospital and in the communityin the fields of bacteriology, virology and mycology.

7. Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs(NARS/ARS)

Program Outcomes(NARS/ARS) (according to the matrix in the program specs)		**Course Learning Outcomes** Upon completion of the course, the student will be able to:	
Code	**Text**	**Code**	**Text**
			2.a.1 Define each microbe according to pathogenesis, factors that weaken or strengthen the microbe and defense mechanism of the .body
			2.a.2.Identify normal commensals, their role in the disease and methods of diagnosis.
			2.a.3. list antibiotics, their pharmacology, methods of Judgment and causes of resistance.

Program Outcomes(NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	**Text**	**Code**	**Text**
			2.a.4. Describe each group of bacteria, viruses and fungus groups.
			2.a.5. Define hospital acquired infections, their causes, causative. microbes, factors that lead to help infection and methods o of resistance
			2.a.6 Outline safe disposal of medical waste products, types of Incinerators and danger of dealing with waste.
			2.a.7 describe chemical and thermal sterilization, vaccines

8. Teaching and Learning Methods

1- Lectures

2- Seminars

3 - Clinical sessions

4 - Groups discussion

5- Case presentation with interpretation of results

6- E lectures

Course Schedule

	Topic	عدد ساعات المحاضرات	ILOs
Week 1	**General** - Biosafety including universal precautions	**1h**	**o2.a.3.** **2.a.7..**
	- Physical and biological containment	**1h**	**2.b.1.**
Week 2	-Disinfection & Sterilization	**1h**	**2.b.2.**
	- Antibacterial substances and drug resistance	**1h**	**2.b.3.** **2.b.4.**
Week 3	_ Quality assurance & quality control in microbiology	**1h**	**2.b.8** **2.b.9**
	- Accreditation of laboratories	**1h**	**2. c.1.** **2.c.2.** **2. c.3**
Week 4	**Virology** _General properties & classification of viruses _ Isolation & identification of viruses _ Vaccines & anti-viral drugs	**2h**	**2.a.7** **2.b.1⟶2.b.4** **2.c.1⟶2.c.3** **52.d.1⟶2.d**
Week 5	- DNA viruses of medical importance	**2h**	
Week 6	_ RNA viruses of medical importance	**2h**	

Week 7	Slow viruses including prions & Unclassified viruses	**2h**	
Week 8	**Mycology** - General characteristics & classification of fungi - Morphology & reproduction of fungi - Isolation & identification of fungi	**1h**	***2.a.1*** ***2.a.7***
	Yeasts and yeast like fungi of medical	1h	
Week 9	Mycelial fungi of medical importance including: a) Superficial & Cutaneous mycoses b)Subcutaneous mycos	2 h	
Week 10	c)Systemic mycoses d)Opportunistic mycoses	2h	
Week 11	_ Pneumocystis carinii infection	1h	
	Mycetismus & mycotoxicosis	1h	
	Antifungal agents& in vitro antifungal susceptibility tests.		
Week 12	**Applied Microbiology& infection control:**		
	_ Hospital acquired infections _ Automation in Microbiology	2h	

	_ Basics of infection control		
Week 13	**Infections of various organs and systems of human body:** - respiratory tract infections -urinary tract infections - central nervous system infections - congenital infections gastrointestinal infections -pyrexia of unknown origin - infections of eye, ear& nose, skin & wound infections - Blood stream infection septicaemia & endocarditis, - Sexually transmitted diseases	**2h**	
Week 14	_ Microbiome & Opportunistic infections	1h	
	_ Vaccinology : principle, methods of preparation, administration of vaccines	1h	
Week 15	- Point of care testing	1h	
	- Molecular techniques as applicable to microbiology	1h	

9. Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1written (Semester work)	**-**		
2	Exam 2 ..... (Semester work)	**-**		
3	Final Written Exam	√	**75**	
	Final Practical/Clinical/... Exam	√	**30**	
	Final Oral Exam	√	**20**	
	Assignments / Project /Portfolio/ Logbook	√		
	Field training	√		

	Other (Mention)			

* The methods mentioned are examples, the organization may add and/or delete

10. Learning Resources and Supportive Facilities*

Learning resources (books, scientific references, etc.) *	**The main (essential) reference for the course** (must be written in full according to the scientific documentation method)	- Jawetz, Melnick and Adel berg's Medical Microbiology, (2013) - Mackie & Mc. Cartney practical Medical Microbiology, (2013) - Diagnostic microbiology Bailey&scott partitia M. cille, Edition 14, 2022 Diagnostic microbiology Connie R. Mahon, MS, - Edition 15, 2019
	Other References	A Photographic Atlas f o r t h e Microbiology laboratory – District Laboratory Practice in Tropical Countries Tietz textbook of clinical chemistry and molecular diagnostics.
	Electronic Sources (Links must be added)	Journal of clinical Microbiology. - Journal of Medical Microbiology. - Antimicrobial chemotherapeutics. -www.Pubmed.com
	Learning Platforms (Links must be added)	
	Other (to be mentioned)	
Supportive facilities & equipment for teaching and learning *	**Devices/Instruments**	√
	Supplies	√
	Electronic Programs	√
	Skill Labs/ Simulators	√
	Virtual Labs	
	Other (to be mentioned)	

* The list mentioned is an example, the institution may add and/or delete depending on the nature of the course

	Name and Signature **Course Coordinator** **& Name and Signature** **Program Coordinator** **أ.د/ ياسر اسماعيل**