

## Planning and Quality Assurance Affairs

Form (A)

### Course Specifications

#### General Information

Course name	Microbiology
Course number	BIOL2358
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

#### Course Objectives

1 - to study the diversity of microorganisms, their development and the relation between structure and function in the microbial world
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#### Intended Learning Outcomes

Knowledge and Understanding	* history of Microbiology, understand the relation between microorganisms
Intellectual Skills	* isolation and identification of bacteria
Professional Skills	* learn the aseptic technique
General Skill	* effectively team work for intensive learning

#### Course Contents

1 - Structure and function of prokaryotic cells, shapes and size of bacteria
2 - Cell membrane, cell wall (Gram + and Gram- bacteria)
3 - Ribosomes, inclusions, bacterial genome and plasmids
4 - Nutrition and growth of bacteria; major growth elements, trace elements, carbon and energy source for bacterial growth
5 - Effect of physical and chemical conditions on bacterial growth; Temp, Oxygen, pH, water availability
6 - Growth of bacterial populations, methods for measurement of cell mass and cell number, bacterial growth curve
7 - The diversity of metabolism in prokaryotic cell, energy-generating metabolism (Glycolysis and citric acid cycle)
8 - The diversity of metabolism in prokaryotic cell, energy-generating metabolism (Electron transport chain) and Fermentation
9 - Biosynthesis of secondary metabolites
10 - Eleventh: Introduction to virology; structure of viruses, classification and pathogenicity
11 - Introduction to mycology; structure of fungi, their classification and disease
12 - Introduction to mycology; structure of fungi, their classification and disease
13 - Introduction to phycology; structure of algae, their classification and their role in environment
14 - Introduction to protozoa; structure of protozoa, their classification and disease

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## Teaching and Learning Methods

1 - Lecures, Revision and Discussion sections and Student presentation
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## Teaching and Learning Methods for the Disabled Students

1 - non
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## Books and References

Course note	1- 2008 Kenneth Todar, Textbook of Bacteriology. University of Wisconsin-Madison Department of Bacteriology 2- 2006 Brock, Biology of microorganisms, Madigan, Martinko, and Parker Exam, Seminar, Oral Discussion
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