

Hajee Karutha Rowther Howdia College

(Autonomous)

Uthamapalayam 625 533, Theni District.



Department of Microbiology

Programme Specific Outcomes (PSOs)

Programme Outcomes (POs)

Course Outcomes (COs)

B.Sc. Microbiology

Programme Specific Outcomes (PSOs):

PS01: Apply knowledge of molecular mechanism and cellular process in microbes.

PS02: Our graduate will be able to analyze the problem in basic and current area of industrial microbiology, fermentation technology, environmental and agricultural microbiology are included to train the students and also sensitize them to scope for research

PS03: Our graduate of the programme will serve as a successful microbiologist and apply the fundamental concepts of Microbiology and laboratory technology in the agriculture, industry, health care, societal related emerging application areas

PS04: The graduate will be equipping themselves in higher studies, entrepreneur and applying new ideas and technologies in Microbiology

PS05: Our graduate will be able to practicing excellent to their experience which addresses issues in a responsive ethical and innovative manner

Programme Outcomes (POs):

PO1: To promote the students to understand the impact of Microbiology in life.

PO2: To develop practical skills in Microbiology for their job oriented career.

PO3: To promote the students to be self employed in the field of Microbiology such as mushroom farming, Dairy etc

PO4: To enable the students to apply Microbiology to the various fields such as agriculture, industries, clinical, genetic engineering etc

PO5: To insist the golden opportunities for their career in research and job in the field of Microbiology.

Course Outcomes (COs):

Course Code: 20UMBC11

Course Title: General Microbiology

Course Outcomes (COs):

CO1: Learn basics of history, scope and classification of Microbiology.

CO2: Learn about the principle and application of Microscope

CO3: Gather Knowledge of microbes cultivation and types of media

CO4: Understand the idea of microbe's Structure, function and reproduction.

CO5: Understand the characteristics of Bacteria, fungi and protozoa

Course Code: 20UCHA11

Course Title: Organic, Inorganic and Physical
Chemistry – I (Ancillary Chemistry - I)

Course Outcomes (COs):

CO1: Recall the preparation and properties of hydrides, oxides, hardness of water and its implications.

CO2: Classify the colloidal states of matter and its applications

CO3: Demonstrate the reactions of glucose, fructose and sucrose and relate their uses

CO4: Explain the concept of enantiomers, diastereoisomers and geometrical isomers

CO5: Identify the properties, classification and functions of proteins and dyes

Course Code: 20UMBC21

Course Title: Biochemistry

Course Outcomes (COs):

CO1: Learn basics of carbohydrates and its pathway.

CO2: Learn about the Lipids

CO3: Gather Knowledge of Structure and classification of Protein

CO4: Understand the idea of nucleic acids and its types.

CO5: Understand the vitamins and its deficiency

Course Code: 20UMBC2P

Course Title: Core Practical - I

Course Outcomes (COs):

CO1: Gain knowledge on basic handling techniques in Microbiology

CO2: Know how to pure culture microbes

CO3: Acquire technical knowledge on isolation of microbes

CO4: Gain knowledge on staining of bacteria

CO5: Understand the basics techniques in biochemistry

Course Code: 20UCHA21	Course Title: Organic, Inorganic and Physical Chemistry – II (Ancillary Chemistry - II)
Course Outcomes (COs):	
CO1: Analyze the physical concepts of photochemistry	
CO2: Explain the basic terms, isomerism and theories involved in coordination compound	
CO3: Apply the column, thin layer and paper chromatographic techniques to separate and identify the components present in a mixture	
CO4: Recall about chemotherapy and classify the drugs as sulpha, antimalarials, antibiotics and arsenical drugs	
CO5: Identify the concepts of thermodynamics and its significance	

Course Code: 20UCHA2P	Course Title: Volumetric Analysis (Ancillary Practical – I)
Course Outcomes (COs):	
CO1: Build basic quantitative skills in volumetric analysis with the use of burette, pipettes and standard flasks	
CO2: Apply acidimetric and alkalimetric method for the quantitative volumetric estimation of acids and bases	
CO3: Estimate the amount of inorganic compounds permanganometrically	
CO4: Demonstrate the quantitative estimation of Potassium dichromate iodometrically	
CO5: Plan the laboratory hygiene and safety	

Course Code: 20UMBC31	Course Title: Immunology
Course Outcomes (COs):	
CO1: Learn the history of immunology, protective functions innate, as well as acquired body defense and Immune responsible Cells and organs	
CO2: Understand the structure, character and function of antigen and antibody	
CO3: Acquire knowledge of Humoral and cell mediated immune responses	
CO4: Understand the Hypersensitivity and Immune associated diseases	
CO5: Understand the basics of Transplantation immunology and Tumor Immunology	

Course Code: 20UMBC32

Course Title: Cell Biology

Course Outcomes (COs):

CO1: Study the cell structure, types, plasmamembran, protoplasm, microtubtles and microfilaments.

CO2: Understand the structure, character and function of Cytoplasmic organells in Eukaryotes

CO3: Knowledge about the Structure and function of Nucleus, kinds functions, nucleolus-structure-functions-mechanism of photosynthesis and generation of ATP.

CO4: Acquire Knowledge of Cell cycle-mitosis and meiosis-interphase and division phase-Cell growth-normal and cancerous.

CO5: Understand the basics of Microscopy.

Course Code: 20UMBA31

Course Title: General Biology

Course Outcomes (COs):

CO1: Lear the basic of plant classification.

CO2: Lear the various fossil genera representing different fossil groups.

CO3: Study of morphological diversity of bryophytes and pteridophytes.

CO4: Understand the function of important physiological system

CO5: Understand the basic control of nervous system and explain the muscle movement and sensory perception.

Course Code: 20UMBC41

Course Title: Molecular Biology & Microbial Genetics

Course Outcomes (COs):

CO1: Understand the basic composition, structure, complementary base pairing and types of DNA with its organized genomic structure

CO2: Understand the role of complementary base pairing in the precise replication process of DNA

CO3: Engage with the knowledge of genetic transcription of prokaryotes and Eukaryotes

CO4: Understanding of protein expression form the mRNA

CO5: Acquire the basic studies in of environmental genomic entry in to the cell

Course Code: 20UMBC42

Course Title: Microbiology Physiology

Course Outcomes (COs):

CO1: Gain knowledge of importance of ATP and its mode of regeneration.

CO2: Learn about the Bacterial cell division and differentiation

CO3: Gather Knowledge of photosynthesis and inorganic metabolism

CO4: Understand the concept of transport of sugars and metabolites.

CO5: Understand the Morphology and life cycles of gliding and fruiting bacteria.

Course Code: 20UMBC4P

Course Title: Core Practical-II

C01: Understand the concept of paper chromatography

C02: Know how to purify bacterial chromosomal DNA

C03: Gain knowledge on methods of Blood grouping

C04: Acquire technical knowledge on Immunoelectrophoresis

C05: Understanding the effect of pH and Temperature on Bacterial growth

Course Code: 20UMBA41

Course Title: Genetics and Biostatistics

Course Outcomes (COs):

C01: Learn the nature of genetic inheritance

C02: Study of DNA coding that occupies a given locus on a chromosome.

C03: There is no lack of data floating around most education and social programs.

C04: Learn assessment criteria specify the minimum requirement for the dates.

C05: Learn about statistical analysis

Course Code: 20UMBA4P

Course Title: Allied Biology Practical – I

Course Outcomes (COs):

C01: Understand section cutting of stem- Sargassum, Selaginella and Pinus needle.

C02: Understand the external and digestive, reproductive and urogenital system of cockroach and frog.

C03: Study of morphology of the representative for each phylum spotters.

C04: Study of mitosis by smear technique of Allium cepa root.

C05: Understanding the blood group, Rh factors, blood cells and blood vessels of human.