

**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

2024

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.

Course Description: 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.

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

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

Program Objectives: They 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 / 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.

Learning Outcomes: 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.

Teaching and learning strategies: 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 extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name:

Faculty/Institute: . Hilla University College

Scientific Department: Medical Physics

Academic or Professional Program Name:

Final Certificate Name: BSc in Medical physics application

Academic System: courses

Description Preparation Date: 1/10/2023

File Completion Date:

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

1. Program Vision

The Department of Medical Physics at Hillah University College seeks to achieve excellence in the field of science training Medical physics by applying quality standards in a climate characterized by independence and motivation

Ambition and creativity contribute to preparing knowledgeable graduates who will have a positive role in. The process of development and comprehensive construction towards change

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2. Program Mission

The Department of Medical Physics at Hilla University College is moving towards preparing a graduate specializing in the field of physics Medical diagnosis reveals various scientific news, experiences, and personal abilities and qualifies him to keep pace Continuous scientific and technological development in various fields of work

3. Program Objectives

1- Preparing cadres in the field of medical physics, which bear the responsibility of studying the country's need for development and progress and able to meet the needs of the labor market in the state's health institutions and industry sectors, and preparing an educated generation armed with science and adopting it as a sound basis to bring about radical changes and put scientific knowledge and scientific method in Thinking and analyzing in the service of the country's goals, able to pursue higher studies and adapt to the development of medical technologies in order to keep pace with the expansion of human needs.

2- The academic program aims to apply the principles and methods of physics to

diagnose diseases (Diagnosis) and treat them (Therapy). The practice of modern medicine relies effectively on an important number of techniques, tools and physical principles. The urgent need has led to accuracy in the methods of diagnosis and treatment, improving their performance, and to the continuous development of techniques and tools. The physical used in this led to the emergence of the specialty of medical physics.

3- Preparing cadres that provide health and the Ministry of Environment to work in the areas of diagnosing and treating patients of cancer departments.

4- Balance in focusing on the principles of theoretical and applied medical physics, and working to provide students with analytical, computer, mathematical and methodological tools and means to identify, formulate and solve medical problems and focus on introducing modern methods into the learning system that increase students' ability to design, creativity and innovation in the field of medical devices and equipment Providing self-education and continuing education for the community and spreading medical knowledge in the public and private sectors through short courses, workshops, seminars and conferences, providing consultations and lectures, raising the level of medical studies in the scientific and research field, and providing its various requirements in proportion to the country's needs.

5- Providing an appropriate academic environment for study and research to contribute to finding solutions to medical problems by using appropriate and appropriate techniques through courses that provide a strong foundation in the aspect of mathematics and health physics and their medical applications, in addition to actively contributing to deepening and documenting the university's relationship with society through the implementation of advisory work, training and development of cadres Teaching and administration.

4. Program Accreditation

The department relied on clear assessment methods for students' education, of high quality and modernity, in order to maintain the quality of the graduate and the department's scientific reputation. This is reflected in the college regulations and the requirements of continuous evaluation of students, provided that there are several types of evaluation methods in order to ensure the quality and quality of the graduate, which It constitutes the final product of the educational process, and the most important methods of assessment are:

A- Objective tests to measure knowledge and understanding of scientific facts,

apply scientific knowledge in new places, and measure recollection, through the following:

- True and False Questions.
- Multiple choice questions.
- Interview questions (Matching items).
- Completion questions.

b- Scientific tests related to the following matters:

- Remember facts and figures.
- Understanding of scientific material and medical physical principles.
- The ability to recall, link and interpret.

C- Applying knowledge in a simple way in interpreting data, diagnosing and treating various diseases that affect humans and the environment, which is done through the following:

- Open-ended test questions.
- Questions that have one answer.
- Questions that do not have a definite answer

5. Other external influences

Is there a sponsor for the program?

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	٣٥	٢٣.	٩٥	basic
College Requirements	٢	٤	0.16	
Department Requirements	٥	٨	0.33	
Summer Training	Third stage			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-017	Heat and thermodynamic	۲	۲
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-018	optics	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-019	biostatistics	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-020	Analog electronic	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-021	Atomic physics	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-022	Computer science 3	2	1
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-023	physiology	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-024	Electromagnetic wave	2	-
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-025	Medical imaging	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-026	Molecular biology	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-027	bioelectronics	2	-
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-028	Digital electronics	2	2
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-029	Healthy culture	2	-
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-030	Computer science 4	2	1
/ ۲۰۲۳-۲۰۲۴ second	HUC-MPH-031	English 2	2	-
/ ۲۰۲۳-۲۰۲۴	HUC-MPH-032	Phonetics science	2	-

second				
/ 2023-2024 third	HUMP-013101	Physics of diagnostics radiology		
/ 2023-2024 third	HUMP-013102	resonance megnatics	2	-
/ 2023-2024 third	HUMP-013103	physic1 medical	2	2
/ 2023-2024 third	HUMP-013104	Anatomy	2	2
/ 2023-2024 third	HUMP-013105	Laser basics	2	2
/ 2023-2024 third	HUMP-013106	medical quantum mecahnics	2	-
/ 2023-2024 third	HUMP-013107	medical terminology	2	-
/ 2023-2024 third	HUMP-013203	Medical physics 2	2	2
/ 2023-2024 third	HUMP-013204	anatomy2	2	2
/ 2023-2024 third	HUMP-013208	Physics of nuclear medicine	2	2
/ 2023-2024 third	HUMP-013209	biochemistry	2	2
/ 2023-2024 third	HUMP-013210	english languges	2	-
/ 2023-2024 third	HUMP-023111	envioromant pullution	2	-
/ 2023-2024 third	HUMP-013212	Medical Laser applications	2	2
/ 2023-2024 fourth	HUMP-014103	Medical physics 3	2	-
/ 2023-2024 fourth	HUMP-0141013	Medical instrumentation physics2	2	-
/ 2023-2024 fourth	HUMP-0141014	nuclear medicin	2	-
/ 2023-2024 fourth	HUMP-0141015 ^o	radiation protection	2	-

fourth				
/ ٢٠٢٣-٢٠٢٤ fourth	HUMP-0141016	biomaterials	٢	-
/ ٢٠٢٣-٢٠٢٤ fourth	HUMP-0141017	Medical image processing	٢	٢
/ ٢٠٢٣-٢٠٢٤ fourth	HUMP-014203	Medical physics 4	٢	-

8. Expected learning outcomes of the program

Knowledge

- A1** . The ability to analyze and think scientifically by applying the laws in physics and mathematics and to abide by the guidelines and instructions for any effectiveness in the organizational and administrative framework in the implementation of a project or facing a physico-medical problem, solving and evaluating it and submitting a proposal or a plan or reformulating it, translating or interpreting it .
- A2**. The student should be able to speak and write in an effective scientific manner in Arabic and English .
- A3** . To be familiar with international medical physics standards, to estimate the needs of the medical and health aspect, and to apply the concepts of quality management in health work.
- A4** . Adherence to the ethics of practicing the profession and the ability to show high professional competence in addition to a commitment to personal appearance and behavior .
- A5** . To be interested in protecting the patient from the dangers of using medical devices, especially those related to the radiological aspect, and minimizing harm to the patient and workers in this field.

Skills

- B1** - The ability to apply the principles of medical physics.
- B 2** - Analyzing medical problems from the scientific side that have a physical basis and reaching their

	<p>solution and the midwife to suggest appropriate alternatives.</p> <p>B 3 - Constructive medical discussions and opinion.</p> <p>B-4 - Enabling graduates to keep pace with the research development in the field of medical physics, which contributes to the development of the medical aspect.</p>
Ethics	
	<ul style="list-style-type: none"> - Having the ability to freely answer. - Having the ability to organize. - Having the ability to organize ideas. - Not to cheat and address it.

9. Teaching and Learning Strategies

- 1- The ability to learn simple and deep in the exploration of knowledge and focus on the application of knowledge to solve existing problems
- 2- The student's ability to analyze, apply and arrange knowledge so that he can make assumptions and interpretation as well as describe solutions.
- 3- Using brainstorming to bring out the creative ideas of some talented students.
- 4- Distinguishing that the test increases the student's motivation towards studying and gaining more, and is not a means of punishment for him.

10. Evaluation methods

- Quiz's , seminars , examination , research's

11. Faculty

Faculty Members

Academic Rank	Specialization	Special Requirements/Skills (if applicable)	Number of the teaching staff

	General	Special			Staff	Lecturer
Professor	Physics				١	١
Assistant Professor	Physics					٢
Assistant Professor	Chemistry				١	١
teacher doctor	Physics				١	٢
assistant teacher	Physics				٦	٢
assistant teacher	Biology				١	١
assistant teacher	chemistry				١	

Professional Development

Mentoring new faculty members

Selection is made through a personal interview of the applicant after announcing the required specializations

Professional development of faculty members

Participation in training courses

12. Acceptance Criterion

Admission is based on the central admission for private colleges and for morning and evening

studies

13. The most important sources of information about the program

14. Program Development Plan

1- Using new concepts in the field of physics and using electronic devices to display information

2- Field visits to hospitals and training on operating the devices and explaining their working principles

Course Description Form

1. Course Name:						
2. Course Code:						
3. Semester / Year:						
4. Description Preparation Date:						
5. Available Attendance Forms:						
6. Number of Credit Hours (Total) / Number of Units (Total)						
7. Course administrator's name (mention all, if more than one name)						
Name:						
Email:						
8. Course Objectives						
Course Objectives			<ul style="list-style-type: none"> • • • 			
9. Teaching and Learning Strategies						
Strategy						
10. Course Structure						
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method	

11. Course Evaluation					
Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)					
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites					