

Republic of Iraq
Ministry of Higher Education
& Scientific Research

Al-Farahidi University
College of Science
Department of Medical
physics Science



جمهورية العراق
وزارة التعليم العالي والبحث
العلمي

جامعة الفراهيدي
كلية العلوم
قسم علوم الفيزياء الطبية

Academic Program

Medical Physics Science

أ.د. احمد منعم حسون
عميد كلية العلوم

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أ.د. عمار دحام
رئيس قسم الفيزياء الطبية

Dr. Jamal Fadhil Tawfiq
Director of the Quality Assurance Division



Medical Physics Department

Institution: Al-Farahidi University

College: College of Sciences

Department / Academic Program Name: Department of Medical Physics

Final Degree Name: Bachelor of Medical Physics

Academic System: Semester

Accreditation Program Used (ECTS): The European Credit Transfer and Accumulation System

Description Preparation Date / Academic Year 2023 - 2024

Establishing a specialized scientific department according to advanced local and international standards, qualified with modern curricula based on local and international experiences that meet the needs of the job market in both the public and private sectors.

Department Mission:

Providing the community with specialized personnel equipped with scientific expertise and advanced skills in the fields of examination and diagnosis, and providing the appropriate educational and academic environment to equip workers in this field with the necessary knowledge to deal with modern technologies and tools used in the medical aspect.

Objectives:

Adopting the Bologna process as an educational system aimed at:

- Preparing distinguished graduates in the specialty capable of improving medical performance and dealing with modern technologies in the healthcare sector.
- Supplying the job market with specialists in providing high-quality medical support services in the fields of diagnosis and treatment.
- Qualifying personnel capable of employing their scientific and practical skills in the development of field medical research and efficiently operating medical examination devices by providing them with the latest technical experiences.

Learning Outcomes (Graduate Specifications):

1. Understanding the basics and advanced concepts in the field of medical physics.
2. Familiarize the graduate on how to apply the concepts of medical physics in the practical applied fields.
3. Provide the graduates with the knowledge of the main concepts related to pressure, fluids, viscosity, and temperature and their relationship to the operation of medical treatment devices.
4. Learning about the nature of materials that have applications in medical phenomena.
5. Equipping graduates with the ability to connect and integrate what they learn to use it in their future work in hospitals, government health centers, and private institutions that use advanced modern technologies in medical treatment, including radiation, laser, diagnostic imaging, CT scans, and MRI.

Employment Opportunities for Graduates:

Graduates of the department work in:

1. Ministry of Interior
2. Ministry of Defense
3. Ministry of Health
4. Ministry of Higher Education and Scientific Research
5. Private Health Sector

Assessment Methods:

Daily, periodic, and final examinations.

Laboratory reports.

Practical projects.

Program Structure:

To obtain a bachelor's degree in medical physics, the student needs to successfully fulfill the curriculum requirements according to the Bologna process.

Study programme



Republic of Iraq - Ministry of Higher Education and Scientific Research
 Al-Farahidi University
 Bachelor's degree in Medical physics (First cycle)
 Four years (Eight semesters) - 240 ECTS credits - 1 ECTS = 25hr
 Program Curriculum (2023 - 2024)

جمهورية العراق - وزارة التعليم العالي والبحث العلمي
 جامعة الفراهيدي
 بكالوريوس في علوم الفيزياء الطبية (الدورة الأولى)
 أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوروبية - كل وحدة اوروبية = ٢٥ ساعة
 المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤



Level	Semester	No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code	
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semns (hr/w)	CL (hr/w)								Lect (hr/w)
UGI	One	1	KUS1101	Mathematics	الرياضيات	English	2	1						3	63	62	125	5.00	B		
		2	KUS1102	Fundamental of computer science	مبادئ علم الحاسوب	English	1		2					3	48	27	75	3.00	B		
		3	KUS1103	Democracy and Human Rights	ديمقراطية وحقوق الانسان	Arabic	2							3	33	17	60	2.00	B		
		4	SCI1104	General Biology	احياء عام	English	2		2			1		3	78	97	175	7.00	B		
		5	SCI1108	General Chemistry	كيمياء عام	English	2		2			1		3	78	97	175	7.00	C		
		6	MPH1106	Electricity	الكهربائية	English	2		2					3	63	87	160	6.00	C		
								11	1	6	0	3	0	18	363	387	750	30.00			
	Two		No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
			1	KUS12010	Arabic Language	لغة عربية	Arabic	2							3	26	26	50	2.00	B	
			2	KUS12011	English Language	لغة انكليزية	English	2							3	26	26	50	2.00	B	
			3	SCI12012	General Physics	فيزياء عام	English	2		1	2			1	3	78	97	175	7.00	B	
			4	MPH11002	Mechanics	الميكانيك	English	2		2					3	78	97	175	7.00	C	
			5	MPH12008	Magnetism	المغناطيسية	English	2		2					3	78	72	160	6.00	C	SCI1108
								4	0	4	0	2	0	6	156	144	300	30.00			
	UGII	Three	1	KUS23016	Baath Crimes in Iraq	جرائم نظام البعث في العراق	Arabic	2							3	26	26	100	2.00	C	
2			MPH21013	Differential Equations	معادلات تفاضلية	English	2							3	48	52	100	6.00	C	KUS1101	
3			MPH21014	Optics	بصريات	English	2		2				1	3	78	72	160	6.00	C		
4			MPH21015	Atomic Physics	فيزياء ذرية	English	2		2				1	3	78	72	160	6.00	C		
5			MPH21018	Electromagnetics	كهرومغناطيسية	English	2		2					3	48	52	100	4.00	C		
6			MPH21018	Thermodynamics	الترمودينامك	English	2		2				1	3	78	72	160	6.00	C		
								8	0	4	0	4	1	12	282	372	660	#####			
Four			No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
			1	MPH22023	English Language	لغة انكليزية	English	2							3	33	42	75	3.00	B	
			2	MPH22019	Semiconductors	اشباه موصلات	English	2					1		3	63	62	125	5.00	C	
			3	MPH22020	Laser Physics	فيزياء الليزر	English	2		2		1			3	78	72	160	6.00	C	
			4	MPH22021	Medical imaging	تصوير طبي	English	2		2			1		3	78	72	160	6.00	C	
			5	MPH22022	Medical Physics 1	فيزياء طبية 1	English	2		2					3	63	62	125	5.00	C	
								6	0	38	6	27	16	147	348	372	780	30.00			
UGIII		Five		No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type
			1	MPH31025	Numerical Analysis	تحليل عددي	English	2							3	33	42	75	3.00	B	
			2	MPH31026	Medical Physics Devices 1	فيزياء الاجهزة الطبية 1	English	2						1	3	48	52	100	4.00	E	
			3	MPH31027	Medical Physics 2	فيزياء طبية 2	English	2		2				1	3	78	72	160	6.00	C	MPH22022
			4	MPH31028	Analogue Electronics	الالكترونيات تماثلية	English	2		2			1		3	78	72	160	6.00	C	
			5	MPH31029	Anatomy	تشريح	English	2		2			1		3	63	62	125	5.00	C	MPH12007
								6	0	6	1	3	2	18	378	372	780	30.00			
	Six		No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequisite Module(s) Code
			1	MPH32031	Wave Physics	فيزياء موجية	English	2					1		3	48	77	125	5.00	B	
			2	MPH32032	Biological Sensor	متحسسات بايولوجية	English	2						1	3	48	52	100	4.00	C	
			3	MPH32033	Quantum Mechanics	ميكانيك الكم	English	2					1	1	3	63	62	125	5.00	E	
			4	MPH32034	Nanotechnology	نانوتكنولوجي	English	2					1		3	48	52	100	4.00	C	
			5	MPH32035	Digital Electronics	الالكترونيات رقمية	English	2		2					3	78	72	160	6.00	C	MPH31028
								6	0	4	0	3	3	18	363	387	750	30.00			
	UGIV	Eight		No.	Module Code	Module Name in English	اسم المادة الفرنسية	Language	SSWL (hr/w)							Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type
			1	MPH41037	Medical Physics 3	فيزياء طبية 3	English	2					1		3	78	97	175	7.00	C	
			2	MPH41038	Medical Physics Devices 2	فيزياء اجهزة طبية 2	English	2		2				1	3	78	97	175	7.00	C	
			3	MPH41039	Laser in Medicine	الليزر في الطب	English	2					1	1	3	63	62	125	5.00	C	
			4	MPH41040	Radiation Protections	الوقاية من الاشعاع	English	2						1	3	63	62	125	5.00	C	
			5	MPH41041	Graduation Project	مشروع تخرج	English	2		2					3	48	52	100	4.00	C	
							6	0	6	0	4	3	18	363	387	750.0	30				
							10	0	6	0	4	3	18	363	387	750.0	30				
							12	0	6	0	4	2	18	378	372	750	30.0				
							163	12	57	13	49	28	249	2283	2769	4987	#####				

Interested
Structure

Module type

- B Basic learning activities
- C Core learning activity
- S Support or related learning activity
- E Elective learning activity

SWL: Student Workload
 SSWL: Structured SWL
 USSWL: Unstructured SWL

Must be 240 ECTS

Note: Columns O, Q and R are progmaed, protected and should not be edited

Department Council

No	Name	Degree	Functional class
1	Ammar Daham Ayada	prof	Head of Department
2	Hind Tahseen Ibrahim	prof	Session Coordinator
3	Hussain Hamad Abd	prof	Member
4	Faten Monjed Hussien Al-feel	lecturer	Member
5	Auday Khudaier Azawy	lecturer	Member