

Republic of Yemen
Ministry of Higher Education & Scientific Research
21 September University for Medicals and Applied Sciences



Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of Human Physiology- I

Course No. (01.01.203)

2022

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Prof. Salim Al-Riyashi	Dr. Aref Abdulmughni	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

I. Course Identification and General Information:					
١	Course Title:	Human Physiology-I			
٢	Course Code & Number:	01.01.203			
٣	Credit hours:	C.H			
		Th.	Seminar	Pr	Tr.
		2			
٤	Study level/ semester at which this course is offered:	2 nd Year- 1 st Semester			
5	Pre –requisite (if any):	Human Biology			
6	Co –requisite (if any):	-			
7	Program (s) in which the course is offered:	Clinical Pharmacy & Pharm. D.			
8	Language of teaching the course:	English			
9	Study System	Semester Based System			
10	Mode of delivery:	Full Time			
11	Location of teaching the course:	Faculty of Clinical Pharmacy			
12	Prepared By:	Prof. Salim Al-Riyashi			
13	Date of Approval				

II. Course Description:
The course concerns with the study of cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body. This course familiarizes the students with principles and biological role of certain endogenous substances that affect regulation and normal functions related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human.

III. Course Intended learning outcomes (CILOs)		Referenced PILOs
a.1	Describe the normal functions and regulation of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.	A1
a.2	Discuss the biological role of certain endogenous substances that affect regulation and normal functions of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.	A1
b.1	Distinguish between normal and abnormal laboratory tests of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.	B1
b.2	Integrate physiology of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human with other basic and clinical science.	B1
c.1		
d.1		

(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. Describe the normal functions and regulation of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.	- Interactive Lectures - Self-learning - Assignment	- Written examination - Report evaluation - Quizzes - MCQs
a2. Discuss the biological role of certain endogenous substances that affect regulation and normal functions of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.		

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1. Distinguish between normal and abnormal laboratory tests of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body. b2. Integrate physiology of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.	- Interactive Lectures - Self-learning - Problem solving - Brain storming	- Written examination - 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
	-	-

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

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
	-	-

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Week Due	contact hours
1	- Introduction	a 1, a2,b1,b2,	- Physiology definition, the concept of homeostasis. Negative feedback.	1	2
2	- The Cell and body fluids physiology	a 1, a2,b1,b2,	- Structure, functions, membrane transport mechanisms: (passive diffusion , mediated transport, osmosis) - Membrane	2	4

			potential(resting, action) - Cell repair : mechanisms. - Composition and regulations of Body fluids, electrolytes and acid-base balance		
3	- The Nervous system	a 1, a2,b1,b2,	- Classification of nervous system - classes of neurons - Synaptic transmission (chemical synapsis, summation, interconnection between neurons, factors affecting the transmission)	2	4
4	- Central nervous system (CNS)	a 1, a2,b1,b2	- Components of CNS - level of CNS functions - functions of brain composition (cerebrum, cerebral cortex, etc.) - blood brain barrier - spinal cord (function, composition, spinal reflex, cerebrospinal fluid)	2	4
5	- Mid exam	al,a2,bl,b2		1	2
6	- Central nervous system (CNS)	a 1, a2,b1,b2,	- Sensation: nociception, hyperalgesia, pain pathway, neurotransmitters of pain, types of pain (cutaneous, visceral, deep, , referred , phantom) , endogenous analgesic system - Regulating areas in brain (function, neurotransmitters) : nociceptionarea, psychic area, heat regulating center, area controlling muscles relaxation and contraction vasomotor center, Chemoreceptor trigger zone and other areas involved in diseases .	2	4

7	- Autonomic nervous system	a 1, a2,b1,b2,	- definition and composition & regulation - sympathetic system (functions, neurotransmitters, receptors), adrenal medulla , parasympathetic system (functions, neurotransmitters, receptors)	2	4
8	- Endocrine system	a 1, a2,b1,b2,	- hormones (biochemical classification, transport, mechanism of actions) - functions and regulation of hormones of (pituitary gland, thyroid gland, parathyroid gland, pancreas, sex organs)	2	4
9	- Muscles	a 1, a2,b1,b2,	- types , functions - factors affecting contraction and relaxation	1	2
10	- Final exam.	al, a2, bl,b2,	-	1	2
Number of Weeks /and Units Per Semester				16	32

V. Teaching strategies of the course:

- Interactive Lectures
- Self-learning
- Assignment
- Problem solving
- Brain storming

VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Assignment- 1: Search for endogenous mediator that is involved in one of the physiological system	a 1, a2,b1,b2	Week 6	5
2	Assignment- 2: Search one of the physiological processes studied and make a summary report.	a 1, a2,b1,b2	Week 12	5
Total				10

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	6, 12	10	10%	a1,a2,b1,b2
2	Quiz 1	٦	5	5%	a1,a2,b1,b2
3	Midterm Exam	٨	10	10%	a1,a2,b1,b2
4	Quiz 2	١٢	5	5%	a1,a2,b1,b2
5	Final Exam	16	70	70%	a1,a2,b1,b2
Total			100	100%	

VIII. Learning Resources:

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

1- Required Textbook(s) (maximum two).

- 1- Guyton and Hall(2016), Text book of medical physiology , 15th edition, Saunders Elsevier: Philadelphia.
- 2- Laurie Kelly (2019),Essentials of Human Physiology for Pharmacy, 6nd t edition, CRC Press/Taylor & Francis :Boca Raton.

2- Essential References.

- 1- Stuart Ira Fox(2019): Human Physiology, 13th edition, McGraw-Hill Education: New York.
- 2- Kevin T Patton; Gary A Thibodeau(2019), Anatomy & physiology, 18th edition, Elsevier: Missouri.
- 3- Barbara J Bain; Rajiv Gupta(2018), A- Z of Haematology, 4th edition, Wiley: Chichester.
- 4- David Shier (2017),Human Anatomy & Physiology 13th edition, McGraw-Hill Education: new york.
- 5- William E Arnould-Taylor(2018), A Textbook of Anatomy and Physiology,10th edition, Nelson Thrones: Cheltenham.

3- Electronic Materials and Web Sites etc.

- www.csun.edu/science/biology/anatomy/anatomyv.html
- www.cliffsnotes.com
- www.innerbody.com
- www.anatomyandphysiology.com/
- www.mhhe.com/biosci2/anatomyrevealed
- www.le.ac.uk/pa/teach/va/anatomyv

IX.Course Policies:

Based on University Regulations

١	(Class Attendance) : - A student should attend not less than 75 % of total hours of the subject; otherwise he/she will not be able to take the exam and will be considered as exam failure. - If the student is absent due to illness, he/she should bring a proof statement from Clinic or hospital. - Once a student reaches approximately ten to fifteen percent of absentees in a class, he/she shall receive a warning from Dean/College may be required by the instructor. - If the absent is more than 25% of a course total contact hours, student will be required to retake the entire course again.
٢	(Tardy) : For late in attending the class, the student will be initially notified. If he repeated lateness in attending class three times, he/she will be considered as absent. Each instructor is responsible to define the rules for which a student is considered late to class.
٣	(Exam Attendance/Punctuality) : - All students have to attend exam as specified. - A student who fails to attend the exam has to hand on his/her excuse within one week - All students must come to exam on time and no excuses are accepted for late coming.. He/she is permitted to attend an exam half one hour from exam beginning, after that he/she will not be permitted to take the exam and he/she will be considered as absent in exam.
٤	(Assignments & Projects) : All assignment and projects have to be submitted, as scheduled, on time. Late submission might result in deduction of marks
٥	(Cheating) : For cheating in exam, a student will be considered as fail. In case the cheating is repeated three times during his/her study the student will be disengaged from the Faculty.
6	(Plagiarism) : Plagiarism is the attending of a student the exam of a course instead of another student. If the examination committee proofed a plagiarism of a student, he/she will be disengaged from the Faculty. The final disengagement of the student from the Faculty should be confirmed from the Student Council Affair of the university or according to the university roles.
7	(Other policies) : - Mobile phones are not allowed to use during a class lecture. It must be closed; otherwise the student will be asked to leave the lecture room. - Mobile phones are not allowed in class during the examination. - Lecture notes and assignments might be given directly to students using soft or hard copy.

Faculty of Clinical Pharmacy

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Course Specification of **Human Physiology- I**

Course No. (01.01.203)

2022

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

I. Course Identification and General Information:					
١	Course Title:	Human Physiology-I			
٢	Course Code & Number:	01.01.203			
٣	Credit hours:	C.H			
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III. Intended learning outcomes (ILOs) of the course:
a.1- Describe the normal functions and regulation of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.
a.2- Discuss the biological role of certain endogenous substances that affect regulation and normal functions of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.
b.1- Distinguish between normal and abnormal laboratory tests of related to cell and body fluids, the nervous system (central nervous system (CNS) and autonomic nervous system), endocrine system, and muscles in human body.
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3	The Nervous system	- Classification of nervous system - classes of neurons - Synaptic transmission (chemical synapsis, summation, interconnection between neurons, factors affecting the transmission)	2	4
4	Central nervous system (CNS)	- Components of CNS - level of CNS functions - functions of brain composition (cerebrum, cerebral cortex, etc.) - blood brain barrier - spinal cord (function, composition, spinal reflex, cerebrospinal fluid)	2	4
5	Mid exam		1	2
6	- Central nervous system (CNS)	- Sensation: nociception, hyperalgesia, pain	2	4

		pathway, neurotransmitters of pain, types of pain (cutaneous, visceral, deep, , referred , phantom) , endogenous analgesic system - Regulating areas in brain (function, neurotransmitters) : nociception area, psychic area, heat regulating center, area controlling muscles relaxation and contraction vasomotor center, Chemoreceptor trigger zone and other areas involved in diseases .		
7	Autonomic nervous system	- definition and composition & regulation - sympathetic system (functions, neurotransmitters, receptors), adrenal medulla , parasympathetic system (functions, neurotransmitters, receptors)	2	4
8	Endocrine system	- hormones (biochemical classification, transport, mechanism of actions) - functions and regulation of hormones of (pituitary gland, thyroid gland, parathyroid gland, pancreas, sex organs)	2	4
9	- Muscles	- types , functions - factors affecting contraction and relaxation	1	2
10	Final exam.	-	1	2
Number of Weeks /and Units Per Semester			16	32

V. Teaching strategies of the course:

- Lectures
- Self-learning
- Assignment
- Problem solving
- Brain storming
- Group work and Seminars
- Field visits

I. Assignments:

No	Assignments	Week Due	Mark
1	Assignment- 1: Search for endogenous mediator that is involved in one of the physiological system	Week 6	5
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2	Quiz 1	٦	5	5%
3	Midterm Exam	٨	20	20%
4	Quiz 2	١٢	5	5%
5	Final Exam	16	60	60%
Total			100	100%

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- www.csun.edu/science/biology/anatomyv/anatomyv.html
- www.cliffsnotes.com
- www.innerbody.com
- www.anatomyvandphysiology.com/
- www.mhhe.com/biosci2/anatomyrevealed
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