Course Code	BIO101
Course Name	Foundations of Biology
Credits	4
Course Offered to	UG
Course Description	The objective of this course is to provide an introduction to the foundations of biology including the chemistry of life, cellular mechanisms, genetics and mechanisms of evolution.

Pre-requisites

Pre-requisite (Mandatory)	Pre-requisite (Desirable)	Pre-requisite (Other)
None	None	

Post Conditions

CO1	CO2	CO3	CO4
The student is able to classify different types of molecules, explain various functionality and can provide examples.	The student is able to understand and explain cell structure and function, the mechanisms of evolution and evolutionary history of biological diversity.		

Weekly Lecture Plan

Week Number	Lecture Topic	COs Met	Assignment/Labs/Tutorial
1	Unit 1: The Chemistry of Life (The Chemical Context of Life, Water and the Fitness of the Environment, Carbon and the Molecular Diversity of Life, The Structure aud Function of Macromolecules)	CO1	2+1 hours
2-4	Unit 2: The Cell (A Tour of the Cell, Membrane Structure and Function, An Introduction to Metabolism, Cellular Respiration: Harvesting Chemical Energy, Photosynthesis, Cell Communication, The Cell Cycle)	CO2	2+1 hours
5-7	Unit 3: Genetics (Meiosis and Sexual Life Cycles, Mendel and the Gene Idea, The Chromosomal Basis ofInheritance, The Molecular Basis of Inheritance, From Gene to Protein, The Genetics of Viruses and Bacteria, Eukaryotic Gcnomes: Organization, Regulation, and Evolution, DNA Technology and Genomics, The Genetic Basis of Development)	CO2	2+1 hours
8-9	Unit Four: Mechanisms of Evolution (Descent with Modification: A Darwinian View of Life, The Evolution of Populations, The Origin of Species, Phylogeny and Systematics)	CO2	2+1 hours
9-12	Unit 5: The Evolutionary History of Biological Diversity (The Tree of Life: An Introduction to Biological Diversity, Prokaryotes, Protists, Plant Diversity I: How Plants Colonized Land, Plant Diversity II: The Evolution of Seed Plants, Fungi, An Introduction to Animal Diversity, Invertebrates, Vertebrates)	CO2	2+1 hours
13	Revision	CO1, CO2	2+1 hours

Assessment Plan

Type of Evaluation	% Contribution in Grade
Quiz-1	20
Quiz-2	20
Mid-Sem	20
End-Sem	40

Resource Material

Type	Title
Textbook	Biology (Campbell and Reece), Pearson.