BMS2005: HUMAN PHYSIOLOGY

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Human Physiology

Subject Code
BMS - Biomedical Sciences
Course Number
2005

Academic Unit
Biomedical Sciences (BMS)

College/School
College of Biomedicine (BD)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
Human physiology is the study of the human body's function - from molecules to the system and from cells to the whole body. This is an introductory level course in human physiology which covers a broad base of basic knowledge. The

course provides up-to-date knowledge of characteristics and regulatory mechanisms of human body's systems including locomotive, nervous, circulatory, respiratory, osmoregulatory, immune, endocrine, reproduction and digestive systems. The course intends to connect molecular and cellular pathways with physiological conditions of the organs and the whole body. Selected animal model organisms will also be mentioned. The goal of the course is to let the students understand the biochemical and physiological principles of the human body. In addition, physiological conditions greatly influence the health of an individual. This course also aims to train the students to relate human physiologic principles to clinical problems.

Course Details

Contact hours (Lecture & Tutorial)

a. Introduction: General physiology : 3 hours
b. Physiology of the nervous system: central nervous system, autonomic nervous system, sensory physiology and the neural circuits involved: 9 hours
c. Chemical and cellular composition of organ systems and the body + 4. Regulation and metabolism + 5. The digestive system: 9 hour

6. The renal system: 3 hours

7. The endocrine system: 3 hours

Contractile tissue:

8. Muscular system & 9. Cardiac system: 6 hours

10. The immune system: 3 hours

11. The respiratory system: 3 hours

Total contact hrs.: 39 hours

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the characteristics and functions of human organs and organ systems.	20			
2	Describe the regulatory mechanisms of major systems of human body.	20			
3	Define homeostasis and illustrate the importance of feedback loops in the function of organ systems.	20			
4	Recognize molecular and cellular pathways that underlie physiological principles.	20	x		
5	Relate disease processes to the aberrations of normal physiological function.	20		x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lectures	Provide and explain the basic information about the function of human organs and systems	1, 2, 3, 4, 5	
2	Tutorials	Provide forum for problem solving by applying the knowledge learned from the lectures and for students to ask questions.	1, 2, 3, 4, 5	
3	Assignments	Apply the knowledge learned from the lectures and tutorials to solve problems related to human physiology.	1, 2, 3, 4, 5	
4	Mid-term quiz	Evaluate the students' learning outcome during the semester.	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Tutorial/ assignments	1, 2, 3, 4, 5	20	-	No
2	Mid-term quiz	1, 2, 3, 4, 5	20	-	No

Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

3

Minimum Continuous Assessment Passing Requirement (%)

40

Minimum Examination Passing Requirement (%)

40

Additional Information for ATs

Minimum Passing Requirement : A minimum of 40% in coursework as well as in examination.

Assessment Rubrics (AR)

Assessment Task

1. Assignment

Criterion

The number of correct answers and the quality of the answer.

Excellent (A+, A, A-)
Accurately answered all the questions. Well organised text and coherent logic.

Good (B+, B, B-)
Correctly answered >80% of the questions.

Fair (C+, C, C-)
Correctly answered 60% to 80% of the questions.

Marginal (D)
Correctly answered 40% to 60% of the questions.

Failure (F)
Did not hand in the assignment on time. Or correctly answered < 40% of the questions.

Assessment Task
2. Mid-term quiz and exam

Criterion
The number of correct answers.

Excellent (A+, A, A-)
Accurately answered all the questions. Well organised text and coherent logic.

Good (B+, B, B-)
Correctly answered >80% of the questions.

Fair (C+, C, C-)
Correctly answered 60% to 80% of the questions.

Marginal (D)
Correctly answered 40% to 60% of the questions.

Failure (F)
Did not hand in the assignment on time. Or correctly answered < 40% of the questions.

Part III Other Information

Keyword Syllabus

- The terminology and basic principles of human organs
- The functions and regulations of human organs
- Locomotion, nervous, circulatory, respiratory, osmoregulatory, immune, endocrine, reproduction and digestive systems
- Physiological control mechanisms and homeostasis
- Disease processes and abnormal physiological functions

Reading List

Compulsory Readings

	Title
1	Human Physiology: An Integrated Approach 8th edition, by Dee Unglaub Silverthorn, Pearson, 2018.

Additional Readings

	Title
1	Human Physiology, by Stuart Fox, 16th Ed, McGraw-Hill, 2021.
2	Principles of Animal Physiology 3rd Edition, by Christopher D. Moyes and Patricia M. Schulte, Pearson, 2015.