

**TAMRALIPTA MAHAVIDYALAYA**

**Tamluk, Purba Medinipur**

**DEPARTMENT OF PHYSIOLOGY**

**Programme: B.Sc. in Physiology (Honours)**

**Under CCFUP-NEP**

**NB: For session 2023-2024, Semester I & II will follow the new syllabus under CCFUP-NEP**

**Programme Specific Outcomes (PSOs) for B.Sc. Physiology Honours**

**After completion of the 1<sup>st</sup> year course under CCFUP-NEP candidates will have the following program specific outcome**

<b>PSO1</b>	Basic idea about prokaryote and eukaryote
<b>PSO2</b>	General structure of Eukaryotic cell and detailed concept of cell structure, organelle structure and their function
<b>PSO3</b>	Understand various biophysical properties and their physiological applications
<b>PSO4</b>	Understand the structure of various biomolecules and their physical and chemical properties and students can correlate different biochemical reactions that these biomolecules participate.
<b>PSO5</b>	Understand various enzymatic reactions, models of enzyme action and regulation and kinetics of enzyme assays
<b>PSO6</b>	Brief idea about digestive system, molecular basis of the digestive juice secretion, synthesis and mechanism of action.
<b>PSO7</b>	Digestive tract related pathophysiology
<b>PSO8</b>	General and brief idea about all the physiological systems
<b>PSO9</b>	Brief idea about the contribution of eminent physiologists in the field of medicine
<b>PSO10</b>	Basic idea of the human anatomy

**COURSE OUTCOMES (COs): B.Sc. Physiology Honours**

SEMESTER	COURSE DETAIL	COURSE OUTCOMES	
		Students would learn the following after completion of the course:	
<b>SEMESTER I</b>	<b>Course Title:</b> Basic Physiology-1  <b>Course Code:</b> MJ-1  <b>Credit:</b> 04	<b>CO1</b>	Structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
		<b>CO2</b>	Structure and function of various cell organelles
		<b>CO3</b>	Basic idea of tissue organization and brief outline of all physiological systems
		<b>CO4</b>	Knowledge about contribution of various scientists in physiology and medicine
		<b>CO5</b>	Basic idea about different biomolecules, their structures and physical and chemical properties.
		<b>CO6</b>	Basic idea about human anatomy
		<b>CO7</b>	Basic idea about biophysical principals.
		<b>CO8</b>	Basic concept of cytoskeletal system and their role in maintaining normal cellular functions
	<b>Course Title:</b> Clinical Hematology  <b>Course Code:</b> SEC1P:  <b>Credit:</b> 3	<b>CO1</b>	Comprehensive understanding of the normal development and function of blood cells, including erythrocytes, leukocytes, and platelets.
		<b>CO2</b>	Recognize and diagnose common hematologic disorders such as anemia, leukemias, lymphomas, and bleeding disorders.
		<b>CO3</b>	Can interpret various hematologic tests, including complete blood count (CBC), peripheral blood smear examination, bone marrow aspirate and biopsy, coagulation studies, and other specialized tests.
		<b>CO4</b>	Can correlate hematologic laboratory findings with clinical presentations and symptoms to aid in diagnosis and management.
		<b>CO5</b>	Knowledge of treatment options and management strategies for various hematologic disorders, including pharmacologic interventions, transfusion therapy, and bone marrow transplantation.

		<b>CO6</b>	Basic idea about blood disorders and Mechanism of Blood Homeostasis
		<b>CO7</b>	Develop critical thinking skills to analyze complex hematologic cases and formulate appropriate management plans.
		<b>CO8</b>	Basic idea about blood parasites and pathophysiological conditions.
	<p><b>Course Title:</b> Introduction to Physiology – I</p> <p><b>Course Code:</b> MINOR (MI-1)</p> <p><b>Credit:</b> 4</p>	<b>CO1</b>	Comprehensive understanding of the normal development and function of blood cells, including erythrocytes, leukocytes, and platelets.
		<b>CO2</b>	Learn about the hematological systems and its various pathological disorders as well as their management
		<b>CO3</b>	Learns the basic features of immune system and acquires an idea about the working of the immune system in maintaining body defense
		<b>CO4</b>	Basic idea about antibody production, immunization and immunization schedules by WHO
		<b>CO5</b>	Learn about the cardiovascular system and its operation
		<b>CO6</b>	Basic idea about cardiovascular diseases, their cause, symptoms and management
		<b>CO7</b>	Basic idea about gas transport, respiratory disorders and their management.
		<b>CO 8</b>	Basic idea about various pulmonary function tests and their significance in detecting pulmonary dysfunction
<b>SEMESTER II</b>	<p><b>Course Title:</b> Basic Physiology-2</p> <p><b>Course Code:</b> MJ-2</p> <p><b>Credit:</b> 04</p> <p><b>Course Code:</b> CC3:</p> <p><b>Credit:</b> 6</p>	<b>CO1</b>	Recognize and diagnose common hematologic disorders such as anemia, leukemias, lymphomas, and bleeding disorders.
		<b>CO2</b>	Can interpret various hematologic tests, including complete blood count (CBC), peripheral blood smear examination, bone marrow aspirate and biopsy, coagulation studies, and other specialized tests.
		<b>CO3</b>	Learns the basic features of immune system and acquires an idea about the working of the immune system in maintaining body defense
		<b>CO4</b>	Basic idea about antibody production, immunization and immunization schedules by WHO

		<b>CO5</b>	Basic understanding of Immunological Laboratory Techniques
		<b>CO6</b>	Detailed idea of various biophysical principles in human physiological system
		<b>CO7</b>	Detailed understanding of enzyme action and their regulation
		<b>CO8</b>	Structure function correlation of digestive system, idea of digestion and various digestive tract disorders and their symptom and management.
	<b>Course Title:</b> Nutrition and Dietetics  <b>Course Code:</b> SEC2P:  <b>Credit:</b> 3	<b>CO1</b>	Students gain a thorough understanding of the scientific principles of nutrition, including macronutrients, micronutrients, energy metabolism, and the role of nutrition in health and disease.
		<b>CO2</b>	Students learn how to assess the nutritional status of individuals and populations using methods such as dietary assessment, anthropometric measurements, biochemical tests, and clinical evaluation.
		<b>CO3</b>	Students develop skills in providing evidence-based nutrition counseling and education to individuals and groups, considering cultural, socioeconomic, and psychological factors that influence dietary behaviors.
		<b>CO4</b>	Students are able to plan and develop nutritionally balanced meal plans and menus for various populations, taking into account dietary guidelines, food preferences, and dietary restrictions.
		<b>CO5</b>	Students learn the basic principle of food values
		<b>CO6</b>	Basic idea about individual's energy requirement and energy calculation according to ICMR
		<b>CO7</b>	Students understand the role of nutrition in promoting public health and preventing chronic diseases at the community and population levels, including strategies for nutrition education, food security, and policy advocacy.
		<b>CO8</b>	Students learn research methodologies and critical appraisal skills to evaluate nutrition-related research studies and apply evidence-based practice principles in clinical and community settings.
	<b>Course Title:</b> Introduction to Physiology – II  <b>Course Code:</b> MINOR (MI-2)  <b>Credit:</b> 4	<b>CO1</b>	Structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.
		<b>CO2</b>	Structure and function of various cell organelles
		<b>CO3</b>	Basic idea of tissue organization and brief outline of all physiological systems

		<b>CO4</b>	Basic idea about biophysical principals and their application in physiological systems
		<b>CO5</b>	Basic idea about different biomolecules, their structures and physical and chemical properties.
		<b>CO6</b>	Structure function correlation of digestive system
		<b>CO7</b>	Basic idea of digestive processes and absorption of nutrients
		<b>CO8</b>	Basic idea of different biochemical cycles for energy production