

Course Unit Title	Anatomy and Physiology	
Course Unit Code	BME210	
Type of Course Unit	Compulsory	
Level of Course Unit	Bachelor of Science, 2 nd year	
National Credits	3	
Number of ECTS Credits Allocated	5	
Theoretical (hour/week)	4	
Practice (hour/week)	-	
Laboratory (hour/week)	-	
Year of Study	2	
Semester when the course unit is delivered	4	
Course Coordinator	Faculty of Medicine	
Name of Lecturer (s)		
Name of Assistant (s)	-	
Mode of Delivery	Face to Face	
Language of Instruction	English	
Prerequisites		
Recommended Optional Program Components		
Course description:		
Introduction to the subject of human anatomy and physiology. The neurological system, the cardiovascular system, calculations related to the cardiovascular system, the respiratory system, calculations related to the respiratory system, the urinary system, calculations related to the urinary system, mechanisms of physiologic control, the digestive system.		
Objectives of the Course:		
<ul style="list-style-type: none"> • Learn basic aspects of human physiology. • Develop an understanding of the engineering approach toward understanding biological function. • Search the scientific literature, retrieve information and succinctly report on specific topics. 		
Learning Outcomes		
At the end of the course the student should be able to		Assessment
1	Understand nomenclature of clinical medicine and biological sciences	1
2	Able to understand basic concepts of anatomy, function, organelles	1, 2
3	Able to understand histology, composition and function of the 4 types of tissues.	1, 2
4	Able to understand micro-anatomy and physiology at the introductory level.	1, 2
5	Able to understand neural and peripheral nervous system	1, 2
6	Able to understand cardiovascular system.	1, 2
7	Able to understand renal and respiratory Systems	1, 2
Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4. Presentation, 5. Lab. Work		
Course's Contribution to Program		
		CL
1	Apply knowledge of mathematics, natural science with relevant to life science and multidisciplinary context of engineering science.	5
2	Analyze, design and conduct experiments, as well as to analyze and interpret data.	4

3	Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.	4
4	Function on multidisciplinary teams.	4
5	Control in design work, by using simulation, modelling and tests and integration in a problem solving oriented way.	3
6	Display an understanding of professional and ethical responsibility.	3
7	Communicate effectively aware of the non-technical effects of engineering.	2
8	Search technical literature and other information sources.	1
9	Recognize of the need for, and an ability to engage in life-long learning.	3
10	Exhibit a knowledge of contemporary issues.	2
11	Use the techniques, skills and modern engineering tools necessary for engineering practice to develop marketable products for the global market.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)

Course Contents

Week	Chapter	Topics	Exam
1		Introduction	
2		Review of basic concepts	
3		Cellular Physiology and Cellular engineering	
4		Tissue level of organization	
5		Introduction to micro-anatomy and physiology	
6		Functional neuro-muscular stimulation	
7		MIDTERM	Midterm
8		System level of organization	
9		Neural and peripheral nervous system	
10		Cardiovascular System	
11		Rheology of blood	
12		Renal and Respiratory Systems	
13		Brief introduction to high altitude physiology	
14		Review	
15		FINAL	Final

Recommended Sources

Textbook:

Human Physiology: From Cells to Systems, by L. Sherwood (4th and 5th Ed.)

Martini's and Bartholomew's Essential of Anatomy and Physiology, by Seiger, 2nd Ed. Or later.

Assessment

Attendance	10%	Less than 25% class attendance results in NA grade
Quiz	20%	Written Quiz
Midterm Exam	30%	Written Exam
Final Exam	40%	Written Exam
Total	100%	

Assessment Criteria

Final grades are determined according to the Near East University Academic Regulations for Undergraduate Studies

Course Policies

- Attendance to the course is mandatory.
- Late assignments will not be accepted unless an agreement is reached with the lecturer.
- Students may use calculators during the exam.
- Cheating and plagiarism will not be tolerated. Cheating will be penalized according to the Near East University General Student Discipline Regulations

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including Exam weeks)	15	4	60
Labs and Tutorials			
Assignment	5	4	20
Project/Presentation/Report	-	-	-
E-learning activities	-	-	-
Quizzes	2	2	4
Midterm Examination	1	15	15
Final Examination	1	15	15
Self Study	14	3	42
Total Workload			156
Total Workload/30(h)			5.2
ECTS Credit of the Course			5