



Bacteriology

Course Code	Course Num.	Course Name	Credit Hours	Lec.	Lab	Tut	Prerequisites
BIO	242	Bacteriology	4	3	2	0	BIO241

Objectives: By the end of the semester, the student should be able:

- To identify the basic shapes of bacteria.
- To describe the structure and organization of bacteria.
- To describe Bacterial requirement for growth and multiplication.
- To classify bacteria on the basis of preferred temperature range.
- To explain how microbes are classified on the basis of oxygen requirement.
- To describe Bacterial growth curve.

Syllabus:

- Cell organization.
- Cell size, shape and arrangement, glycocalyx, capsule, flagella, endoflagella, fimbriae and pili.
- Cell Membrane.
- Structure, function and chemical composition of bacterial and archaeal cell membranes
- Cytoplasm.
- Ribosomes, mesosomes, inclusion bodies, nucleoid, chromosome and plasmids
- Endospore .
- Structure, formation, stages of sporulation.
- Bacteriological techniques
- Growth and nutrition ,Culture media, Sterilization and Disinfection
- Reproduction in Bacteria.
- ,Bacterial Systematics, Important archaeal and eubacterial groups ,Archaeobacteria, Eubacteria.
- Gram Negative, Non proteobacteria
- Alpha proteobacteria , Beta proteobacteria, Gamma proteobacteria
- Delta proteobacteria , Epsilon proteobacteria
- Gram Positive, Low G+ C (Firmicutes) , High G+C (Actinobacteria)
- Cyanobacteria

References:

- Salle A. J., Fundamental Principles of Bacteriology, (2007), Even press, ISBN-10: 1406707376, ISBN-13: 978-1406707373.
- Ted R. Johnson. Laboratory Experiments in Microbiology 11th ed.(2015), ISBN-13: 978-0321994936.

