Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIED SCIENCES

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Specification of

Introduction to Physiology

Course Code. (A21P126)

2022/2023

T4: This Template is Developed and Approved by CAQA-Yemen, 2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Sadeq Abduimogni	Dr. Asma Al-hinhenh	Dr. Waled Al-dhahbi	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

I. General Information:

1.	**Course Title:**	**Introduction to Physiology**				
2.	**Course Code:**	A21P126				
3.	**Credit Hours:**	**Credit Hours**	**Theory Contact Hours**		**Practical Contact Hours**	
			Lecture	**Tutorial/ Seminar**	**Lab**	**Clinical**
		3	3	--	-	-
4.	**Level/ Semester at which this Course is offered:**	1st Level / 2nd Semester				
5.	**Pre –Requisite (if any):**	None				
6.	**Co –Requisite (if any):**	None				
7.	**Program (s) in which the Course is Offered:**	Bachelor of Medicine and surgery				
8.	**Language of Teaching the Course:**	English				
9.	**Location of Teaching the Course:**	Faculty of Medicine				
10.	**Prepared by:**	**Dr. Sadeq Abduimogni**				
11	**Date and Number of Approval by Council:**	2023				

II. Course Description:

This introductory physiology course introduces basics concepts in physiology of human body. Physiology I familiarizes students with basic definitions and principles related to physiology The course 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 and cellular physiology.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:		Referenced PILOs		
A. Knowledge and Understanding:		**I, P or M/A**		
a1	Define the functions of the different organelles in the human cell, and describe the transport system across the cell membranes.	**I**	**A1**	Describe the general and basic sciences related to human body structure and functions with emphasis on normal and abnormal conditions.
a2	Describe the body fluids, compartments, composition & functions.	**I**	**A2**	Identify the progress of human body through all stages of development, alteration of structure and function during these stages and indication for surgical or non-surgical intervention and the role of treatment in healing or curing the diseases.
B. Intellectual Skills:				
b1	Distinguish between physiological and pathological performance of body cells.	**I**	**B1**	Compare between normal and abnormal conditions and predict the appropriate treatment or intervention.
b2	Integrate physiology with other sciences	**P**		
C. Professional and Practical Skills:				
c1	Choose and classify data obtained from physiological experiments.	**P**	**C1**	Perform complete clinical examination and precise investigations to reach the final diagnosis.
c2	Determine the requirements of homeostasis.	**A**	**C3**	Carry out routine medical procedure and demonstrate the ability of using common medical tools required for diagnosis and management with highly qualified

				competency.
	D. Transferable Skills:			
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	**P**	**D1**	Communicate with professionals, patients, their families and the community through verbal, written and other non-verbal means.
d2	Work separately or in a team to research and prepare a scientific topic.	**A**	**D2**	Work individually or in a team and develop lifelong learning using up to date technology that help in understanding the diseases and its control and prevention.

I= Introduced, P=Practiced or M/A= Mastered/Advanced

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
a1	Define the functions of the different organelles in the human cell, and describe the transport system across the cell membranes.	▪ Interactive lectures ▪ Discussion ▪ Self-learning	▪ Quizzes ▪ written exam
a2	Describe the body fluids, compartments, composition & functions.	▪ Interactive lectures ▪ Discussion ▪ Self learning	▪ Quizzes ▪ written exam
(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	**Teaching Strategies**	**Assessment Strategies**
b1	Distinguish between physiological and pathological performance of body cells.	▪ Interactive lectures ▪ Seminars ▪ Discussion	▪ written exam
b2	Integrate physiology with other sciences	▪ Interactive lectures ▪ Seminars	▪ written exam

		▪ Discussion	

(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c1	Choose and classify data obtained from physiological experiments.	▪ Interactive lectures ▪ Seminars ▪ Discussion	▪ Written exam
c2	Determine the requirements of homeostasis.	▪ Interactive lectures ▪ Seminars ▪ Discussion	▪ Written exam

(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d1	Use the information technology and internet resources efficiently for self-learning and gaining up-to-date information in the areas of interest.	▪ Seminars ▪ Discussion ▪ Self-learning	▪ Oral discussion
d2	Work separately or in a team to research and prepare a scientific topic.	▪ Seminars ▪ Discussion ▪ Self-learning	▪ Oral discussion

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	**Physiology definition & organization of the cell**	- Functional morphology of the cell - Transport across cell membranes -Functional systems of the cell that make it a living organism.	1,2	6	a1
2	**Body fluids,**	- Osmosis, osmolality,	3,4	6	a1,a2,

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	compartments, composition & functions.	isotonicity & body water balance.			b2,c1, d1
3	**Physiology of growth & growth factors.**	- Definition of growth. - Factors that affect the rate of growth.	5	3	a1, a2 b1,b2
4	**Basis of acid base balance**	- Hydrogen ion concentration is precisely regulated. - Definitions and meanings of acid and base. - Defenses against changes in hydrogen ion concentration.	6,7	6	a1, a2, b1,b2, c1, c2
5	**Mid-Term Theoretical Exam**	– MCQs and essay questions	8	2	a1,a2, b1,b2,c1, c2
6	**Homeostasis**	– Define the internal environment. – Understand the importance of homeostasis.	9,10,11	6	a1,a2, b1,b2, d2
7	**Body temperature regulation**	- Regulation of body temperature. - Role of hypothalamus. - Abnormalities of body temperature regulation.	12,13, 14,15	9	a1,a2, b1,b2, d2
8	**Final Theoretical Exam**	MCQs and essay questions	16th	2	a1,a2, b1,b2,c1, c2
Number of Weeks /and Units Per Semester			**14**	**40**	

V. Teaching Strategies of the Course:

- Lectures
- Discussion
- Self-Learning
- Presentation
- Seminars

VI. Assessment Methods of the Course:

- Quizzes
- Written Exam
- Oral discussion

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Quizzes & Oral discussion**	4th & 12th	10	10 %	a1, a2, d1, d2
2	**Mid-Term Theoretical Exam**	8th	20	20%	a1, a2, b1, b2, c1, c2
3	**Final Theoretical Exam**	16th	70	70%	a1, a2, b1, b2, c1, c2
Total			**100**	**100 %**	

IX. Learning Resources:

1- Required Textbook(s) :

1- Guyton and Hall 2010, Text book of medical physiology, 12th Ed, Mississippi Medical Center, Jackson, Mississippi, USA

2- Laurie Kelly 2005, , Essentials of Human Physiology for Pharmacy, 1st Ed. CRC Press, Pharmacy Education series

2- Essential References:

1- Kelly 2018 , Essential of Human physiology. 8th edition.
2- Fox Human physiology, 10th edition, 2010.
3- Kaplan Medical step 1 physiology, 6th edition, 2006.
4- Mader understanding Human anatomy and physiology, 5th edition, 2004.

3- Electronic Materials and Web Sites etc.:

Websites:

1- www.csun.edu/science/biology/anatomy/anatomy.html
2- www.cliffsnotes.com
3- www.innerbody.com
4- www.anatomyandphysiology.com/
5- www.mhhe.com/biosci2/anatomyrevealed

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.

7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Faculty of Medicine

Bachelor Program of Medicine and Surgery

Course Plan (Syllabus) of

Introduction to Physiology

Course Code. (A21P126)

I. Information about Faculty Member Responsible for the Course:								
Name of Faculty Member:		**Office Hours**						
Location& Telephone No.:	-----							
E-mail:	--@--.--	SAT	SUN	MON	TUE	WED	THU	

2023

Prepared by:	Reviewed by:	Head of department	Quality Unit:	Dean of Medicine Faculty	Center of Development and Quality Assurance Dean
Dr. Sadeq Abduimogni	Dr. Asma Al-hinhenh	Dr. Waled Al-dhahbi	Dr. Fadhl Shujaa Al-deen	Dr. Salwa Al-Ghomeri	

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	C. Professional and Practical Skills:
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IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
		make it a living organism.		
2	**Body fluids, compartments, composition & functions.**	- Osmosis, osmolality, isotonicity & body water balance.	3,4	6
3	**Physiology of growth & growth factors.**	- Definition of growth. - Factors that affect the rate of growth.	5	3
4	**Basis of acid base balance**	- Hydrogen ion concentration is precisely regulated. - Definitions and meanings of acid and base. - Defenses against changes in hydrogen ion concentration.	6,7	6
5	**Mid-Term Theoretical Exam**	– MCQs and essay questions	8	2
6	**Homeostasis**	– Define the internal environment. Understand the importance of homeostasis.	9,10,11	6
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Number of Weeks /and Units Per Semester			**14**	**40**

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