Ministry of Higher Education and Scientific Research
Scientific supervision and evaluation device
Department of Quality Assurance and Academic Accreditation
Accreditation Department

Academic program and course description guide

2024-2025

the introduction:

The educational program is considered a coordinated and organized package of academic courses that includes procedures and experiences organized in the form of academic vocabulary, the main purpose of which is to build and refine the skills of graduates, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs such as the external examiner program. The description of the academic program provides a brief summary of the main features of the program and its courses, indicating the skills that students are working to acquire based on the objectives of the academic program. The importance of this description is evident because it represents the cornerstone of obtaining program accreditation, and the teaching staff participates in writing it under the supervision of the scientific committees in the scientific departments.

This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the latest developments in the educational system in Iraq, which included a description of the academic

program in its traditional form (annual, quarterly), in addition to adopting the description of the academic program circulated according to the book of the Department of Studies, 3/2906. On 5/3/2023 with regard to programs that adopt the Bologna Process as a basis for their work.

In this area, we can only emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth conduct of the educational process.

Concepts and terminology:

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

Course Description: Provides a necessary summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be a developed, inspiring, motivating, realistic and applicable program.

The program's mission: It briefly explains the goals and activities necessary to achieve them, and also defines the program's development paths and directions.

Program objectives: These are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum structure: All courses/study subjects included in the academic program according to the approved learning system (semester, annual, Bologna track), whether it is a requirement (ministry, university, college, or scientific department), along with the number of study units.

Learning outcomes: A consistent set of knowledge, skills, and values that the student has acquired after the successful completion of the academic program. The

learning outcomes for each course must be determined in a way that achieves the program objectives.
Teaching and learning strategies: They are the strategies used by the faculty member to develop the student's teaching and learning, and they are plans that are followed to reach the learning goals. That is, it describes all curricular and extracurricular activities to achieve the learning outcomes of the programme.

The message

Preparing qualified scientific cadres in the field of medical physics, equipped with knowledge and creativity in the specialization of medical physics, to benefit society and its service and scientific institutions, and to interact with the requirements of the era and technology, contributing to community building. In addition to providing students of the medical physics department with the necessary knowledge and practical skills to deal with various scientific challenges, and to be pioneers in their field of specialization, which contributes to achieving sustainable development and supplying the labor market with the competencies it needs.

Vision

To make the Department of Medical Physics a leader in its field and to excel at the local, regional, and global levels, striving to be at the forefront of educational institutions that contribute to the development of scientific competencies by creating a solid educational environment that combines fundamentals with continuous development aimed at serving the community and sustainable development. We believe that education should be a catalyst for positive change and meet the labor market's requirements with qualified and distinguished scientific personnel in their field, along with their high commitment to responsibility.

Objectives

1- Linking theory to practice: Providing opportunities for students in the Department of Medical Physics to apply scientific knowledge in real situations, enabling them to effectively face field challenges.

2- Improving the quality of scientific research: Teaching students in the Department of Medical Physics how to design and conduct innovative scientific tests, with a focus on comprehensive analysis of results and scientifically supported conclusions.

3- Promoting ethical awareness: Instilling the value of ethical and professional responsibility in the students of the Department of Medical Physics, emphasizing the importance of adhering to ethical principles in all their scientific activities.

4- Encouraging effective teamwork: Fostering a spirit of cooperation and teamwork among students in the Department of Medical Physics, enabling them to set common goals and plan activities in various innovative ways.

5- Integrating modern technology and introducing artificial intelligence and nanotechnology: Enhancing the use of modern technologies in education and learning, allowing students in the Department of Medical Physics to benefit from advanced technological tools in the field of medical physics to achieve sustainable development goals.

6- Providing a stimulating educational environment and developing the ability to innovate: The Department of Medical Physics seeks to provide a stimulating educational environment for students that encourages critical thinking and creativity, enabling students to identify scientific problems and formulate them in new and unconventional ways, thereby enhancing their skills in innovation and scientific thinking, and preparing them to enroll in distinguished graduate programs.

7- Enhancing creative communication skills and contributing to community service: Developing the skills of students in the Department of Medical Physics in effective communication, collaborating with other educational and research institutions to exchange experiences and knowledge, and contributing to community service by providing consultations and services to health institutions and individuals. Additionally, working to raise awareness of the importance of medical physics and its role in improving public health.

Programmatic accreditation

Currently ABET
Waiting for the ministerial accreditation standards that will be launched soon

Other external influences

Pending ministerial accreditation standards

Program structure

Program structure	Number of courses	Study unit	percentage	comments *
Enterprise requirements	5	11	4.6	
College requirements	1	2	08	
Department requirements	42	227	94.6	
summer training				The student requests summer training at the end of the sixth semester
Other				

* Notes may include whether the course is core or elective.

Program description

ECTS credits	Module Code	Module Name in English	Name of the academic subject	No.	Semester One
8.00	MPH-1101	Electricity and magnetism	Electric and magnetic	1	
8.00	MPH-1102	Analytical Chemistry	analytical chemistry	2	
2.00	SCI-101	Mathematics 1	Mathematics I	3	
8.00	MPH-1103	General Biology 1	General revival	4	
2.00	UOM-101	Arabic Language	Arabic	5	
2.00	UOM-104	Human Rights and Democracy	Human rights and democracy	6	

ECTS credits	Module Code	Module Name in English	اسم المادة الدراسية	No.	Semester Two
6.00	MPH-1204	Mechanics	ميكانيك	1	
6.00	MPH-1215	Mathematics 2	الرياضيات II	2	
6.00	MPH-1216	General Biology 2	احياء عام 2	3	
3.00	UOM-103	computer	حاسوب	4	
2.00	U0M-102	English Language	اللغة الانكليزية	5	
7.00	MPH-1217	Organic Chemistry	كيمياء عضوية	6	

ECTS credits	Module Code	Module Name in English	اسم المادة الدراسية	No.	Semester Three
6.00	MPH-2308	Biophysics	فيزياء حياتية	1	
6.00	MPH-2319	Optics	بصريات	2	
6.00	MPH-23010	Atomic physics	فيزياء ذرية	3	
5.00	MPH-23111	Physiology	فسلجة	4	

5.00	MPH-23112	Electromagnetic waves	موجات كهرومغناطيسية	5	
2.00	U0M-201	Crimes of Baath Party	جرائم حزب البعث	6	

ECTS	Module Code	Module Name in English	اسم المادة الدراسية	No.	Semester Four
6.00	MPH-24013	Medical imaging	التصوير الطبي	1	
5.00	MPH-24114	Molecular biology	بايولوجي جزيئي	2	
6.00	MPH-24115	Bioelectronics	الالكترونيات الحيوية	3	
3.00	MPH-24016	Healthy culture	الثقافة الصحية	4	
5.00	MPH-24017	Heat and Thermodynamic	حرارة وثرموداينمك	5	
5.00	MPH-24118	Phonetics Science	علم الصوتيات	6	

ECTS	Module Code	Module Name in English	اسم المادة الدراسية	No.	
5.00	MPH-35019	Medical Physics 1	فيزياء الطبية 1	1	
5.00	MPH-35120	Anatomy	تشريح	2	
4.00	MPH-35021	Biostatics	احصاء حيوي	3	
6.00	MPH-35122	Physics of Diagnostic radiology	فيزياء الاشعة التشخيصية	4	Five
6.00	MPH-35123	Laser Basics	اساسيات الليزر	5	
4.00	MPH-35024	**elective course1** (Medical Immunology + Medical Bacteriology + Medical Parasitology + Genes and Diseases	اختياري 1	6	

ECTS	Module Code	Module Name in English	اسم المادة الدراسية	No.	
4.00	MPH-36125	Medical Terminology	مصطلحات طبية	1	
5.00	MPH-36126	Biochemistry	كيمياء حياتية	2	Six
6.00	MPH-36027	Physics of nuclear medicine	فيزياء الطب النووي	3	
6.00	MPH-36128	Medical laser applications	تطبيقات الليزر الطبية	4	
5.00	MPH-36129	Analoge electronics	الكترونيات تماثلية	5	
4.00	MPH-36030	**elective course2** (cellular	اختياري 2	6	

		and genetics disorders + Medical Plants and Toxicology+ Medical Labrotory Analysis + medical Virology			

ECTS	Module Code	Module Name in English	اسم المادة الدراسية	No.	
6.00	MPH-41131	Medical image processing and analysis	تحليل ومعالجة الصور الطبية	1	Seven
5.00	MPH-47032	Medical instrumentation physics	فيزياء الاجهزة الطبية	2	
6.00	MPH-47133	Radiotherapy Physics	فيزياء العلاج الاشعاعي	3	
5.00	MPH-47134	Digital electronics	الالكترونيات الرقمية	4	
4.00	MPH-47035	**elective course3 (** Medical Antimicrobial + Biotechnology + Medical Labrotory instruments)	اختياري 3	5	
4.00	MPH-47036	Research Methodology	منهجية بحث	6	

ECTS	Module Code	Module Name in English	اسم المادة الدراسية	No.	
6.00	MPH-48137	Medical Physics 2	الفيزياء الطبية 2	1	Eight
6.00	MPH-48138	Neurophysics	فيزياء الاعصاب	2	
5.00	MPH-48039	Material science and nanotechnology	علم المواد والنانوتكنولوجي	3	
5.00	MPH-48040	Biomaterials	مواد حيوية	4	
4.00	MPH-48041	**elective course4** (Physiology of Inficious diseases + Behavior and sensing from micro to human + Medical Bioinformatics	اختياري 4	5	
4.00	MPH-48142	Research Project	مشروع بحث تخرج	6	

2. Teaching and learning strategies

Theoretical, practical, and applied lectures, daily assignments, and discussions

3. Evaluation methods

Exams, assignments, daily assignments, discussions, laboratory reports and a graduation project

4. The teaching staff

Faculty member

Preparing the teaching staff		Special requirements/skills (if any)	speshlize				Scientific rank
lectuerer	staff				Special	general	
		English	Chemistry	microbiology	Physics		
	2			2		2	Professor
	8			5	3	8	Assistant Professor
	14		2	7	5	14	Instructor
	8	1		7		8	Assistant Instructor

Professional developmen
Orienting new faculty member
Working to improve the academic and research capabilities and skills of faculty members through: 1. Guiding them to participate in teaching methods courses. 2. Holding training workshops, scientific meetings, and dialogue sessions. 3. Educating them on modern teaching methods. 4. Spreading a culture of continuous development and improvement to reach the best level of academic and professional performance. 5. Providing individual and group guidance programs for faculty members to overcome the difficulties that plague their professional lives.
Professional development for faculty members
1. Developing faculty members' skills in academic, research and creative fields. 2. Supporting university faculty members in their educational, research and creative tasks. 3. Providing and developing diverse resources that contribute to achieving the above two goals. 4. Providing the appropriate professional environment for the creativity of the faculty member. 5. Supporting the faculty member's tasks in the field of community service. 6. Creating and developing information bases and resources related to faculty members.

Acceptance criterion
Admission is central

The most important sources of information about the program
Program development through • Higher directives • What new sciences are developed in the field of specialization

Program development plan
- Teamwork: Working within the group effectively and actively. - Time management: Managing time effectively and setting priorities with the ability to work organized by appointments. - Preparing scientific research and reports to analyze and criticize events.

Program skills chart														
Learning outcomes required from the programme														
value		skills						knowledge				Basic learning activities Core learning activity	Course name	Course Code	Year/level
2	1	2د	1د	2ج	1ج	ب	ا			2	1				
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Electric and magnetic	MPH-1101	**Semester 1**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	analytical chemistry	MPH-1102	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	Mathematics I	SCI-101	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	General revival	MPH-1103	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	Arabic	UOM-101	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	Human rights and democracy	UOM-104	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Mechanical	MPH-1204	**Semester 2**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	Mathematics II	MPH-1215	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	General biology 2	MPH-1216	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	Computer	UOM-103	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	English	UOM-102	

✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	organic chemistry	MPH-1217	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Life physics	MPH-2308	**Semester 3**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	optics	MPH-2319	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Atomic physics	MPH-23010	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	Faslja	MPH-23111	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Electromagnetic waves	MPH-23112	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	Baath Party crimes	U0M-201	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Medical Imaging	MPH-24013	**Semester 4**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Molecular biology	MPH-24114	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Bioelectronics	MPH-24115	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Health culture	MPH-24016	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Heat and thermodynamics	MPH-24017	

✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	Phonetics	MPH-24118	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Medical Physics 1	MPH-35019	Five
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	anatomy	MPH-35120	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	Biostatistics	MPH-35021	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Diagnostic radiology physics	MPH-35122	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Laser basics	MPH-35123	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	E	Optional 1	MPH-35024	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	medical terminology	MPH-36125	Six
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Biochemistry	MPH-36126	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Nuclear medicine physics	MPH-36027	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Medical laser applications	MPH-36128	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Analogue electronics	MPH-36129	

✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	E	Optional 2	MPH-36030	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Analysis and processing of medical images	MPH-41131	Seven
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Physics of medical devices	MPH-47032	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Physics of radiation therapy	MPH-47133	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Digital electronics	MPH-47134	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	E	Optional 3	MPH-47035	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Research methodology	MPH-47036	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Medical Physics 2	MPH-48137	Eight
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Neurophysics	MPH-48138	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Materials science and nanotechnology	MPH-48039	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Biomaterials	MPH-48040	

✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	E	Optional 4	MPH-48041	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	Graduation research project	MPH-48142	

University Name: University of Mosul

Faculty / Institute: College of Science

Scientific Department: Department of Medical Physics

Academic or Professional Program Name: Bachelor of Science in Medical Physics

Final Certificate Name: Bachelor of Medical Physics

Academic System: Semester

Description Preparation Date :2024-2025

File Completion Date: 2024-2025

Signature:

Head of Department Name: Mahmood Ahmed Mohammed Fakhri

Date: 2024-2025

Signature:

Scientific Associate Name: prof. Dr. Mazin Ahmed Abed

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature: Dr. Mahmood Abdulhaq al Sinjari

Approval of the Dean

prof. Dr. Riyan Adil Al-Ta