Republic of Iraq
Ministry of Higher Education & Scientific Research Supervision and Scientific Evaluation Directorate Quality Assurance and Academic Accreditation International Accreditation Dept.

Academic Program Specification Form For The Academic

University:
College : Hilla University College
Number Of Departments In The College :
Date Of Form Completion :

Dean's Name
Date : / /
Signature

Dean's Assistant For Scientific Affairs
Date : / /
Signature

The College Quality Assurance And University Performance Manager
Date : / /
Signature

Quality Assurance And University Performance Manager Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Program Specification provides a concise summary of the main features of the program and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the program.

1. Teaching Institution	Hilla University College
2. University Department/Centre	Medical Physics
3. Program Title	
4. Title of Final Award	
5. Modes of Attendance offered	Weekly
6. Accreditation	
7. Other external influences	
8. Date of production/revision of this specification	1-10-2022
9. Aims of the Program	
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.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

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.

B. The skills goals special to the programme

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 solution and the midwife to suggest appropriate alternatives.

B 3 - Constructive medical discussions and opinion.

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.

Teaching and Learning Methods

There are many teaching and learning methods used in the Department of Medical Physics, the most important of which are:

(Theoretical and practical lectures, discussion and dialogue, field visits to hospitals and medical centers, summer training in government hospitals for the purpose of application on various medical devices, seminars for specific topics, students' theoretical and practical research, office activities) which helps students to reach the following results:-

1- The scientific ability to distinguish between correct and incorrect information.

2- Ease of scientific formulation and ease of correction.

3- The ability to know the physical basis for the work of various diagnostic and therapeutic medical devices.

4- The ability to link physical and medical concepts and principles.

Assessment methods

1- Scientific discussion, oral dialogue, and quarterly and final exams.
2- Seminars.
3- Homework.
4- Practical activities and case studies.
5- Writing and submitting reports and taking notes on the medical experiences gained during field visits and summer training.
6- Proficiency tests to determine the level of the learner's acquisition of information and skills in a previously learned subject through his answers to the questions and paragraphs that represent the content of the subject.

C. Affective and value goals

C1- Presenting the physical or medical problem and asking to think about possible solutions or developments.
C2 - Encouraging the development of students' scientific thinking in memorization and guessing and motivating them towards critical thinking and thinking at a stage before remembering.

Teaching and Learning Methods

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.

Assessment methods

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

Which motivates the student to:

- Having the ability to freely answer.
- Having the ability to organize.
- Having the ability to organize ideas.
- Not to cheat and address it.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1 - Training on modern technology in the field of medical physics and developing strategies for that in the work team and possessing language skills (proficiency in speaking, writing and understanding Arabic and English) in the art of listening and the art of persuasion and dialogue.
D 2 - the tendency to cooperate and teamwork.
D3 - Possess leadership qualities (memory strength, intuitive speed, physiognomy, predictability and induction).

Teaching and Learning Methods

This is done by testing students in a theoretical and oral way, classroom and home activities, training / informing them of prior experiences, presenting a problem or video issue or a workshop and requesting it to be addressed or improving or developing its performance and encouraging note-taking and scheduled comparison, **for example:**
- A case study (disease that can be diagnosed and treated) in providing a description that includes scientific facts about the problem of medical physics. Students are asked to analyze some information, diagnose the problem, and describe the physical solution to it.
- Stimulating the student's incentives towards answering and introducing the suspense factor to look forward to studying more.

Assessment Methods

For the purpose of evaluation in this field, the department has adopted the following methods:
- Monthly discussion panels that are devoted to the purpose of various medical problems and the latest scientific and medical methods for solving them.
- Field supervision in the case of summer training and the supervisor's access to limited convictions about the information obtained through summer training.

11. Program Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
First Stage (First Coursce)		General physics		Bachelor Degree Requires (x) credits
First Stage(First Coursce)		General chemistry		

First Stage(First Coursce		Biology		
First stage (First Coursce)		Computers		
First stage(First Course)		Mathematics		
First Stage First Course		English		
First Stage (Second Course)		Organic Chemistry		
Second Course		General Mechanics		
Second Course		Electricity and Magnetisml		
Second Course		Biophysics		
Second Course		Programming Language		
Second Course		Arabic		
Second Stage(First Course)		Materials Science		
Second Stage(First Course)		Atomic Physics		
Second Stage(First Course)		Electromagnetic		
Second Stage(First Course)		Anatomy1		
Second Stage(First Course)		Medical Theoretical		
Second Stage(First Course)		Optical		
Second		Thermodynamics		

Stage(First Course)			
Second Stage(First Course)		Medical Imaging	
Second Stage(secon dCourse)		Analytical Chemisty	
Second Stage(secon dCourse)		Physics of Biosensore	
Second Stage(secon dCourse)		Differential andIntegration	
Second Stage(secon dCourse)		Semiconductors	
Third stage(first course)		Fundamental of laser	
Third stage(first course)		Nanoscience	
Third stage(first course)		Physics of Biosensore	
Third stage(first course)		Analog electronics	
Third stage(first course)		Nuclear physics	
Third stage(first course)		Medical Imaging	
Third stage(first course)		Statistical physics	
Third stage(first course)		Analytical mechanics	
Third stage(first		Anatomy2	

course)			
Third stage(Second course)		Laser application	
Third stage(Second course)		Radiation Protection	
Third stage(Second course)		Photonics	
Third stage(Second course)		Electromagetic wave	
Third stage(Second course)		Anatomy2	
Third stage(Second course)		Complex Analysis	
Third stage(Second course)		Diagonstic Radiology	
Fourth Stage(first course)		Analytical Chemistry	
Fourth Stage(first course)		Physics of medical Instrumentation	
Fourth Stage(first course)		Image Processing	
Fourth Stage(first course)		Biophsics	
Fourth Stage(second course)		Neuro Physics	
Fourth Stage(second course)		Biomaterials	
Fourth Stage(second course)		Environmental	

Fourth Stage(second course)		Medical physics		
Fourth Stage(second course)		Project		

13. Personal Development Planning

The focus in the Department of Medical Physics Sciences is on continuous improvement, as the department always seeks to improve the scientific and administrative process and to overcome all difficulties and obstacles that hinder the educational program through the development of human resources for personal development.

The following procedures illustrate the steps implemented or in the process of being implemented in this area:

1- Continuous improvement and development of faculty members through training programs and workshops inside and outside the department, university and country.
2- Encouraging extra-curricular activities such as holding scientific conferences and symposia and personal and sports innovations locally, regionally and internationally.
3- Encouraging faculty members to obtain the highest scientific and administrative ranks.
4- Providing sources and modern scientific books for the department's library to keep pace with the rapid progress in medical sciences.
5- Providing specialized software in medical physics and computers necessary for this, along with internet lines for all teachers.

14. Admission criteria .

The Department of Medical Physics is subject to the working mechanism of the Ministry of Higher Education and Higher Research / Department of Private Education / Central Admission Department, where graduates of the preparatory study, the scientific branch (biological, applied) are nominated for admission to the department based on graduation rates, and all regulations and laws for admission are implemented. Central and according to the directives of the Ministry.

15. Key sources of information about the programme

Curriculum approved by the Ministry of Higher Education and Scientific Research and guiding guides.
- Decisions and recommendations of the scientific committees, Hilla University College, Quality Assurance Division.
- Courses in civil society organizations.
- Internet research.
- Personal experiences.

Curriculum Skills Map

please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**