

# AHST 103 General Microbiology (2025)

## 1. Basic Information

Course Title (according to the bylaw)	General Microbiology			
Course Code (according to the bylaw)	AHST 103			
Department/s participating in delivery of the course	General departement			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	4		3
Course Type	Compulsory			
Academic level at which the course is taught	First year (1 <sup>st</sup> semester)			
Academic Program	General			
Faculty/Institute	High Institute of Applied Health Science Badr			
University/Academy	Badr Higher Institutes of Science and Technology			
Name of Course Coordinator				
Course Specification Approval Date	.Click or tap to enter a date			
Course Specification Approval (Attach the decision/minutes of the department /committee/council ....)				

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## 2. Course Overview (Brief summary of scientific content)

Upon completing this course, student should be able to:  
describe diversity of microorganisms, bacterial cell structure and function, microbial growth and metabolism, and the ways to control their growth by physical and chemical means and also impart knowledge of the basic principles of bacteriology, virology, mycology and immunology including the nature of pathogenic microorganisms, pathogenesis, laboratory diagnosis, transmission, prevention and control of diseases

## 3. 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
1.1.1- Demonstrate an understanding of fundamental knowledge of basic and applied health sciences.		CLO1	Explain the basic concepts and scope of general microbiology.
		CLO2	Describe the structure and function of bacterial cells and their components.
		CLO3	Identify the requirements for bacterial growth and interpret bacterial growth curves.
		CLO4	Explain the concepts of infection, sources, and reservoirs of infection.
		CLO5	Describe methods of sterilization and disinfection, including their applications in healthcare and laboratory settings.
		CLO6	Classify medically important bacteria and outline their pathogenic mechanisms (systematic bacteriology).
		CLO7	Outline the fundamentals of medical mycology and the clinical significance of pathogenic fungi.
		CLO8	Explain the basic principles of virology, including virus structure and classification.
		CLO9	Describe viral replication cycles and mechanisms of

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
			viral infection.  <b>CLO10</b> Discuss the principles of antigen-antibody reactions and their role in immunity and diagnostics.
2.1.1-	Exhibit appropriate professional behaviors and relationships in all aspects of practice.		<b>CLO11.</b> Analyze data in healthcare <b>CLO12.</b> Think logically to apply microbiology in labs <b>CLO13.</b> Solve lab problems using teamwork and discussion
			<b>CLO14.</b> Work effectively in team. <b>CLO15.</b> Communicate ideas and argument effectively
4.1.1-	Participate in teamwork harmoniously and exhibit collaborate effectively with colleagues and other health care professionals		<b>CLO16.</b> Work responsibly and ethically in lab settings. <b>CLO17.</b> Participate in team discussions and problem-solving

## 4. Teaching and Learning Methods

- 1..Interactive Lectures
- 2.Self-Directed Learning (SDL)
- 3.Group Discussions
- 4.Practical Laboratory Sessions

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## **Course Schedule**

## 5. Methods of students' assessment

No.	Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours				KS
				Theoretical teaching (lectures/discussion groups/ .....)	Training (Practical/ Clinical/ .....)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)	
1	Exam 1 written (Semester work)	Basic (of general microbiology)	3	61	40		20%	
2	Exam 2 written (Semester work)							
3	2	Bacterial cell structure	3	1	4			
	Final Practical / Clinical Exam	Bacterial growth requirement and growth curve		10	45		30%	
	Final Oral Exam		3					
	Assignments / Project / Portfolio / Logbook							
	4	Source and reservoir of infection	3	1	4			
	Other (mention)							
	5	Sterilization and Disinfection	3	1	4			
	6	Midterm						
	7	Systematic bacteriology I	3	1	4			
	8	Systematic bacteriology II	3	1	4			
	9	Introduction to medical mycology	3	1	4			
	10	Introduction to virology	3	1	4			
	11	Replication of virus	3	1	4			
	12	viruses replication and infection	3	1	4			
	13	viruses replication and infection II	3	1	4			
	14	viruses replication and infection III	3	1	4			
	15	Antigen- Antibody Reactions	3	1	4			
	16	Practical exam						
	17	Final exam						

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

## 6. Learning Resources and Supportive Facilities \*

<b>Learning resources (books, scientific references, etc.) *</b>	<b>The main (essential) reference for the course</b> (must be written in full according to the scientific documentation method)	Badr Higher Institutes of Science and Technology - General Microbiology book
	<b>Other References</b>	
	<b>Electronic Sources</b> (Links must be added)	<b>Knowledge bank:</b> <a href="https://www.ekb.eg/ar">https://www.ekb.eg/ar</a>
	<b>Learning Platforms</b> (Links must be added)	
	<b>Other</b> (to be mentioned)	
<b>Supportive facilities &amp; equipment for teaching and learning *</b>	<b>Devices/Instruments</b>	Computer, data show, Microscope, autoclave, ,incubator, flame
	<b>Supplies</b>	Computer- boards and projectors
	<b>Electronic Programs</b>	-
	<b>Skill Labs/ Simulators</b>	Ibn al-Haytham program
	<b>Virtual Labs</b>	-
	<b>Other (to be mentioned)</b>	-

**\* 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