



# Faculty of Medicine

Major: Doctor of Medicine

Academic Year: 2022/2023

Subject: General physiology

## COURSE SYLLABUS

Student's Copy



## 1. Course information:

Theory		Practical	
<b>Course Title:</b>	General Physiology	<b>Course Title:</b>	General Physiology
<b>Course Code:</b>	1001103	<b>Course Code:</b>	1001103
<b>Co-Requisite:</b>		<b>Co-Requisite:</b>	
<b>Prerequisite:</b>		<b>Prerequisite:</b>	
<b>Course Credit Hours:</b>	3	<b>Course Credit Hours:</b>	1
<b>Class Location:</b>	Faculty of Medicine	<b>Class Location:</b>	Physiology lab
<b>Department:</b>		<b>Basic Medical Sciences</b>	
<b>Final Qualification:</b>			

## 2. Instructor Contact Information:

<b>Coordinator:</b>	Dr/ zienab helmy eldken
<b>Instructor(s):</b>	Dr/ zienab helmy eldken
<b>Email:</b>	zienabeldken@gmail.com
<b>Office:</b>	Faculty of medicine
<b>Office Hours:</b>	Sunday: 12:30 -2:30 PM. Monday: 11- 1:30 PM. Tuesday: 10-11 AM. 12: 30 – 1:30 PM. Thursday: 10:12 AM.



### **3. Course Description:**

The course of general physiology introduces basic concepts in physiology of human body. It emphasizes the concept of internal environment and homeostasis and the concept of feedback in a biological system. It also helps students to understand body fluid composition, different fluid compartments, water balance, and its disorders. Also cell membrane structure and different mechanisms of membrane transport will be discussed. Cellular physiology including membrane ionic basis of excitability, action potential, and nerve block will be explained. Physiology of neuronal circuits and types of synapse, different types of neurotransmitters and neuromuscular junction will be studied. Basics of nerve conduction velocity will be explained. The course also gives an overview on the physiology and functions of nervous system, emphasizing mainly on autonomic nervous system divisions, functions, and autonomic ganglia.

### **4. Resources Available to Students:**

- Guyton & Hall Physiology Review, 2nd edition.
- Linda textbook human Physiology.

### **5. Teaching Methods**

- a. Lectures.
- b. Discussion and problem solving.
- c. Individual and groups activities.
- d. In- class coepetition.

### **6. Intended Learning Outcomes (ILOs):**

**Upon successful completion of this course students will be able to ...**

1. Understand functional organization of human body & body fluids compartments, water balance and its disorders.
2. Recognize the cell membrane structure and principles of different mechanisms of membrane transport.
3. Understand concept of excitability and ionic basis of resting membrane potential & action potential and other types of membrane potential.



4. Recognize different types of synapse, mechanisms of synaptic transmission, and electrical properties & types of synaptic potential & neuromuscular junction.
5. Recognize different neurotransmitters and their mechanism of action & functions.
6. Clarify physiology of the nervous system and difference between central and peripheral nervous system. & functions of the autonomic and somatic nervous system and difference between them.
7. Understand functions of sympathetic and parasympathetic nervous system & cholinergic and adrenergic transmission & types of autonomic receptors.
8. Define the concept of homeostasis and feedback mechanisms.
9. Recognize types of stimuli & gradation of stimulation & all or none law.
10. Understand different types of ion channels and mechanisms of nerve block.
11. Understand principles of nerve conduction study & its clinical applications.
12. Describe fight and flight response & biofeedback responses.

## 7. Course Policies:

**To be explained to students at the first meeting:**

### 1. Attendance Policies:

#### A. Attendance Policy (absences and tardiness for a traditional course):

- a. Students must attend all classes of this course.
- b. Any student with an absence of 15% of the classes of any course will be illegible to sit for the final exam and will result in a failing grade being assigned in this course.
- c. Excused absences include documented illness, deaths in the family, and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have valid excuses. Consideration will also be given to students whose dependent children experience serious illnesses.
- d. Students with a legitimate reason to miss a required activity must request an approved absence through Student Academics. Unexcused absence from a scheduled examination or quiz may result in (0 %) being assigned for that assessment. Unexcused absence from an activity for which attendance is may be considered an issue of Professionalism.
- e. Any student who arrives late will not be allowed to attend the class and will be marked absent.



## B. Exam Attendance:

- a. A student, who is more than 10 minutes late, will not be permitted to submit the exam.
- b. A student who is late more than 30 minutes will not be permitted to submit the final exam, and no student will be permitted to leave the exam center before the elapse of 30 minutes.

## 2. Exams Policies:

- a. Students are expected to take their exams on time and as scheduled by their instructors.
- b. Student who is unable to take (quiz, midterm or final) exam due to any reason should contact their instructor immediately.
- c. Make-up exams are of the responsibility of faculty committee.
- d. A final exam, paper, or project is required in all courses.
- e. Seminars and workshops are included in evaluation criteria.
- f. Only registered undergraduate and graduate credit students are allowed to take final exams.
- g. If you are unable to take the final exam at the scheduled time without any acceptable excuse, you may not be allowed to rearrange the final exam separately (Make-up).
- h. If you attend the final exam and do not submit the exam sheet, or do not complete the exam for any reason, you are not allowed to complete the final exam at another time or appeal for a final make-up exam and will be assigned failing for the final exam.
- i. If you do not take your final exam and did not withdraw from the course by the withdrawal deadline you will assign a failing grade for the final exam.

**3. Cheating Policies:** Cheating is officially defined as giving or attempting to give, obtaining or attempting to obtain, information relative to an examination or other work that the student is expected to do alone and not in collaboration with others, or the use of material or information restricted by the instructor. Plagiarism is no lesser an offense than cheating, it means repeating another's sentences as your own, adopting a particularly apt phrase as your own, paraphrasing someone else's argument as your own, and presenting someone else's line of thinking in the development of a thesis as though it were your own.

**4. Penalty for cheating and plagiarism:** The failing grade shall be assigned for that piece of work to any students cheating or plagiarizing.

**5. Mobiles:** Mobile phones should be kept turned off or silent while in class. Usage of mobile phones is not allowed in classes in any form (talking and/or texting).



## 8. Grading System

Points	A	A <sup>-</sup>	B <sup>+</sup>	B	B <sup>-</sup>	C <sup>+</sup>	C	D <sup>+</sup>	D	F
Grade	4	3.75	3.5	3	2.75	2.5	2	1.5	1	0.5

Grade	Mark range	Symbols
Excellent	100-90	A
	89-85	A <sup>-</sup>
Very Good	84-80	B <sup>+</sup>
	79-75	B
Good	74-70	B <sup>-</sup>
	69-65	C <sup>+</sup>
Satisfactory	64-60	C
Weak	59-50	D <sup>+</sup>
	49-40	D
	39-30	F



### 9. Intended learning outcomes and Assessment Tools Martix:

ILOs \ Assessment Tool	ILO 1	ILO 2	ILO 3	ILO4	ILO5	ILO6	ILO7	ILO 8-12	Weight of Assessment tool %
Assignments									
Quizzes and other assessments									
First exam									
Second exam									
Midterm exam	✓	✓	✓	✓					40%
Final exam				✓	✓	✓	✓		40%
Practical exam								✓	20%
Weight %	5%	15%	15%	10%	10%	10%	15%	20%	100%

### 10. Course Grading Criteria:

Assessment Tools	Weight (100%)	Description
Exams (Midterm and Final)	80%	- MCQs
Practical exam	20%	- Objective Structured Practical Examination (OSPE)



### 11. Course Outlines/ Schedule:

Week	Topic	Chapter	Reference	Estimated number of hours	Teaching method		ILOs
					Theoretical Lectures	Practical Laboratories	
1,2	Functional organization of human body & body fluids compartments.  Homeostasis.	1		3	✓		ILO1
				1		✓	ILO8
3,4	Cell membrane structure and different mechanisms of membrane transport.	2		6	✓		ILO2
5,6	Excitability and ionic basis of resting membrane potential & action potential.  Gradation of stimulation.	3		6	✓		ILO 3
				1		✓	ILO9
7,9	Synapse & neuromuscular junction.  Ion channels & nerve block.	4		6	✓		ILO4
				1		✓	ILO10
8	<b>Midterm exam</b>						
10,11	Neurotransmitters.  Nerve conduction study.	5		4	✓		ILO5
				1		✓	ILO11





<b>11,12,13</b>	Physiology of the nervous system & autonomic nervous system.	<b>6</b>		<b>7</b>	✓		<b>ILO6</b>
<b>13,14,15</b>	Function of sympathetic and parasympathetic nervous system.	<b>7</b>		<b>7</b>	✓		<b>ILO7</b>
<b>15,16</b>	Nerve conduction study.	<b>4</b>		<b>3</b>		✓	<b>ILO12</b>
	Biofeedback responses.	<b>7</b>					