Course specification

University/Academy: Damanhour
Faculty/Institute: Science
Department: Botany

1. course Data:		
Course code: **Bot 321**	Course title: **Bacteriology**	Academic year/level: 2009/2010 3rd year student (first term)
Specialization: Chemistry / botany	No. of instructional units: lecture 2 practical 3	

2. course Aim	The aim of the course is to learn the basic information about prokaryotes with particular emphasis on the bacterial cell structure, bacterial nutrition and growth. It is also aims to study the interaction between human and pathogenic microorganisms and how to control it.
3. Intended learning outcome	
a) Knowledge and understanding	By the end of the course, students will be able to: A1: Draw the structure of bacterial cells **A**2: List the differences between Gram positive and Gram negative bacteria A3: Describe the methods for isolation and culturing of bacterial A4: write details of nutritional and environmental requirements for good growth and reproduction of bacteria A5: Identify the different growth measurements A6: Classify bacterial groups A7: Identify some pathogenic microorganisms
b) Intellectual skills	By the end of the course, the students are expected to develop higher order skills that are reflected in their ability to: B1: Design the bacterial cell and the function of each structure B2: Conclude the growth requirement of the different microorganisms B3: Explain the growth curve of bacteria B4: Differentiate unknown bacteria and compare between the types
c) Professional skills	By the end of the course, students will be able to: C1: use the microscope with oil immersion lens, autoclave and instruments related to the course C2: prepare and examine bacterial cultures C3: prepare the different physiological and biochemical tests

	C4: write course report
d) General skills	By the end of the course, students will be able to: D1: communication skills, covering both written and oral communication D2: problem – solving skills, relating to quantitative information, extending to situations have to be made on the basis of limited information D3: interpersonal skills, relating to the ability to interact with other people and to engage in team – working and to be creative and innovative for academia and industry.
4. course content	Introduction -The position of bacteria among microorganisms - Microscopy - morphological characters - Structure of prokaryotic cell External Structures of the bacterial cell Internal Structures of the bacterial cell -Reproduction of bacteria endospore formation Bacterial nutrition Conditions required to bacterial growth Bacterial growth and measurement - Bacterial infection and virulence - Pathogens – host interactions Common human bacterial pathogens
5. Teaching and learning methods	a. Lecture using PowerPoint presentations. b. Practical sections. c. Essay. d. Independent reading throughout basic Texts books and research papers.
6. teaching and learning methods for students with special needs	N/A
7. Student Assessment	
a) Procedures used:	Assessment 1: Quizzes. Assessment 2: Mid term exam. Assessment 3: Practical exam.

	Assessment4: Final term exam.
b) Schedule:	Assessment 1: Quizzes. Week: 4-7 Assessment 2: Mid term exam. Week: 8 Assessment 3: Practical exam. Week: 15 Assessment4: Final term exam. Week: 16
c) Weighing of Assessment:	Semester work 10 Mid term exam 10 Practical examination 30 Final term exam 100 Total 150
8. List of Textbooks and References:	
a) Course Notes	- Lecture notes on general bacteriology.
b) Required Books (Textbooks)	- Schlegel, HG. General Microbiology, 7th edition, Cambridge press, 1995 -Alas, RM. Principles of Microbiology, second edition, WMC. Brown Pub 1997 -Cappuccinos JG and Sherman N. Microbiology (A Laboratory Manual) 8th edition Pearson Pub 2008.
c) Recommended Books	Medical Microbiology, Sensory Mechanisms in Bacteria: Molecular Aspects of Signal Recognition and Environmental Microbiology: Current Technology and Water Applications
d) Periodicals, web sites,…,etc	- Bergey' s Manual of Systematic Bacteriology (recent edition) http:// www.bact.wisc.edu/the microbial world/homepage.html http:// www.text book of bacteriology.net

Course Instructor: Dr. Mona E. Mabrouk **Head of Department:** Dr.

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