Ministry of Higher Education and Scientific Research Scientific Supervision and Scientific Evaluation Apparatus Directorate of Quality Assurance and Academic Accreditation Accreditation Department



Academic Program and Course Description Guide

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

<u>Course Description:</u> Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

<u>Program Vision:</u> An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

<u>Program Mission:</u> Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

<u>Program Objectives:</u> They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

<u>Curriculum Structure:</u> All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

<u>Learning Outcomes:</u> A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

<u>Teaching and learning strategies</u>: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extracurricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name:Baghdad University
Faculty/Institute:AL Kindy College of Medicine
Scientific Department:Physiology
Academic or Professional Program Name: Physiology
Final Certificate Name:
Academic System:AL Kindy College of Medicine
Description Preparation Date: 24/3/2024

Signature:

Head of Department Name:

1.20 Aut 200

File Completion Date: 24/3/2024

Date: < \ \ /Y/(&

Signature:

Scientific Associate Name:

ProfiDr. Taghred Alhaidan

Date:

The file is checked by: Aseel Sames Mahamed

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date.

23/4/2024

Signature:

Approval of the Dean

The Dean
Prof. Dr.
Mohammed Shihab Al-Edanni

1. Program Vision

To fulfill the goal of graduating excellent, safe, competent, and professional doctors at both the undergraduate and postgraduate levels who are dependable in providing health care services and leadership.

2. Program Mission

To fulfill the goal of graduating excellent, safe, competent, and professional doctors at both the undergraduate and postgraduate levels who are dependable in providing health care services and leadership.

3. Program Objectives

The overall aim is that, the student will be a familiar with:

- 1) Knowledge of the normal structure and function of the body and its major organ systems with emphasis on content applicable to clinical diagnostic imaging and/or radiation oncology.
- 2) Knowledge of the radiation safety practices and procedures including the determination of radiation shielding requirements.
- 3) Knowledge of the biological effects of radiation and its application for radiation safety and for radiation treatment.
- 4) Knowledge of the physiology of some systems in the body which are dealt with in greater detail in the following years of the Medicine degree program.

4. Program Accreditation

The Higher Accreditation Program of Iraqi Medical Colleges, supervised by the Ministry of Higher Education and WHO

5. Other external influences

None

6. Program Struc				
Program Structure	Number of	Credit hours	Percentage	Reviews*
	Courses			1
Institution	12	12	0.1	Basic
Requirements				
College	Bachelor			Basic
Requirements	Degree	6	0.5	
	Requires (6)			
	credits			
Department	Bachelor			Basic
Requirements	Degree	6	0.5	
	Requires (6)			
	credits			
Summer Training	None			:
Other	None			11

[•] This can include notes whether the course is basic or optional.

Year/Level	Course Code	Course Name	Credit	Hours
			theoretical	practical
First Level/ first year	MPH102	Medical Physics	3	6
2ndLevel/ first year	PHYS 113	Medical physiology	3	6
First Level/ second year		Haemopoitic and lymphatic Module	0.7	0.1
First Level/ second year	MSK 205	Musculoskeletal system	0.6	None

				1.
First Level/ second year	CVS 210	Cardiovascular System Module	0.8	0.1
2nd Level/ second year	RSP 211	Respiratory System Module	1.0	2
2nd Level/ second year	GIT 212	Digestive &HB system	1.1	None
First Level/ third year	NCS 301	Neurosciences system	1.1	2
First Level/ third year	ENS 302	Endocrine system	0.7	0.1
First Level/ third year	INS 3 <u>0</u> 3	Integumentary System	0.4	None
2nd Level/ third year	REN 307	Urinary system	0.7	None
2nd Level/ third year	REP 308	Reproductive system	0.7	None

8. Expected learn	ning outcomes of the program
Knowledge	
Learning Outcomes 1	The ability to conduct research on various health problems related to physical phenomena
Skills	
Learning Outcomes 2	Able to be a community leader
Learning Outcomes 3	Able to be a medical professional
Ethics	
Learning Outcomes 4	Students should have an ethical issues with their colleagues
Learning Outcomes 5	Students should have an ethical issues in the community

9. Teaching and Learning Strategies

Lectures, practical training programs.

10. Evaluation methods

Reports and quizes.

11. Faculty

Faculty Members

Academic Rank	Specialization Special Requirements/Skills (if applicable) Number of staff			Requirements/Skills		of the	teaching
	General	Special	,		Staff		_ecturer
Ass. Prof. Dr. Hayder Sabah	Physiology	Cardiovascular	,		5	1 5	5
Ass. Prof. Dr. Ekhlas Jawad	Physics	_			:		
Lec. Dr. Mohammed Abdul Ameer	Physics						
Ass. Lec. Dr. Rayan Zaidan	Physiology	Cardiovascular				!	
Ass. Lec. Dr. Bilal Sadiq	Physiology	Neuroscience				V	

Professional Development

Mentoring new faculty members

The process used to mentor new, visiting, full-time, and part-time faculty at the institution and department level is by training them for a period of time before starting the educational program.

Professional development of faculty members

It is done by training them for a period of time before starting the educational program

12. Acceptance Criterion

Regulations that related to enrollment in the college are central admission according to the rules of the Ministry of Higher Education.

13. The most important sources of information about the program

I-Al-kindy Medical College 2-Ministry of Higher Education and Scientific Research.

11. Infrastructure	
Books Required reading:	1. Guyton and hall textbook of medical physiology 13 th edition by John E. Hall - ELSEVIER 2. Ganong's review of medical physiology 25 th edition-LANGE 3. Medical physics by J.R. Cameron
2. Main references (sources)	all all
A- Recommended books and references (scientific journals, reports).	(introduction to medical imaging: physics, engineering and clinical applications) by: Nadine Barrie Smith, Andrew Webb Radiation Physics for Medical Physicists Authors: Podgorsak, Ervin B.

- 12. The development of the curriculum plan
- 1. Preparing the necessary survey tools from scientific questionnaires, meetings, focus groups, and others.
- 2. Comparison between the objectives of the proposed program and the goals of similar programs in other universities
- 3- Determine the bodies in the public and private sectors who are recommended to contact to obtain their views on the program and the proposed plan model
- 4-Development of academic content by deleting, adding and replacing.
- 5-Using modern teaching methods according to the nature of the subject and the level of the learners from time to time.
- 6- Using modern orthodontic methods such as alternative and electronic orthodontics

				Alka fa c
•			Madical Physics	B A T
· 2,			•	Reports, attendance &
<i>4</i> "			lab	quiz.
5° 2 12 1			Lectures	-3 7 3 3 4 5
, , , 1	16	muscle, heart and brain		Quiz, attendance
1		Physics of eye and	Lectures	0.55
		vision -	1	Quiz, attendance
2		Use of Boyles law	ł	Reports, attendance &
. 34		, ,	·····	quiz
1	س <u>ج</u> ر د	·	Lectures	Quiz, attendance
*	£ 4 "			
2	1 4		Discussion	Quiz, attendance
	*			
*, i d			Medical Physics	Reports, attendance &
.2		,	lab	quiz
1	ý		Tanturas	. ,
				Quiz, attendance
1	, 1.	_	Lectures	Quiz, attendance
			· · · · · · · · · · · · · · · · · · ·	
			Medical Physics	Reports, attendance &
2			•	quiz
				(a
1	-		Lectures	Quiz, attendance
		Requirements of People		
	1 2 1 2 2	1 2 2 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	muscle, heart and brain Physics of eye and vision Use of Boyles law Physics of ear and hearing Infrared, ultraviolet and microwaves in medicine Determine The focal length of a concave mirror Force in &on the body Skeleton design and bone strength Determine The focal length of convex lens using concave mirror Heat and Energy	capacity of a liquid by an electrical heating method Electrical signals from muscle, heart and brain Physics of eye and vision Use of Boyles law Physics of ear and hearing Physics of ear and hearing Infrared ,ultraviolet and microwaves in medicine Determine The focal length of a concave mirror Force in & on the body Skeleton design and bone strength Determine The focal length of convex lens using concave mirror Heat and Energy Medical Physics Medical Physics Medical Physics Medical Physics Medical Physics Lectures Medical Physics Lectures

	•			1	,
1, 1			Calculate The wave length of sodium light	Medical Physics	Reports, attendance &
	2		using a diffraction	lab	quiz
			grating	140	quiz.
3	1.	· **	Mechanical work and	Lectures.	' Quiz, attendance
75 (1	I	-	energy		
	2		Light in medicine	discussion	Quiz, attendance
8			Investigation The		· ·
, x	2		velocity of sound by	Medical Physics	Reports, attendance &
			means of a resonance	lab	quiz
			tube closed at one end		The state of the s
to .			DOSE AND	Discussion	Quiz, attendance
, '	2		EXPOSURE—	,f	*
· -			MEASUREMENTS.		
9	* -1	Ya	Power and energy effect	Lectures	Quiz, attendance
	t	s _i	on human body	· · · · · · · · · · · · · · · · · · ·	
****	:0		Determine The internal	Medical Physics	Reports, attendance &
ian ^o	2		resistance of a cell	lab	quiz"
, , , , , ,			using a potentiometer		
.5.	2		SPECT and PET scans	Discussion	Quiz, attendance
		4	D:-111 PCC	*	
	1	-	Biological Effects of Radiation1	Lectures	Quiz, attendance
10,	<u> </u>	νί			4(1, 4
**	F- 14		Using of cathode ray oscilloscope in the	Madical Dharia	D 0
	2		measurements of D.C.	Medical Physics lab	Reports, attendance &
The sea			voltage	lab	quiz
	25 C 15	4.	Structure of the atomic	Lectures	Quiz, attendance
	1-4	· '}	nucleus	Lectures.	Quiz, attenuance
	<u> </u>	-	Radio nuclides in	Discussion	Quiz, attendance
11	.2		medicine.		
			Flow of water through a	Medical Physics	Donorto ettandanas e
, in	2		capillary tube to deduce	Medical Physics lab	Reports, attendance &
			the viscosity of water	lau	quiz
	2	,, (,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Physics of Nuclear,	Discussion	Quiz, attendance
		x 1	Medicine.		
•	*** * *****	ara .	Radioactivity of	Lectures	Quiz, attendance.
12		+A	Nuclear Medicine.	# .	
P**	2.		Hooks law to verify the	Medical Physics	Reports, attendance &
, ,	2		tension and	, lab	
	*17		compression		quiz
	1	, 4	Physics of Radiation	Lectures	Quiz, attendance
.* j 13	* * *		Therapy.) i	1 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	2		The wavelength of He-	Medical Physics	Reports, attendance &
3 ,			Ne laser	lab	quiz

<u>e</u>	1 1		Physics of Diagnostic X-Rays	Lectures	Quiz, attendance
14	1		Interaction of x-ray with body	Lectures	Quiz, attendance
	,2		The refractive index of a liquid	Medical Physics lab	Reports, attendance & quiz
15	" 1"	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Radiation protection	Lectures	Quiz, attendance
1) 	2	,	Verifying of Ohms law	Medical Physics lab	Reports; attendance & quiz
10. Course S	tructure/M	edical Pl	nysiology -First year - seco	1 :- ,	1
Week	Hours	. ILOs	Unit/Module or Topic Title	Teaching Method.	Assessment Method
F N	ì		Cell as a living unit of the body and	Lectures	Quiz, attendance
1 *		4 manual de la companya de la compan	physiology of cell membrane		14
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2		Blood pressure	lab	Reports, attendance & quiz
3 9	1	1	Body fluid composition	Lectures	Quiz, attendance
2.	3. 2	magapalla 	WBC and RBC	lab	Reports, attendance & quiz
3	1.	,	Introduction to neuron physiology	Lectures	Quiz, attendance
	^س 2.		Vision	lab	Reports, attendance & quiz
75. 19	1		Nerve action potential	Lectures	Quiz, attendance
4	. 2	the day we	Body temperature	lab	Reports, attendance & quiz.
5	1.	4.편안	Properties of action potential	Lectures	Quiz, attendance
ال المارية المارية المارية	. 2.	e es	Blood typing	lab	Reports, attendance & quiz
	1 ′	H _a r	synapses and heromuscular junction	Lectures	Quiz, attendance
6	2	, see. ^	Skin physiology	lab	Reports, attendance &, quiz
<i>,</i>	2		Aging of muscles and nerves	discussion	Quiz, attendance
7	1	. a ^r	Introduction to skeletal muscle cell physiology	Lectures	Quiz, attendance
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2		Physiology of taste and smell	ı lab	Reports, attendance & quiz

·		2	The platelets,	discussion	Quiz, attendance
\$ f	2		Hemostasis and blood	يمي ريد	
			coagulation	* 1	
F 5			Skeletal muscle	Lectures	Quiz, attendance
59 19 19	1	j	contraction		r .!
	*	. "	Thermoregulation Thermoregulation	lab	Reports , attendance &
8	2	1	Thermoregulation	140	Reports, attendance & quiz,
į.	1 . M		Cell, morphology and	discussion	Ouiz attendance
, r,	1 . 2	<i>\$</i>	classification. The	* ફ્રાંમ પુર	Quiz, attoridance
* 4	\$. j.		white blood cell	,	
- : 11	i		Smooth muscle	Lectures	Quiz, attendance
			contraction and		i. ∤
	1		Nervous and hormonal		
. "	3 8 8 =	A 20 1	control of smooth muscle contraction.	्र दें इ. दें	
J	W 332	6	Muscle fatigue	lab	Reports, attendance &
#1, #1	2	er er á.,	1 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -) idu	Reports, attendance & quiz
* *			The hemoglobin and	discussion	Quiz, attendance
	2		red blood cell		,
*	1		The immune system	Lectures	Quiz, attendance
10	7 5 7	marin p	Regulation of Blood	lab	Reports, attendance &
	$\frac{1}{2}$	*	Flow and Pressure	The state of the s	quiz
s!, s		10.	Cardiac muscle	discussion	Quiz, attendance
, "%, c	*		contractions		l, al
11	2		Sport physiology	lab	Reports, attendance &
	1 · · ·		D11	•	quiz
}	2.	XW 3.0	Plasma exchange	discussion	Quiz, attendance
	2	7 - 3 -	Physiological changes	lab	Deports ottendence &
12	1 . *	WE L	in pregnancy	iab ,	Reports, attendance & quiz
- A - A - A - A - A - A - A - A - A - A	2.		Physiology of the liver	discussion	Quiz, attendance
2 2 3	,		en german	*	, , , , , , , , , , , , , , , , , , , ,
13	2		Hearing physiology	lab	Reports, attendance &
1,3				· · · · · · · · · · · · · · · · · · ·	quiz
	- 2	¥_	Composition and	discussion	Quiz, attendance
<u> </u>		2 2 2 2	function of the blood		***
14	2		Introduction to	lab	Reports, attendance &
	•	. 4.	respiratory system	40	quiz
-	2	1	Fluid derangement in the body	discussion	Quiz, attendance
	, 2	ļ.,	Physiology of high	lab.	Donoute attaches 2
15	2		altitude	ıab∵	Reports, attendance &
, 46 a		, -	Synaptic transmission	discussion	Quiz, attendance
en so en	2	.	Synaptic transmission	grachasioli	
W. a t		1 2 22 - 2 1			transis distribution in the state of the sta

10. Course S	tructure/M	edical Pl	nysiology –second year	. A . T	to the state of th
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
**************************************	*- <u>*</u> 12	nt.‡	SI- Haemopoitic and lymphatic Module	Lecture and practical	Quiz, attendance ,Reports
	, 9	1	S1-Musculoskeletal system	Lecture and discussions	Quiz, attendance
·	13		S2- Cardiovascular System Module	Lecture and practical	Quiz , attendance ,Reports
med in the	17		S2- Respiratory System Module	Lecture and practical	Quiz, attendance, Reports
	16.	ş	S2-Digestive &HB system	Lecture and discussions	Quiz , attendance
10. Course S	tructure/M	edical Pl	nysiology –third year		
Week	Hours ,	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
	THE STATE OF	15.77	37 7		
· · · · · · · · · · · · · · · · · · ·	18	. 5	Neurology system module	Lecture and practical	Quiz, attendance Reports
	12	, ,			
		, ,	module Endocrine system	practical Lecture and	,Reports Quiz, attendance
	12 6	, ,	module Endocrine system module	practical Lecture and practical Lecture and	,Reports Quiz, attendance ,Reports Quiz, attendance ,Reports Quiz, attendance ,Reports
	12	4, 11	module Endocrine system module Integumentary module Reproductive system	practical Lecture and practical Lecture and practical Lecture and Lecture and	,Reports Quiz, attendance ,Reports Quiz, attendance ,Reports Quiz, attendance

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,e	Required program Learning outcomes	Ethics	C1							
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	arni		B4	×	×	×	×	×	×	×
	am Le	# .	B3	×	×	×	×	×	×	×
r	rogr	-×.	B2							
	ıd þi	Skills		×	×	×	×	×	×	×
	uire	ठ	B1	×	×	×	×	×	×	×
line	Req		A4	×	×	×	×	×	×	×
Out		- 1 m2	A3	×	×	×	×	×	×	×
Program Skills Outline		Knowledge	A2	×	ж	×	×	×	ж	×
am S		owle	A1		-				,	
ogra		조	A	×	×	×	×	×	×	×
Pr		Basic or	optional	Basic	Basic	Basic	Basic	Basic	Basic	Basic
		Course Name		Medical physics	Medical physiology	Medical physiology	Medical physiology	Medical physiology	Medical physiology	Medical physiology
		Course Code		MPY1 109	PHYS 115	Hematopoietic and lymphatic module	Musculoskeletal system module	Respiratory system module	Cardiovascular system module	Endocrinc system module
		Year/Level	•	First/S1	First /S2	Second/S1		Second/S2		

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ic	ic	ic	ic	ic
Basic	Basic	Basic	Basic	Basic
Medical physiology	Medical physiology	Mcdical physiology	Medical physiology	Medical physiology
Medical physiolog	Med phys	Medical physiolog	Medical physiolo	Medical
dule	tary	pun	ve Jule	stem
Neurology system module	Integumentary module	Digestive and HB System module	Reproductive system module	Urinary system module
Ner syst	Inte	Dig HB moc	Rep	Unit
		5		
Third /S1		Third /S2		
-		T		

Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

Medical Physics1/ MPH102(first year, first semester) Medical physiology/PHYS 113(first year, 2 nd semester. Hemopoietic & Lymphatic System/ HLS 204 (second year) Musculoskeletal System/MSK 205 (second year) Cardiovascular System/CVS 210(second year) Respiratory System/RSP 211(second year) GIT, Liver, Biliary and Pancreas/GIT 212(second year) Neurosciences/NCS 301(third year) Endocrine System/ENS 302(third year) Integumentary System/INS 303(third year) Renal System/REN 307(third year)		
Medical Physics I/ MPH102 (first year, first semester) Medical physiology/PHYS 113 (first year, 2nd semester. Hemopoietic & Lymphatic System/HLS 204 (second year) Musculoskeletal System/MSK 205 (second year) Cardiovascular System/CVS 210 (second year) GIT, Liver, Biliary and Pancreas/GIT 212 (second year) Meurosciences/NCS 301 (third year) Endodorine System/ENS 302 (third year) Integumentary System/INS 303 (third year) Repart (State of the System/REP 307 (third year) Reproductive System/REP 307 (third year) Reproductive System/REP 308 (third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Memopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Digestive &HB system 3nd /S1 Neurosciences system 3nd /S1 Neurosciences system 3nd /S1 Integumentary System 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Reproductive system 1. Description Preparation Date: 24/3/2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	1. Course Name: Physiology /Medical Physics	ì
Medical Physics I/ MPH102 (first year, first semester) Medical physiology/PHYS 113 (first year, 2nd semester. Hemopoietic & Lymphatic System/HLS 204 (second year) Musculoskeletal System/MSK 205 (second year) Cardiovascular System/CVS 210 (second year) GIT, Liver, Biliary and Pancreas/GIT 212 (second year) Meurosciences/NCS 301 (third year) Endodorine System/ENS 302 (third year) Integumentary System/INS 303 (third year) Repart (State of the System/REP 307 (third year) Reproductive System/REP 307 (third year) Reproductive System/REP 308 (third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Memopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Digestive &HB system 3nd /S1 Neurosciences system 3nd /S1 Neurosciences system 3nd /S1 Integumentary System 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Reproductive system 1. Description Preparation Date: 24/3/2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)		
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Neurosciences/NCS 301(third year) Endocrine System/ENS 302(third year) Integumentary System/INS 303(third year) Renal System/REN 307(third year) Reproductive System/REP 308(third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskelctal system 2nd /S2 Cardiovascular System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive &HB system 3nd /S1 Neurosciences system 3nd /S1 Integumentary System 3nd /S1 Integumentary System 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Reproductive system 3nd /S2 Reproductive system 3nd /S3 Reproductive System 3nd /S3 Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Respiratory System/RSP 211(second year)	
Endocrine System/ENS 302(third year) Integumentary System/INS 303(third year) Renal System/REN 307(third year) Reproductive System/REP 308(third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S2 Medical System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive &HB system 3nd /S1 Neurosciences system 3nd /S1 Endocrine system 3nd /S1 Integumentary System 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Peproductive system 1. Description Preparation Date: 24/ 3/ 2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	GIT, Liver, Biliary and Pancreas/GIT 212(second year)	
Integumentary System/INS 303(third year) Renal System/REN 307(third year) Reproductive System/REP 308(third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Digestive &HB system 3nd /S1 Neurosciences system 3nd /S1 Endocrine system 3nd /S1 Integumentary System 3nd /S2 Urinary system 3nd /S2 Urinary system 3nd /S2 Reproductive system 3nd /S2 Reproductive system 3nd /S2 Reproductive system 3nd /S2 Reproductive system 3nd /S2 Neurosciences 3nd /S2 Urinary System 3nd /S2 Urinary System 3nd /S2 Urinary System 3nd /S2 Reproductive system 4. Description Preparation Date: 24/ 3/ 2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Neurosciences/NCS 301(third year)	
Renal System/REN 307(third year) Reproductive System/REP 308(third year) Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive &HB system 3rd /S1 Neurosciences system 3rd /S1 Endocrine system 3rd /S1 Integumentary System 3rd /S2 Urinary system 3rd /S2 Reproductive System 4. Description Preparation Date: 24/3/2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Endocrine System/ENS 302(third year)	
Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S2 Cardiovascular System Module 2nd /S2 Cardiovascular System Module 2nd /S2 Digestive & HB system 3rd /S1 Neurosciences system 3rd /S1 Indocrine system 3rd /S1 Integumentary System 3rd /S2 Urinary system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Neurosciences forms: 1. Description Preparation Date: 24/ 3/ 2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Integumentary System/INS 303(third year)	
Semester / Year: 1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive & HB system 3rd /S1 Neurosciences system 3rd /S1 Integumentary System 3rd /S1 Integumentary System 3rd /S2 Urinary system 3rd /S2 Reproductive System 4. Description Preparation Date: 24/3/2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Renal System/REN 307(third year)	
1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive &HB system 3rd /S1 Neurosciences system 3rd /S1 Endocrine system 3rd /S1 Endocrine system 3rd /S2 Urinary System 3rd /S2 Urinary system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 4. Description Preparation Date: 24/ 3/ 2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)	Reproductive System/REP 308(third year)	
1st /S1 Medical Physics 1st/S2 Medical physiology 2nd /S1 Haemopoitic and lymphatic Module 2nd /S1 Musculoskeletal system 2nd /S2 Cardiovascular System Module 2nd /S2 Respiratory System Module 2nd /S2 Digestive &HB system 3rd /S1 Neurosciences system 3rd /S1 Endocrine system 3rd /S1 Endocrine system 3rd /S2 Urinary System 3rd /S2 Urinary system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 3rd /S2 Reproductive system 4. Description Preparation Date: 24/ 3/ 2024 2. Available Attendance Forms: 3. Number of Credit Hours (Total) / Number of Units (Total) 4. Course administrator's name (mention all, if more than one name)		
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	Name: Physiology /Medical Physics	·

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Email: haydernaji@kmc.uobaghdad	l.edu.iq
5. Course Objectives	:
Knowledge of the normal structure and function emphasis on content applicable to clinical disconnection.	tion of the body and its major organ systems with iagnostic imaging and/or radiation oncology. Is in the body which are dealt with in greater detail in program
6. Teaching and Learning Strategies	
Teaching and Learning Metho	ds
I- Lectures. 2- Small group teaching 3- Slides demonstration 4- Short teaching video 5- Labs	
Assessment methods	
1- Written examinations 2- Practical assessment 3- Homework's 4- Reports	
C. Affective and value goals C1. To equip themselves for tean C2. Develop communication skil C3. Interpretation of laboratory d	is and etiquette with sense of responsibility.
Teaching and Learning Method	ds
- Lectures - Small group discussion - Practical -discussions -Short teaching videos interpretation	
-Skill labs.	
Assessment methods 1- Data interpretation 2- practical assessment	

Week	Hours	ILOs	Unit/Module or	Teaching	Evaluation methods
WOOK :	5a.4 4	ILOS	Topic Title	Method	. 1*
y. **		. ». ·	Physics of	Lectures	Reports, attendance & qu
*	1		cardiovascular		-
1			system	,	
, N	2	,	measurement of	Medical Physics lab	Reports, attendance & qu
	. 2		Young's modulus	Wiedical Thysics lab	
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2 4	2		The surface tension	Medical Physics lab	Reports, attendance & qu
· 4 ·	<u>;</u>	<u>'</u>	Measurement of	Lectures	Reports, attendance & qu
	1		lung volumes,	* 4	- i '
1. Table 1. 2			physics of alveoli		
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1	2		capacity of a liquid	Medical Physics lab	
;			by an electrical	Wiediodi i nysios ido	
			heating method		
1_			Electrical signals	Lectures	Reports; attendance & qu
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* *		1	and brain	<i>E</i>	
4 😽	1. 1	*	Physics of eye and	Lectures	Reports, attendance & qu
•			vision	*	Deports attendance & av
Ĩ.	2:		Use of Boyles law	Medical Physics lab	Reports, attendance & qu
l A	1		Physics of ear and	Lectures	Reports, attendance & qu
et ar ar			hearing	* * * * * *	
n Tage	, A.		Infrared ,ultraviolet	Discussion	Reports, attendance & qu
5 ½	2		and microwaves in .		
	0	-	medicine.		D
,	2		Determine The focal length of a concave	Medical Dhysics lab	Reports, attendance & qu
	4		mirror	Medical Physics lab	
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. 41 .4			Determine The focal		Reports, attendance & qu
	2		length of convex	Medical Physics lab	
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	1	i	mirror	1	

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5 B) #	ř		Heat and Energy	Lectures	Reports, attendance & qu
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			length of sodium		Reports, attendance & qu
4 25/2 v	2			Medical Physics lab	1
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			diffraction grating		
, s. i	^1	1	Mechanical work	Lectures	Reports, attendance & qu
			and energy	4	
	2		Light in medicine	discussion	Reports, attendance & qu
8 *			Investigation The	1	Reports, attendance & gr
, ~4	<u>.</u>		velocity of sound by		reports, attendance & q
ein hage	2*		means of a	Medical Physics lab	
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	2		1	Discussion	Reports, attendance & qu
			measuremen		D
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	2	1	internal resistance of	Medical Physics lab	
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			potentiometer		
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	2		oscilloscope in the		
** j	2		measurements of	Medical Physics lab	1
			D.C. voltage		
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	2		medicine.		, and the state of
11	, ,	**	Flow of water		Reports, attendance & qu
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į.,	2		tube to deduce the	Medical Physics lab	
			viscosity of water		
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· .	.2.	~	Physics of Nuclear Medicine.	Discussion	Reports, attendance & qu
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12	1	1 %	Radioactivity of	Lectures	Reports, attendance & qu
12			Nuclear Medicine.		* * * * * * * * * * * * * * * * * * * *
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			compression		
		- 7	Physics of Radiation	Lectures	Reports, attendance & qui
13	1	- 1	a mysics of Kadianon	Ecolules	i rechoirs amonganee ee da

				<u> </u>	
	2		The wavelength of He-Ne laser	Medical Physics lal	Reports, attendance & qu
e e	1		Physics of Diagnostic X-Rays	Lectures	Reports, attendance & q
14	1		Interaction of x-ray with body	Lectures	Reports, attendance & q
* * # * * * * * * * * * * * * * * * * *	2 .		The refractive index	Medical Physics lal	Reports, attendance & q
15	1 .		Radiation protection	Lectures	Reports, attendance & q
	2		Verifying of Ohms law	Medical Physics lat	Reports, attendance & q
10. Co	urse Struc	cture/M	<u>L </u>	rst year - second Semes	ster
Week	Hours	IĻOs	Unit/Module or Topic Title	Teaching Method	Evaluation methods
	1		Cell as a living unit of the body and physiology of cell membrane	Lectures	Reports, attendance & quiz
1	i)		Introduction to medical physiology		Reports attendance & quiz
	2	2.5 34 4	Body temperature	lab	Reports, attendance & quiz
 	1		Body fluid composition	Lectures	Reports, attendance & quiz
2	1	*	Derangement in bod fluids	y Discussion	Reports, attendance & quiz
* *	2 .		Blood pressure	lab '	Reports, attendance & quiz
224	1	43	Introduction to neuron physiology	Lectures	Reports, attendance & quiz
3 * **	1 .*		Homeostasis	Discussion	Reports, attendance & quiz
The state of the s	2	{**	Blood typing	lab	Reports, attendance & quiz
e e	_1		Nerve action potential	Lectures	Reports, attendance & quiz
4	1	,	Aging of muscles and nerves	Discussion	Reports, attendance & quiz
h c	2		Obesity and BMI	lab	Reports, attendance & quiz
5	1		Properties of action potential	Lectures	Reports, attendance & quiz

	1		Composition and function of the blood	Discussion	Reports lattendance & qui
	·2-		WBC and RBC	lab,	Reports, attendance & qui
7"	1 1 1	5	synapses and neuromuscular junction	Lectures	Reports; attendance & qui
6	Total		Synaptic transmission	Discussion	Reports, attendance & quiz
	2		Thermoregulation	lab	Reports; attendance & qui
	Î		Introduction to skeletal muscle cell physiology	Lectures	Reports, attendance & qui
7	1 .	33 · #	The platelets, Hemostasis and blood coagulation	Discussion	Reports, attendance & qui
	2		Vision	Lab	Reports , attendance & quii
	Î.		Skeletal muscle contraction	Lectures	Reports sattendance & quiz
8	1	. " 12"	Physiology of the liver	Discussion	Reports, attendance & quiz
· - u	2 .		Physiology of taste and smell	Lab	Reports , attendance & quiz
er	1	^	Smooth muscle contraction	Lectures	Reports, attendance & quiz
9.	1.	1 12	Physiology of high altitude	Discussion	Reports, attendance & quiz
4	2		Hearing physiology	lab ÷	Reports, attendance & quiz
10	1 , ,	a	The immune system	Lectures	Reports, attendance & quiz
1.U.	.2	, , , , , , , , , , , , , , , , , , ,	Regulation of Blood Flow and Pressure	discussion	Reports, attendance & quiz
¥*	2.		Physiology of the skin	Lab	Reports, attendance & quiz
11-	1	Er july	Sport physiology	Lectures	Reports, attendance & quiz
£.	1	Casal	Plasma exchange	discussion	Reports attendance & quiz
12	1 *		Introduction to respiratory system	Lectures	Reports, attendance & quiz
	1	ue d	Geriatric physiology	discussion	Reports, attendance & quiz

13 :	1		Physiology of diving	Lectures	Reports, attendance & quiz
· · · · · · · · · · · · · · · · · · ·	1	4)	Geriatric physiology	discussion	Reports , attendance & quiz
14	1		Cardiac muscle contraction	Lectures	Reports, attendance & quiz
Ė	1		Physiology of flight	discussion	Reports, attendance & quiz
15	1'		Introduction to endocrine system	Lectures	Reports, attendance & quiz
ة أ المار المارية	1		Revision and exams	discussion	Reports, attendance & quiz
Report	s, attenda	ance &	quiz	1	Reports , attendance & quiz
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Reports, attendance & quiz
e de la	12	4	S1- Haemopoitic and lymphatic Module	Lecture and practical	Reports, attendance & quiz
ائن کا	9	*	S1- Musculoskeletal system	Lecture and discussions	Reports, attendance & quiz
i The	13		S2- Cardiovascular System Module	Lecture and practical	Reports, attendance & quiz
	17	7,	S2- Respiratory System Module	Lecture and practical	Reports, attendance & quiz
1 t	16		S2- Digestive &HB system	Lecture and discussions	Reports, attendance & quiz
Report	s, attenda	ance & o	quiz		Reports, attendance & quiz
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Reports, attendance & quiz
, p _>	18	4: 7 4n: 4	Neurology system module	Lecture and practical	Reports, attendance & quiz
14.	12		Endocrine system module	Lecture and practical	Reports, attendance & quiz
· ·	6 ;		Integumentary module	Lecture and practical	Reports, attendance & quiz
	10	. j	Reproductive system module	practical	Reports, attendance & quiz
E V _{er} it,	10		Urinary system	Lecture and practical	Reports, attendance & quiz
	1	ŀ	1	1	Reports, attendance & quiz

		ø,
7. Course Evaluation		
Distributing the score out of 100 written exams, reports etc) according to th	e tasks assigned to the student such as daily prepa
8. Learning and Teaching I	Resources	"
1. Books Required reading:	John E. Hall 2. Ganong's rev	all textbook of medical physiology 13 th edition by ELSEVIER iew of medical physiology 25 th edition- LANGE ics by J.R. Cameron
2.Recommended books references (Scientific journals, reports).	applications) b	medical imaging: physics, engineering and clinical y: Nadine Barrie Smith, Andrew Webb cs for Medical Physicists rsak, Ervin B.
3. Electronic references, Internet sites	Any trusted site	S
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