Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIEED

SCIENCES

Faculty of Laboratory medicine..

Department of Physiology

Course Specification of Physiology
Course No. (01,01,301)
2022/2023

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr Asmaa Alhenhena	Dr Gamil Taher Abdul Mughni		Dr\Gamil Taher Abdul Mughni	Associate Prof. Dr. Ebtesam Al-Zabedi

I. Course Identification and General Information:					
1	**Course Title:**	Physiology			
2	**Course Code & Number:**	01,01,301			
3	**Credit Hours:**	**Theory Hours**			
		Lecture	**Exercise**	Practical	**Credit Hours**
		2	0	0	2
4	**Study Level/ Semester at which this Course is offered:**	1st Level / 2nd Semester			
5	**Pre –Requisite (if any):**	General Biology			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Faculty of Laboratory medicine			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	semester			
10	**Mode of Delivery:**	Regular			
11	**Location of Teaching the Course:**	University Campus			
12	**Prepared by:**	Dr. Aref Saleh Mohammed Abdulmughni			
13	**Date of Approval:**	2023			

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II. Course Description:

This course covers basic theoretical knowledge about cell physiology, molecular aspects of cell biology, and the functions of major body systems

III. Alignment Course Intended Learning Outcomes with program outcomes		
III. Course Intended Learning Outcomes (CILOs)		**Referenced PILOs**
A. Knowledge and Understanding: ***Upon successful completion of the course, students will be able to:***		
a1	**Discus** various functions of the different organs in the bodies and some conditions related to disorders at the.	A1
B. Intellectual Skills: ***Upon successful completion of the course, students will be able to:***		
b1	**Interpret** the most important physiological blood laboratory results to distinguish a physiological from a pathological condition.	B3
C. Professional and Practical Skills: ***Upon successful completion of the course, students will be able to:***		
c1		
D. Transferable Skills: ***Upon successful completion of the course, students will be able to:***		
d1	**Demonstrate** responsibility for professional Laboratory Medicine practice including the essential values of ethics, self-respect, honesty, autonomy, humanity and social justice.	D2

IV. Alignment Course Intended Learning Outcomes with Teaching Strategies and Assessment methods :			
(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies

a1	**Discus** various functions of the different organs in the boies and some conditions related to disorders at the.	Lectures	Assignment
(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1	**Interpret** the most important physiological blood laboratory results to distinguish a physiological from a pathological condition.	Lectures	Assignment
C Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1			
(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1	**Demonstrate** responsibility for professional Laboratory Medicine practice including the essential values of ethics, self-respect, honesty, autonomy, humanity and social justice.	seminar	Assignment

V. Course Content:

A – Theoretical Aspect:

NO.	Units/Topics List	Sub Topics List	Number of Weeks	contact hours	Learning Outcomes (CILOs)
1	**Introduction**		1	2	a1
2	**Cardiovascular System**:	Blood - Blood compositions and functions.	1	2	a1,b3

3	**Cardiovascular System**	Heart - Functional characteristics of the heart. -Physiological properties of cardiac muscle. -Pacemaker activity (automatism) of the heart. - Cardiac cycle and heart sounds.	1	2	a1,b3
4	**Cardiovascular System**	Heart -Cardiac output and heart rate. -Factors affecting venous return. -Regulation of blood volume. - Regulation of blood pressure.	1	2	a1,b3
5	**Respiratory System:**	-Pulmonary ventilation and mechanics of breathing. -Alveolar gas exchange. -Tissue gas exchange.	1	2	a1,b3
6	**Respiratory System:**	-Transport of blood gases –oxy hemoglobin dissociation curve. - Control and regulation of respiration.	1	2	a1,b3
7	**Endocrine glands:**	-Pituitary gland hormones (functions, control, disorders).	1	2	a1,b3
8	MED TERM		1	2	
9	**Endocrine glands:**	-Thyroid hormones (functions, control, disorders). -Parathyroid hormones (functions, control, disorders).	1	2	a1,b3
10	**Endocrine glands:**	-Adrenal gland hormones (functions, control, disorders). -Pancreatic hormones (functions, control, disorders).	1	2	a1,b3
11	**Reproduction:**	-Male reproductive system. - Female reproductive system.	1	2	a1,b3

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12	**Urinary System:**	-Kidney Functions. -Mechanism of urine formation. -Renal acid-base and electrolytes regulation. -Micturition Reflex.	1	2	a1,b3
13	**Digestive System:**	-Motor functions (Motility) of GIT. -Secretory functions (Secretions) of GIT. -How the digestive process is controlled?	1	2	a1,b3
14	**Nervous System:**	-Neural tissue functions -Central nervous system –functions	1	2	a1,b3
15	**Autonomic Nervous System:**	-Functions of sympathetic, and parasympathetic nerves	1	2	a1,b3
16	FINAL THEORTICAL		1	2	
			16	30	

V. Teaching Strategies of the Course:	
1-	Lectures
2-	Seminars

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VI. Assessment Methods of the Course:

No	Assignment
1	Written Exams (Short Essays) and Quizzes
2	Multiple Choice Questions (MCQ)

VII. Assignments:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	**Midterm Exam**	8	30	30%	a1,b3,d2
2	**Final Exam**	16	70	a1,b3,d2	a1,b3,d2
	Total	100		100%	a1,b3,d2

IX. Learning Resources:

· *Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).*

1- Required Textbook(s)

1-	Guyton C., Hall E. 2020 Gyton of medical physiology.

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2-	Kim E. Barrett, Susan M. Barman 2023 Ganong review of medical physiology.

2- Essential References.

1-	Review of Medical Physiology (W.F. Ganong), Lange Medical Books/Mc Graw Hill, San Francisco.
2-	Principles of Human Physiology (Cindy L. Stanfield), Benjamin Cummings.

3- Electronic Materials and Web Sites *etc*.

1-	www.Medscap.com
2-	www.pubmed.com
3-	American Journal of physiology
4-	The Journal of physiology
5-	http://www.cliffsnotes.com/ http://www.csun.edu/science/biology/anatomy/anatomy.html

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.

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