Ministry of Higher Education and Scientific Research
University of Al Mosul
College of Science
Department of Medical Physics

Self-evaluation report for the Department of Medical Physics According to ABET standards 2024-2023

https://uomosul.edu.iq/en/science/biophysics-department/

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Introduction

Based on the directives of the Honorable Minister of Higher Education and Scientific Research on the necessity of developing universities and educational institutions, His Excellency instructed the establishment of a center for ensuring quality and reliability through which the scientific services provided by the Ministry and its educational institutions are matched with international quality standards, taking into account the current and future needs of Iraqi society, with the aim of graduating Qualified cadres capable of meeting these needs.

Based on the commitment of the Department of Medical Physics/College of Science/University of Mosul to establish and apply quality practices to support the university's mission towards achieving its strategic goals and reaching global leadership, a self-evaluation report was written.

Self-evaluation in accordance with the "ABET Accreditation Standards" is an examination of the overall functions and activities of the department, taking into account the mission and goals of the department, justifying the analysis extensively with conclusions and evidence, and taking advice from others who are able to provide independent comments. The responsibility for conducting the self-study falls on those in charge of the department, so that everyone is committed to conducting an objective, subjective, and scientific evaluation, and evaluation is an effective means of reviewing the strengths and weaknesses of the department.

The aim of the report is to make changes that contribute to raising the level of performance, supporting strengths and eliminating weaknesses through work that achieves the standards of the ABET accreditation program, giving a comprehensive overview of the level of activities, services and educational programs provided by the department, knowing the levels of students and ways to improve the educational reality and determining what... They need training courses and development programs and ensuring the quality of the department's outputs and programs to ensure the effectiveness of ongoing quality processes and procedures.

Self-evaluation has already been implemented in our department according to "ABET," which constitutes the first steps for academic accreditation. The evaluation results of the interviewers and those of our department are supported by evidence and can be referred to as documents kept in the Quality Assurance and University Performance Division.

The self-evaluation report is a document that covers the following aspects:

1. Students, including student performance, counseling and evaluation.
2. The program's educational objectives, in line with the profession's program, are based on the needs of the program's components (the profession), and the evaluation is periodic.
3. Program outcomes, consisting of the skills and knowledge that medical physics students have and are expected to obtain upon graduation.
4. Continuous improvement.
5. Curricula.
6. Department members, including the competence of faculty members, and appropriate qualifications.
7. The department building, including classrooms, laboratories, and associated equipment.
8. Support, including adequate financial funding and ancillary staff (secretarial, technicians, IT, etc.) to support the programme.

Chapter one

Metadata
on
Department of Medical Physics

Name of the institution: Ministry of Higher Education and Scientific Research - University of Mosul - College of Science - Department of Medical Physics

Department website:

https://uomosul.edu.iq/en/science/biophysics-department/

Type of institution: Governmental institution

Establishment date: 2011

Study start date: 2011-2012

Language of study: English
Duration of initial study: four years

general information

Department contact information:
The official email of the Department of Medical Physics:
MedicalPhysics.SC@uomosul.edu.iq

Head of Department:

Dr.. Mahmoud Ahmed Mohamed Fakhry
Iraq - Mosul - University of Mosul - College of Science - Department of Medical Physics.
Phone number: 07722977221
Email: drmahmoudahmed@uomosul.edu.iq

Department Rapporteur:
Dr.. Hoda Masoud Muhammad Hussein
Iraq - Mosul - University of Mosul - College of Science - Department of Medical Physics.
Phone number: 07717992511
Email Huda.phy@uomosul.edu.iq

- The department’s history and history, the scope of its activities and distinguished achievements:
- Department overview:
- The first beginnings of the medical physics major were in the academic year 2011-2012, and its practical side was in the laboratories of the College of Science in its various departments. The main goal of this major was to build a scientific base in the specialty of medical physics for graduates of the College of Science and to expand their awareness in this field and thus increase the positive impact on society. Specialized teachers had a prominent role in improving the scientific situation in the city of Mosul by providing consultations and studies through cooperation mechanisms.
-

- • The department was opened in the academic year 2011-2012 after obtaining all the official approvals required by the Iraqi Ministry of Higher Education and Scientific Research. Since its opening, the main goal of the department and its teaching staff has been to graduate qualified researchers with a solid scientific base in the field of medical physics who are able to work efficiently within their field of specialization.
- • The name of the Department of Life Physics has been changed to the new name Medical Physics, starting from the academic year 2022-

2023 and from the first stage onwards, according to Ministerial Order No.

- • TC 3/T/8795, dated 11/22/2021.
- • In order to achieve scientific sobriety, the Department of Medical Physics has developed a specific program for the purpose of teaching solid curricula in the basic sciences that give the graduate a broad scientific base in the field of medical physics, in addition to general scientific and cultural lessons that are considered supportive lessons for this specialization.
- • The number of graduated courses has reached (8) courses since its establishment until now, as the number of graduates of the Department of Medical Physics since its founding and until now has reached (250) 114 male and 136 female graduates.

Vision, mission and goals of the Department of Medical Physics

the message

Preparing qualified graduates with knowledge and creativity in the specialty of medical physics who are able to interact with the

requirements of the times and technology and contribute to building Iraqi society on sound scientific and moral foundations.

Vision

The Department of Medical Physics aspires to be a pioneer in the field of medical physics sciences and to be distinguished at the local, regional and global levels, with a focus on education, training, services, applied research and community service and to be an essential pillar in supporting the country's research and projects and cooperation and participation with medical physics departments in Iraqi universities, institutions and bodies. National and even at the Arab and international levels to support the progress and advancement of the nation.

Objectives

The academic programs in the department enable students to develop their talents and advanced scientific ideas, meet the needs of society and work centers in their various locations within the country, as well as prepare brilliant and talented students and send them on scholarship to complete their postgraduate studies, as well as enable technicians to enroll in various courses to develop their scientific capabilities and keep them

abreast of everything that is new and useful to their country.

The objectives can be summarized as follows:

1. Forming a basic foundation of the general medical physics curriculum and a smooth and harmonious study plan.
2. Providing an advanced level of education for primary and postgraduate studies, maintaining a solid level of curricula, and constantly updating scientific plans.
3. Prepare the student in a focused manner in the principles of medical physics and the principles of analytical methods required to draw conclusions from physical experiments.
4. Providing the student with the opportunity to deepen his knowledge in the various branches of medical physics so that he can overlook the outskirts of contemporary scientific research.
5. Training the student on the method of scientific research and enabling him to contribute to it under the supervision of capable researchers. From my teaching department.

Qualifying the student with in-depth knowledge and a degree of scientific maturity that enables him to 6

participate effectively in the scientific and technical aspects of development and planning programs.

7. Working to complete applied and basic research in various medical physics specializations.

8. Contributing to advisory services, training, short courses and solving scientific and industrial problems facing the country's development plans.

9. Continuous development of faculty members by sending them to training courses in order to maintain high levels of efficiency and performance.

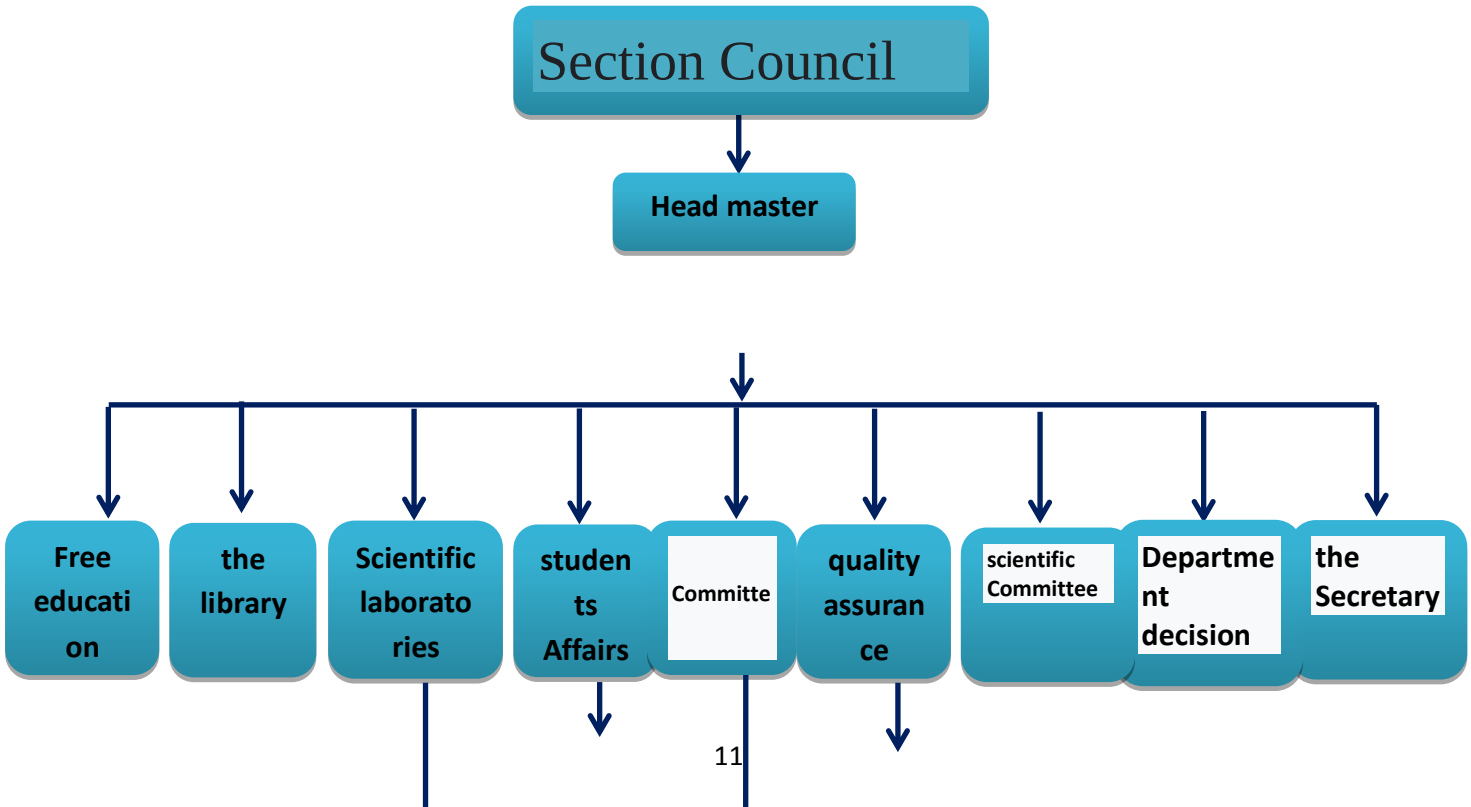
10. Support and encourage scientific cooperation among faculty members in the department and cooperation with other departments in the field of multi-purpose research.

11. Spreading the spirit of competition and encouragement and giving all faculty members the opportunity in the field of research and teaching.

12. Preparing national cadres equipped with basic physical knowledge qualified to contribute to the development of the country and society.

13. sustainable development.

The organizational and administrative structure of the Department of Medical Physics:



Heads of the Department of Medical Physics

year	Head masters	
2013 -2011	**Dr. Mahmoud Suleiman Al-Hasso**	1
2015 -2013	**Dr. Ghada Abdullah Al-Hamdani**	2
2019 -2015	**D. Iman Abdel Moneim Al-Jawadi**	3
2023 -2019	**D. Marwan Zuhair Elias**	4

5	**D. Mahmoud Ahmed Mohamed Fakhry**	**2023- الان**

Department Council Members:

nots	**The scientific title**	**name**	
Head	Instructor	**D. Mahmoud Ahmed Mohamed Fakhry**	**.1**
decided	Instructor	D.Huda Masood Mohamed	**.2**

member	Assistant Professor	D.zyad Dhanon Dawod	**.3**
member	Assistant Professor	D. Inaam Ahmed Hamza	**.4**
member	Assistant Professor	D. Talal Sabhan Saleh	**.5**
member	Instructor	D. Khalid Qasem KHder	**.6**
member	Instructor	D. Aeman Abduljabar Ahmed	**.7**

1. Summary of the most important work at the quality assurance level:
2.
3. Quality area:
4. 1. Writing and implementing boards related to the department’s vision, mission, and goals.
5. 2. Preparing questionnaires for students to evaluate the teaching.
6. 3. Follow up on the implementation of the department’s self-evaluation standards
7. Participation in many seminars, workshops and conferences related to quality within the country.

.8

1. Holding workshops aimed at improving quality in the department.
2. Holding and attending a scientific course on performance evaluation for department members.
3. Preparing posters and work maps before starting the department’s self-evaluation process.
4. Work on periodically coding the new curricula and exam questions.

1. Field of university performance:
2. 1. Completing the department’s annual calendar file.
3. 2. Conduct evaluations of teachers as well as evaluations of employees.
4. 3. Archiving (automation) of information: electronic documentation of information in the Quality Assurance Division of the department.
5. Academic strategic plan:
6. The department's plans include:
7. 1. A plan to accept students in the preliminary studies stage.
8. 2. A plan for accepting graduate students.
9. 3. Plan for scientific research and seminars.
10. Guidance plan, educational activity, and preparation of conferences, seminars, and exhibitions.

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Scientific trips and visits:

Since its establishment, the department has been working to create a state of interaction between theoretical lectures and scientific reality, and what distinguishes medical physics, through visits to hospitals and relevant departments in order to see the reality and link theoretical study with practical study.

Lectures and seminars

The Department of Medical Physics annually develops an integrated program for delivering lectures and seminars in all specializations, in which the department's teachers contribute by discussing the results of various researches that work to develop scientific research. In addition, there are many participations in relevant scientific conferences inside and outside the country that have a scientific return. Contributes to the development of the teaching staff by giving lectures and giving seminars in relation to these conferences.

The department has held many workshops and courses.

✓The most important achievements and activities carried out in the department:

✓⎪ Numbers of research since the establishment of the department: within the Scopus database: 32, international: 14, local: 10

✓⎪ Books written: one book in number.

✓⎪ Continuing education courses and workshops for the self-evaluation year (2023-2024): Planned (14), 9 courses and 5 workshops.

✓Patents:

Patent title	Date obtained	Names of participants in the patent	
High-precision device for examining carryover gels at a low cost	2020/7/1	Dr.. Ayman Muhammad Jabr Dr.. Aseel Abdel Moneim Hussein	.1

✓Department activities on the website:

Website links in English	Website links in Arabic	the address
https://uomosul.edu.iq/en/science/biophysics-department/	https://uomosul.edu.iq/science/%d8%a7%d9%84%d9%81%d9%8a%d8%b2%d9%8a%d8%a7%d8%a1-%d8%a7%d9%84%d8%ad%d9%8a%d8%a7%d8%aa%d9%8a%d8%a9/	**Department website Medical physics**
https://drive.google.com/drive/folders/1eLMMyzRFMbsGXZsv_9rwcXioMMpVa9AA	https://uomosul.edu.iq/science/%d9%85%d8%ad%d8%a7%d8%b6%d8%b1%d8%a7%d8%aa-%d9%82%d8%b3%d9%85-%d8%a7%d9%84%d9%81%d9%8a%d8%b2%d9%8a%d8%a7%d8%a1-%d8%a7%d9%84%d8%b7%d8%a8%d9%8a%d8%a9/	**Lectures link**
https://uomosul.edu.iq/en/science/education-related-links-physics/	https://uomosul.edu.iq/science/%d8%b1%d9%88%d8%a7%d8%a8%d8%b7-%d8%aa%d8%b3%d8%a7%d9%87%d9%85-%d9%81%d9%8a-%d8%b9%d9%85%d9%84%d9%8a%d8%a9-%d8%a7%d9%84%d8%aa%d8%b9%d9%84%d9%8a%d9%85-%d9%84%d9%82%d8%b3%d9%85-%d8%a7%d9%84%d9%81%d9%8a-2/	**Links that contribute to the teaching and learning process**
https://uomosul.edu.iq/en/science/published-research-of-medical-physics-department/	https://uomosul.edu.iq/science/%d8%a7%d9%84%d8%a8%d8%ad%d9%88%d8%ab-%d8%a7%d9%84%d9%85%d9%86%d8%b4%d9%88%d8%b1%d8%a9-%d9%84%d9%82%d8%b3%d9%85-%d8%a7%d9%84%d9%81%d9%8a%d8%b2%d9%8a%d8%a7%d8%a1-%d8%a7%d9%84%d8%b7%d8%a8%d9%8a%d8%a9/	**Scientific research links**
https://uomosul.edu.iq/en/science/projects-of-students-graduations-of-medical-physics-department/	https://uomosul.edu.iq/science/%d9%85%d8%b4%d8%a7%d8%b1%d9%8a%d8%b9-%d8%aa%d8%ae%d8%b1%d8%ac-%d9%82%d8%b3%d9%85-%d8%a7%d9%84%d9%81%d9%8a%d8%b2%d9%8a%d8%a7%d8%a1%d8%a7%d9%84%d8%b7%d8%a8%d9%8a%d8%a9/	**Student project links**
https://cv.uomosul.edu.iq/en/list/science/biophysics	https://cv.uomosul.edu.iq/list/science/biophysics	**CV of teachers**

The comprehensiveness of the website on the department's activities:

Website links in English	Website links in Arabic	the address
https://uomosul.edu.iq/en/science/vision-mission-objectives-medical-physics/	https://uomosul.edu.iq/science/%d8%a7%d9%84%d8%b1%d8%a4%d9%8a%d8%a9-%d9%88%d8%a7%d9%84%d8%b1%d8%b3%d8%a7%d9%84%d8%a9-%d9%88%d8%a7%d9%84%d8%a3%d9%87%d8%af%d8%a7%d9%81-%d9%84%d9%82%d8%b3%d9%85-%d8%a7%d9%84%d9%81%d9%8a%d8%b2%d9%8a/	**Mission, vision and Aims**
https://uomosul.edu.iq/science/	https://uomosul.edu.iq/science/	**College guide**
		Courses
		Patents

Chapter II

ABET accreditation program standards

ABET standards

With regard to academic programs, our college has chosen the ABET program for academic accreditation, and proactive plans have been made to work within this program, under the direct supervision of the Dean of the College and his scientific and administrative assistants, by holding an introductory workshop on the ABET program.

About accreditation:

The Accreditation Board for Engineering and Technology (ABET) is an American non-governmental organization that grants accreditation to academic programs in colleges and universities around the world in the fields of applied sciences, computers, engineering, and technology. It is one of the most trusted academic accreditations in the United States of America. ABET has been providing accreditation certificates to confirm the quality of academic programs in university studies for more than 75 years.

What does ABET accreditation mean:

ABET accreditation is confirmation that the academic program obtained applies the standards of educational quality agreed upon by those with relevant experience in education to prepare and qualify students. Learning

specifications are set in terms of the academic program's mission, learning objectives, learning outcomes, and study plan for engineering programs by experts in engineering education, with confirmation of the existence of mechanisms to ensure that feedback is taken from all its sources and used for continuous improvement of the academic program so that graduates of these programs continue to have the highest specifications, qualifications, and skills they need. The labor market and to ensure that the graduate remains capable of continuous self-learning that enables him to keep pace with developments in his field.

The importance of ABET accreditation:

• ABET accreditation ensures confidence that the academic program has met the basic standards to prepare graduates to enter the fields of science, technology, engineering, and mathematics, which have become a requirement for the global labor market.

• Graduates from an ABET-accredited program have a strong and capable educational foundation that enables them to follow the path of rapid technological innovations and developments.

• Accreditation helps students and their parents choose a reliable specialization, as it guarantees students that their educational experience keeps pace with international

standards for learning and technical education in the vocational field.

• Accreditation gives companies and employers the opportunity to select and employ graduates, knowing that these graduates have been taught the specialty within international standards.

• Enhances job opportunities for the graduate as multinational companies require graduation from an accredited program.

• Registrars, licensors and certificates may use the accreditation to select applicants for these licenses and certificates.

• Accreditation helps universities and departments establish an organized mechanism to evaluate and develop the quality of their programs.

- American Accreditation Authority standards:
- The study aimed to evaluate the current situation of the department, and the extent to which the department achieves the standards to ensure quality, noting that the department, from the beginning, reviewed the experiences of regional and local universities and reached the following fact: The department needs support for a quality management

system to ensure continuous development and improvement of performance, and this in turn requires development and modernization in The management method and its work mechanisms are consistent with international standards for the quality of higher education and achieve compliance with the standards set by the Ministry of Higher Education and Scientific Research/the Scientific Supervision and Evaluation Agency/the Department of Quality Assurance and Academic Accreditation by adopting the program standards.

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- Academic accreditation standards for: ABET
- This report has been organized into several main axes:
-

• - The first axis: Students, which includes student matters and everything related to students, including education, training, activities, admission and graduation mechanisms, and others.

- The second axis: Objectives of the academic program, educational objectives of the programs, and addresses the department’s strategy, objectives, and ways to improve the educational process.

- The third axis: program outcomes

- Fourth axis: continuous improvement of quality.
- The fifth axis: curricula and everything related to study hours, updating, and transfer during the four years.
- The sixth axis: The teaching staff, which includes matters related to the teaching staff in the department and ways to improve them in order to develop the educational process in the department.
- Seventh axis: capabilities and infrastructure of the department.
• - The eighth axis: institutional support.

The first axis: students

Mechanism for registering and accepting students:
The capacity of the Department of Medical Physics is determined within the admission plan sent to the deanship, then to the university, and then the ministry to obtain official approvals.

Application to the college is made through the Registration Division in the Deanship of the College of Science, taking the required official documents, and distributing the students to the college's departments according to the capacity and the student's desire in terms of allowing him to move from the highest department to the lowest department in the hierarchy of departments in the College of Science.

Methods used in evaluating students and graduation requirements:

Graduation requirements for students in the initial stage of study include the following

- Success in all academic subjects, theoretical and practical, with a passing grade of 50 out of 100.
- Summer training: The student must pass the summer training period in one of the hospitals or health centers that can develop his skills, so that he can have a direct experience with practical life. Summer training is a basic requirement for the transition of third to fourth stage students.
- Graduation project: It is one of the requirements for granting a bachelor's degree. The student must complete the graduation project in its fourth stage.

Guidance and advice for students:

Advice and guidance are provided to students by guidance committees. Teachers follow up on students through guidance committees in the department, and an educational guidance program has been developed in the Medical Physics Department for the four stages, to identify students' problems and contribute to solving them.

Graduate Description:

The student who graduated from the Department of Medical Physics can be described as follows:

1. He is a person who has completed his academic studies in medical physics and obtained a bachelor's degree / science / medical physics. Who possesses detailed and accurate specialized information in his science such that this information enables him to work in one of the jobs or centers that qualifies him to work in this aspect of applied sciences.
2. He is the one who has gained extensive experience and scientific and technical information from his studies that have applications in the field of medicine and public health, such that this information enables him to work and practice a profession related to his specialty with complete success.

The certificate is the graduate's field of work	description	department	college	University
Departments or institutions of the Ministry of Higher Education, Scientific Research and Health	B.Sc Medical Physics	Medical Physics	Science	Mosul

Numbers of primary studies students:

• Numbers of students in the Department of Medical Physics for the last six years.

Table (1-1) Admission plan for undergraduate students for the past years

graduates			Accepted			Annual admission plan	Years
The total	female	Male	The total	female	Male		
10	7	3	20	6	14	50	2017-2016
24	9	15	39	15	24	50	2018-2017
48	23	25	42	20	22	50	2019-2018
40	13	27	40	25	15	50	2020-2019
42	21	21	80	50	30	50	2021-2020
38	29	9	44	31	13	50	2022-2021
39	29	10	109	87	22	50	2023-2022
-	-	-	81	69	12	50	2024-2023

- The percentage of female acceptance this year (2023-2024) to the total is 85.185%

- The percentage of male admission this year (2023-2024) to the total is 14.814%

Table (2-1) shows the number of students actually present in preliminary studies

The total	female	Male	stage
81	69	12	First
109	87	22	second
44	31	13	third
72	56	16	fourth
306	243	63	Total summation

Table (3-1) Admission plan for undergraduate students for the past year

Ratio of teaching/student	Number of teaching staff	Number of students	Study
10:1	32	306	graduate

Table (4-1) Percentage of faculty members in the department and their qualifications in relation to the number of students

Ratio of number of faculty members/number of students	the number	Faculty members According to the certificate
19:1	16	Ph.D
19:1	16	Masters

Table (5-1) Ratio of academic ranks of faculty members in the department to the number of students

Ratio of number of faculty members/number of students	**the number**	**Faculty members According to academic rank**
153:1	2	Professor
38:1	8	Assistant Professor
22:1	14	Instructor
38:1	8	Assistant Instructor

Table (6-1) Ratio of faculty members in the department by scientific specialization to the number of students

Ratio of number of faculty members/number of students	the number	Faculty members According to academic rank
15:1	20	Biology sciences
34:1	9	Physics Science
153:1	2	Chemistry Science
306:1	1	English language arts

The second axis: Objectives of the

Program educational objectives:

1. Graduating students familiar with scientific and practical information in the field of medical physics and developing the student's personality to develop it into a

scientific personality capable of understanding and diagnosing scientific problems in society and dealing with them wisely and scientifically based on his scientific stock, and guiding the student educationally during the academic stage and developing his spirit of cooperation for teamwork.

2. Developing the teaching staff, as teaching staff are sent to study outside the country through scholarships, fellowships and development courses in reputable international universities, and openness to international educational institutions such as universities and international research centers and trying to benefit from the capabilities and expertise of these institutions. In addition to opening channels of communication with Iraqi colleges and universities and participating in conferences, scientific seminars, and continuing education courses within the country.

3. Curriculum development.

Academic program components:

The components of the program are those who must be satisfied with the performance according to the Medical Physics programme, and they are:

1. Faculty: Faculty participate on a regular basis in the evaluation of the academic program. Faculty members

are a homogeneous group who work as a team to improve education in the department. Most of the faculty members participate in research.

2. Students: Students are interested in whether the program adequately prepares them for future employment. Students in the program are motivated to become successful researchers who are well-versed in their field to suit their expected future work.

3. Graduates: This group consists of recent graduates and graduates who have been working for 3 to 5 years. Graduates with 3 to 5 years of work experience form an essential part of the evaluation process. They must have incentives to evaluate the quality of the academic program based on their professional achievements.

4. Employers: (Government, industry, universities): Employers' satisfaction with the educational level of our students provides a measure of the program's success. Their satisfaction translates into job opportunities for our students.

The process of setting educational program objectives: The mission of the university, college, and department is to instill in its graduates a solid scientific foundation for the specialty in question, scientific knowledge, and the

development of intellectual skills necessary for excellence in their professional lives.
Emphasis is placed on encouraging faculty members to publish their scientific research in international and Iraqi journals.

Achieving the program's educational objectives:
The evaluation of the objectives of the Medical Physics academic program is checked continuously and periodically through many channels such as employers, student debriefing process, faculty opinions, etc.

The third axis: program outcomes

Program outcomes:
The results of the program are listed below, as the graduating student has successfully acquired all the skills, knowledge, and behaviors found in the results listed below for the purpose of achieving the program objectives. On this basis or descriptive concept, the medical physics graduate must have the following knowledge:

- To possess extensive, detailed and accurate information about the medical and health fields.
- To possess extensive knowledge of physical, chemical and biological concepts and laws in general.
- To be able to analyze, differentiate and accurately diagnose in the biological and laboratory fields.

Fourth axis: continuous improvement

Review program outcomes and student goals:
The Department of Medical Physics at the University of Mosul offers a program leading to the Bachelor of Science degree in Medical Physics.

The program outcomes are reviewed annually with faculty members and relevant committees in the department. To support the program, the department plans to visit various offices and institutions as well as private sector companies to find out their opinions about the department's graduates and their suggestions for improving the program.

Student opinion statement and continuous improvement process:

A questionnaire form is distributed to the department's students at all levels of study at the end of the academic year for the purpose of knowing the accuracy of the department's teaching performance. It consists of 36 items for the years (2020-2022) as below:

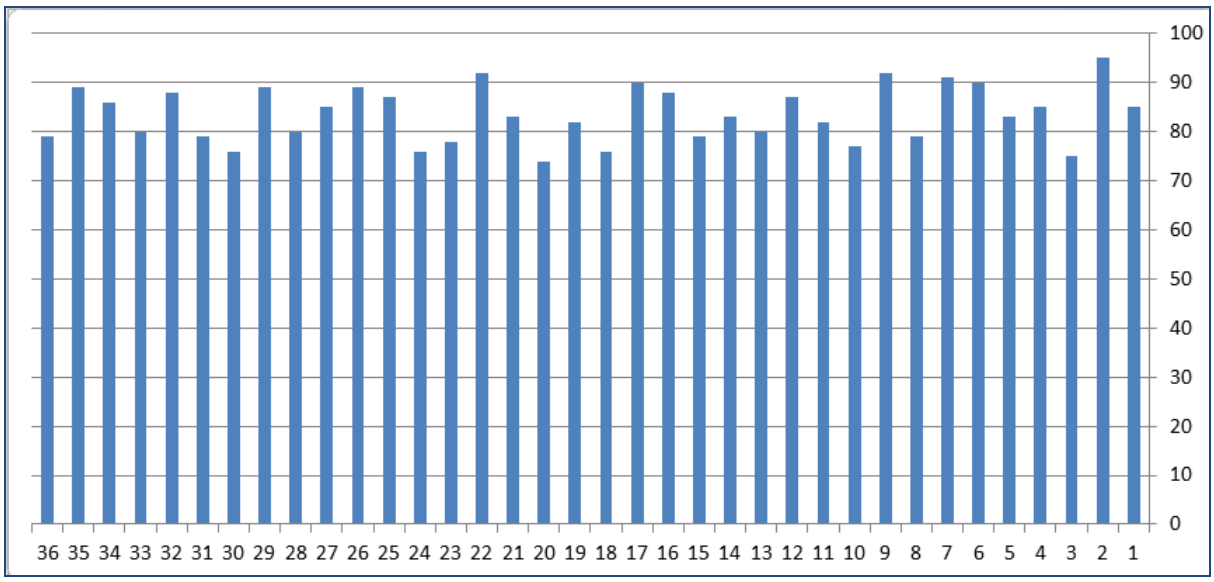
Acceptable	Average	Good	Very Good	Excellent	Paragraphs	
					It takes into account individual differences and psychological characteristics of students.	.1
					Discusses students' answers and inquiries flexibly and accepts other points of view.	.2
					Develops good attitudes, habits and morals in students.	.3
					He uses a variety of educational methods to motivate students.	.4
					It provides cooperative or competitive activities in which students interact with each other.	.5
					His ability to manage time for lectures and adhere to appointments.	.6
					Motivate students to review the references of various scientific subjects.	.7
					Students feel concerned for them and want to benefit them.	.8
					Diversify the questions and take into account the correct timing when asking them during the lecture.	.9
					It addresses students' weaknesses in the academic subject and enhances their	.10

					strengths.	
					He adheres to the scheduled attendance and departure time for the lecture and uses his time well.	.11
					He speaks in a clear voice and understandable language.	.12
					His commitment to scientific aspects during the lecture and not addressing external matters that are not related to the topic of the lecture.	.13
					Diversifying interesting teaching methods and using more than one teaching method during the lecture.	.14
					It provides students with the vocabulary included in the curriculum and its basic sources.	.15
					Distributes the subject matter according to an appropriate timetable known to the students.	.16
					Gradual presentation of scientific material from simple to complex.	.17
					He is good at answering students' questions.	.18
					He focuses on educational guidance whenever the opportunity allows.	.19
					It depends on dialogue and discussion.	.20
					He asks evaluative questions during the lecture and at its conclusion that illuminate the students' creative thinking and measure their understanding of the material.	.21
					It uses oral and written methods and tests.	.22
					Explains how grades are distributed on activities and tests at the beginning of the semester.	.23
					The results of periodic examinations and written work are announced in a timely manner.	.24

					It attracts students' attention throughout the lecture in multiple ways.	.25
					Encourages everyone to actively participate in the lecture.	.26
					Encourages students to use resources and benefit from the library and the Internet.	.27
					Directs the student on ways to avoid academic plagiarism.	.28
					It enables the student to use methods of writing and publishing scientific research in reputable journals.	.29
					He has good relationships with his students.	.30
					Directs the student to use resource arrangement programs in research.	.31
					He welcomes questions from his students outside lecture hours.	.32
					It encourages cooperative work such as (ceremonies, competitions, matches, exhibitions, etc.).	.33
					He conducts live broadcast lectures.	.34

					He publishes video lectures in electronic classes.	.35
					He publishes lectures in the form of PowerPoint slides in electronic classes.	.36
					the total	
					percentage	

Figures (1, 2) represent the statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the years 2020-2021 and 2021-2022, respectively.



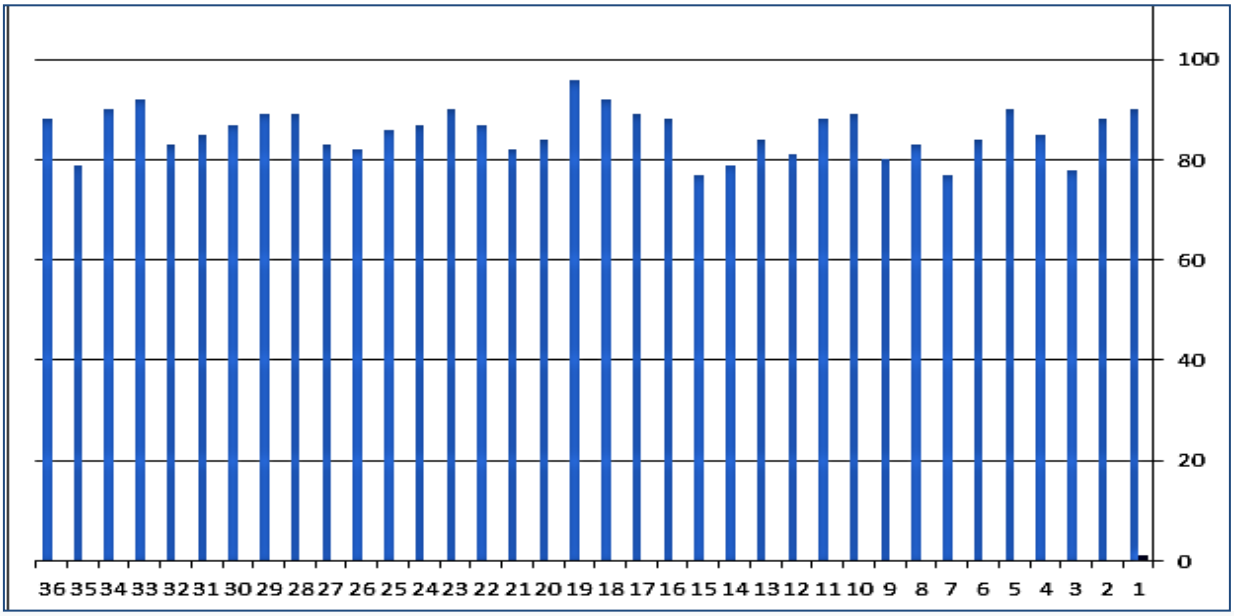


Figure (1) Statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the year 2020-2021

Figure (2) Statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the year 2021-2022

In the years that followed, the electronic ministerial form shown below was circulated:

poor	acceptable	average	good	Very good	Paragraph	
					It paves the way for the lesson and takes into account the sequence in presenting the material in a logical and interesting way	**1**
					Diversify the different teaching methods and methods within the lecture	**2**
					Improves methods of dealing with students and takes into account individual differences	**3**
					Encourages and develops self-learning among students	**4**
					He invests time within the lecturer to enrich the scientific material	**5**
					It uses various traditional and electronic methods in testing and evaluation	**6**
					It provides various cooperative or competitive activities to stimulate students' motivation	**7**
					We monitor the level of students on an ongoing basis for the purpose of enhancing their strengths And address their weaknesses	**8**
					Discusses students' answers and responds to their inquiries flexibly to create a safe learning environment	**9**
					Develops good attitudes, habits and morals among students	**10**

Figures (3, 4) represent the statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the years 2022-2023 and 2023-2024, respectively.

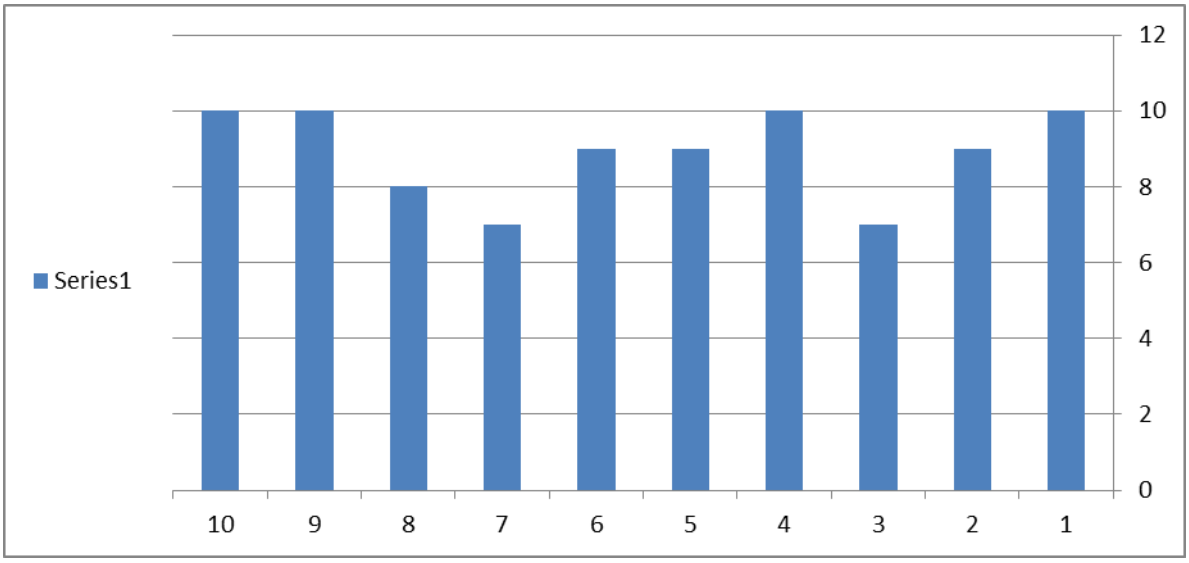


Figure (3) Statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the year 2022-2023

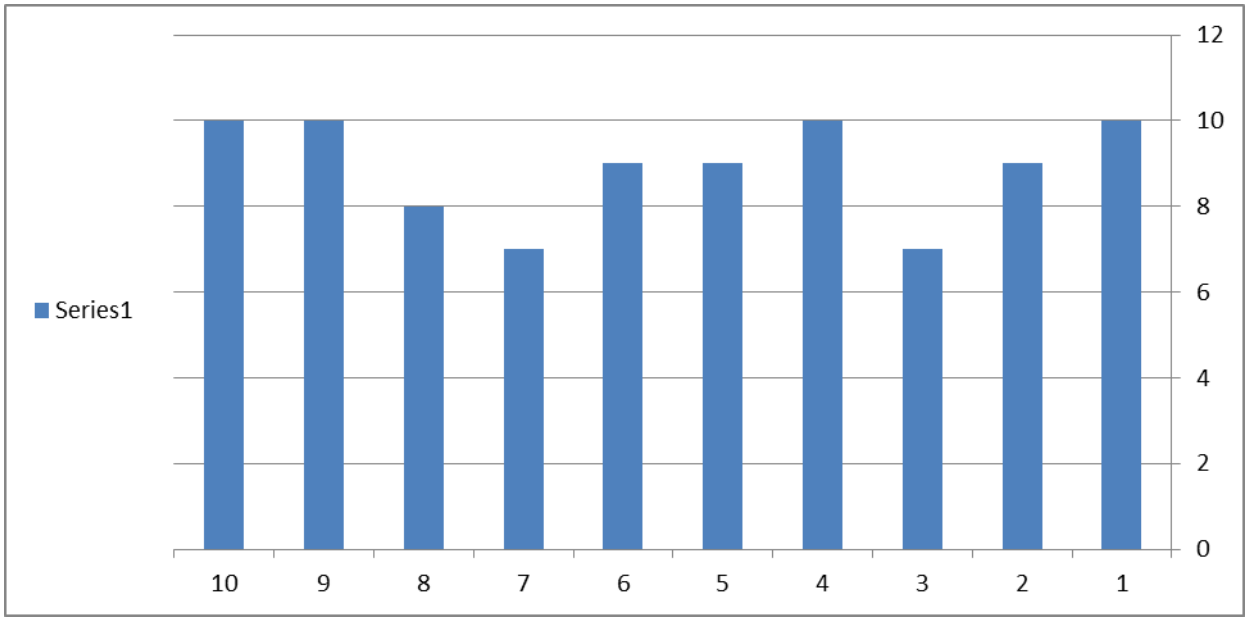


Figure (4) Statistical analysis of a sample of the results of a student opinion questionnaire about a teacher for the year 2023-2024

At the end of the academic year, statistics are also evaluated, which will be considered an indicator of the level of students' progress or not during the educational program and evidence of the level of teaching performance, his ability to deliver the scientific material to the student, and the accuracy of his dealings with students. The statistical results also indicate to us the deficiencies in the academic subjects that the student suffers from.

The fifth axis: the academic

Study programs offered in the Department of Medical Physics:

Curricula:

Description of the academic program

University name: University of Mosul
College/Institute: College of Science
Scientific Department: Department of Medical Physics
Name of the academic or professional program: Bachelor's degree
Name of final degree: Bachelor's (Medical Physics)
Academic system: semester
Description preparation date: 2024

Date of filling the file: 2024

See the program .1
Making strenuous efforts to apply the latest scientific curricula that combine the basics and continuous development to serve the community and excel in disseminating knowledge in the field of medical physics to obtain high levels of performance for faculty members and students.

Program message .2
The department's mission includes updating and disseminating information in the field of various medical physics and making efforts to hone students' talents and develop their capabilities to help develop and advance society and build graduates with professional expertise that will make them enjoy good opportunities locally and globally.

Program Goals .3
4. The Department of Medical Physics aims to: **5. Comprehensively studying medical physics and its applications and uses in society from a theoretical, scientific and applied perspective.** **6. Preparing scientific cadres at the primary and higher levels to work in the medical fields.** **Students acquire scientific techniques in using devices and equipment that can be used in their theoretical and applied studies.** **7. . Students acquire academic and applied information about medical physics and its various trends and specializations.** **8. Providing state institutions and the mixed and private sectors with primary and higher specialized cadres to work in this field.** **9. Research and study everything new in medical physics, keep up with scientific developments in this field, and include them within the prescribed curriculum.**

10. Program accreditation
11. Accredited so far by ABET 12. Waiting for the ministerial accreditation standards that will be launched soon

13. Other external influences
14. Pending ministerial accreditation standards

15. Program structure

Notes *	unit Percentage	Study	Number of courses	Program structure
	4.6	11	5	Enterprise requirements
	08	2	1	College requirements
	94.6	227	42	Department requirements
The student requests summer training at the end of the sixth semester				summer training
nothing				Other

7- Program description

Republic of Iraq – Ministry of Higher Education and Scientific Research	جمهورية العراق - وزارة التعليم العالي والبحث العلمي
University of Mosul	جامعة الموصل
Bachelor's degree in Medical Physics Sciences (First cycle)	بكالوريوس علوم في الفيزياء الطبية (الدورة الأولى)
Four years (Eight semesters) – 240 ECTS credits – 1 ECTS = 25 hr	أربع سنوات (ثمانية فصول دراسية) - ٢٤٠ وحدة اوربية - كل وحدة اوربية = ٢٥ ساعة
Program Curriculum (2023 – 2024)	المنهاج الدراسي للعام ٢٠٢٣-٢٠٢٤

College of Science كلية العلوم

قسم الفيزياء الطبية
Department of Medical Physics

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
One	1	MPH-1101	Electricity and magnetism	الكهربائية والمغناطيسية	English	2		2		2		5	95	105	200	8.00	C	
	2	MPH-1102	Analytical chemistry	الكيمياء التحليلية	English	2		2		2		5	95	105	200	8.00	C	
	3	SCI-101	Mathematics 1	الرياضيات I	English	2						4	34	16	50	2.00	B	
	4	MPH-1103	General Biology 1	احياء عام 1	English	2		2		2		5	95	105	200	8.00	C	
	5	UOM-101	Arabic Language	اللغة العربية	Arabic	2						4	34	16	50	2.00	B	
	6	UOM-104	Human Rights and Democracy	حقوق الانسان والديمقراطية	Arabic	2						4	34	16	50	2.00	B	
					Total	12	1	6	0	6	0	27	387	363	750	30.00		

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
Two	1	MPH-1204	Mechanics	ميكانيك	English	2		2		2		4	79	71	150	6.00	C	
	2	MPH-1215	Mathematics 2	الرياضيات II	English	3				2		4	79	71	150	6.00	S	SCI-101
	3	MPH-1216	General Biology 2	احياء عام 2	English	2		2		2		4	79	71	150	6.00	C	MPH-1103
	4	UOM-103	computer	حاسوب	English	0		3		2		2	48	27	75	3.00	B	
	5	UOM-102	English Language	اللغة الانكليزية	English	2						4	34	16	50	2.00	B	
	6	MPH-1217	Organic Chemistry	كيمياء عضوية	English	2		2		2		4	94	81	175	7.00	C	MPH-1102
					Total	11	0	9	0	10	0	22	413	337	750	30.00		

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
Three	1	MPH-2308	Biophysics	فيزياء حياتية	English	2		2		1		4	79	71	150	6.00	C	
	2	MPH-2319	Optics	بصريات	English	2		2		1		4	79	71	150	6.00	C	MPH-1204
	3	MPH-23010	Atomic physics	فيزياء ذرية	English	2		2		1		4	79	71	150	6.00	C	
	4	MPH-23111	Physiology	فسلجة	English	2		2		1		4	79	46	125	5.00	S	MPH-1216
	5	MPH-23112	Electromagnetic waves	موجات كهرومغناطيسية	English	2	1			1		3	63	62	125	5.00	C	MPH-1101
	6	U0M-201	Crimes of Baath Party	جرائم حزب البعث	Arabic	2						4	34	16	50	2.00	B	
					Total	10	0	8	0	5	0	19	379	321	750	30.00		
Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
	1	MPH-24013	Medical imaging	التصوير الطبي	English	2		2		1		4	79	71	150	6.00	C	
Four	2	MPH-24114	Molecular biology	بايولوجي جزيئي	English	2		2		1		4	79	46	125	5.00	C	MPH-1216
	3	MPH-24115	Bioelectronics	الالكترونيات الحيوية	English	2		2		1		4	79	71	150	6.00	C	MPH-1102
	4	MPH-24016	Healthy culture	الثقافة الصحية	English	2				1		3	48	27	75	3.00	C	
	5	MPH-24017	Heat and Thermodynamic	حرارة وثرموداينمك	English	2		2		1		4	79	46	125	5.00	C	
	6	MPH-24118	Phonetics Science	علم الصوتيات	English	2				1		3	48	77	125	5.00	S	MPH-1204
					Total	12	0	8	0	6	0	22	412	338	750	30.00		

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
	1	MPH-35019	Medical Physics 1	فيزياء الطبية 1	English	2		2		1		4	79	46	125	5.00	C	
Five	2	MPH-35120	Anatomy	تشريح	English	2		2		1		4	79	46	125	5.00	C	MPH-23111
	3	MPH-35021	Biostatics	احصاء حيوي	English	2		2		1		4	79	21	100	4.00	S	MPH-1215
	4	MPH-35122	Physics of Diagnostic radiology	فيزياء الاشعة التشخيصية	English	2		2		2		4	94	56	150	6.00	C	MPH-24013
	5	MPH-35123	Laser Basics	اساسيات الليزر	English	2		2		2		4	94	56	150	6.00	C	MPH-23118
	6	MPH-35024	**elective course1** (Medical Immunology + Medical Bacteriology + Medical Parasitology + Genes and Diseases	اختياري 1	English	2				1		3	48	52	100	4.00	E	
					Total	12	0	10	0	8	0	23	473	277	750	30.00		

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
Six	1	MPH-36125	Medical Terminology	مصطلحات طبية	English	2				1		3	48	52	100	4.00	S	U0M-102
	2	MPH-36126	Biochemistry	كيمياء حياتية	English	2		2		1		4	79	46	125	5.00	C	MPH-23111
	3	MPH-36027	Physics of nuclear medicine	فيزياء الطب النووى	English	2		2		1		4	79	71	150	6.00	C	
	4	MPH-36128	Medical laser applications	تطبيقات الليزر الطبية	English	2		2		1		4	79	71	150	6.00	C	MPH-35123
	5	MPH-36129	Analoge electronics	الكترونيات تماثلية	English	2		2		1		4	79	46	125	5.00	C	MPH-23112
	6	MPH-36030	**elective course2** (cellular and genetics disorders + Medical Plants and Toxicology+ Medical Labrotory Analysis + medical Virology	اختياري 2	English	2				1		3	48	52	100	4.00	E	
					Total	12	0	8	0	6	0	22	412	338	750	30.00		

Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
Seven	1	MPH-41131	Medical image processing and analysis	تحليل ومعالجة الصور الطبية	English	2		2		1		4	79	71	150	6.00	C	MPH-24013
	2	MPH-47032	Medical instrumentation physics	فيزياء الاجهزة الطبية	English	2		2		1		4	79	46	125	5.00	C	
	3	MPH-47133	Radiotherapy Physics	فيزياء العلاج الاشعاعي	English	2		2		1		4	79	71	150	6.00	C	MPH-36027
	4	MPH-47134	Digital electronics	الالكترونيات الرقمية	English	2		2		1		4	79	46	125	5.00	C	MPH-36129
	5	MPH-47035	**elective course3 (** Medical Antimicrobial + Biotechnology + Medical Labrotory instruments)	اختياري 3	English	2				1		3	48	52	100	4.00	E	
	6	MPH-47036	Research Methodology	منهجية بحث	English	2						3	33	67	100	4.00	C	
					Total	12	0	8	0	5	0	22	397	353	750	30.0		
Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	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)	Semn (hr/w)							
eight	1	MPH-48137	Medical Physics 2	الفيزياء الطبية2	English	2		2		1		4	79	71	150	6.00	C	MPH-35019
	2	MPH-48138	Neurophysics	فيزياء الاعصاب	English	2		2		1		4	79	71	150	6.00	C	MPH-36126
	3	MPH-48039	Material science and nanotechnology	علم المواد والنانوتكنولوجي	English	2				1		4	49	76	125	5.00	C	
	4	MPH-48040	Biomaterials	مواد حيوية	English	2				1		4	49	76	125	5.00	C	
	5	MPH-48041	**elective course4** (Physiology of Inficious diseases + Behavior and sensing from micro to human + Medical Bioinformatics	اختياري 4	English	2				1		3	48	52	100	4.00	E	
	6	MPH-48142	Research project	مشروع بحث تخرج	English			2			1	3	48	52	100	4.00	C	MPH-47036
					Total	10	0	6	0	5	1	22	352	398	750	30.0		
					Total	91	1	63	0	51	1	179	3225	2725	6000	240.0		**Must be 240 ECTS**

CL	Class Lecture				
Lab	Laboratory				
Pr	Practical Training	**Module type**	**B**	Basic learning activities	**SWL:** Student Workload
Tut	Tutorial		**C**	Core learning activity	**SSWL:** Structured SWL
Lect	Online lecture		**S**	Suport or related learning activity	**USSWL:** Unstructured SWL
Semn	Seminar		**E**	Elective learning activity	

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

8- Expected learning outcomes of the programme

Knowledge	
	Students who hold a bachelor's degree in medical physics are expected to have acquired the following skills: 1. Acquiring basic concepts in medical physics and using laboratory and analytical techniques. Using applied skills and laboratory and field techniques to analyze and interpret data, evaluate wealth, and find solutions to related medical and health problems, taking into account general safety conditions in the laboratory and field.
skills	
	1 - The student was able to teach the subject of medical physics 2- The student will be able to work in laboratories and medical institutions. 3 - Enables the student to work in research institutions
	thinking skills 1- Short surprise exams 2- Semester exams Generic and transferable skills (other skills related to employability and personal development) 1- The ability to work in a multidisciplinary team 2- The ability to communicate constructively
value	
	1. Understand the ethical and professional responsibilities and recognize the economic, environmental, societal and global consequences of technical and scientific solutions to medical and health problems. The ability to communicate effectively and work as a team**.**

9. Teaching and learning strategies

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

10. Evaluation methods.

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

11- The teaching staff
Faculty members

Preparing the teaching staff		Special requirements/skills (if any)		Specialization					Scientific rank
lecturer	cadre			specialization				nomber	
				English Language	Chemistry	Biology Sciences	Physics		
	2					2		2	Professor
	8					5	3	8	Assistant Professor
	15				2	8	5	15	Instructor
	7			1		5	1	7	Assistant Instructor

Faculty members in the department according to specific specializations

Preparing the teaching staff		Special requirements/ skills (if any)	Specialization		Scientific rank
lecturer	personnel		Specialize	general	
	Permanent personnel number1		Animal/parasites	biology	Professor number1
	Permanent personnel number1		Micro biology	biology	
	Permanent personnel number1		Nano semiconductors	physics	Assistant Professor number8
	Permanent personnel number1		Laser	physics	
	Permanent personnel number1		Medical physics	physics	
	Permanent personnel number2		Micro biology	biology	
	Permanent personnel number1		Partial microscopic biology	biology	
	Permanent personnel number1		Animal/physiology	biology	
	Permanent personnel number1		Plant/life technologies	biology	
	Permanent personnel number1		biochemistry	chemistry	Instructor

	Permanent personnel number1		Organic chemistry	chemistry	number15
	Permanent personnel number3		Solid state physics	physics	
	Permanent personnel number1		Materials science	physics	
	Permanent personnel number1		Radiation physics	physics	
	Permanent personnel number1		Germs	biology	
	Permanent personnel number4		microbiology	biology	
	Permanent personnel 1 number1		Bio technologies	biology	
	Permanent personnel number2		animal	biology	
	Permanent personnel number1		Computational theoretical physics	physics	Assistant Instructor number7
	Permanent personnel number4		plant	biology	
	Permanent personnel number1		animal	biology	
	Permanent personnel number1		Linguistics	English Language	

Professional development
Orienting new faculty members
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. 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.** **Creating and developing information bases and resources related to faculty members.**

8- Acceptance standard
Admission is central

9. The most important sources of information about the progra
Program development through **● Higher directives** **● What new sciences are developed in the field of specialization**

10. 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 char														
Learning outcomes required from the programme														
valeu		skilles						Knowledge				Basic learning activities Core learning activity	Course name	Course Code	Year/level
2	1	2d	1d	2c	1c	b	١			2	1				
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**Electric and magnetic**	MPH-1101	**Semester 1**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**analytical chemistry**	MPH-1102	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	**Mathematics I**	SCI-101	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**General biology I**	MPH-1103	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	**Arabic language**	UOM-101	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	**Human rights and democracy**	UOM-104	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**mechanical**	MPH-1204	**Semester 2**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	**Mathematics II**	MPH-1215	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**General biology II**	MPH-1216	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	**computer**	UOM-103	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	B	**English language**	U0M-102	

✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**Organic chemistry**	MPH-1217	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**Medical physics**	**MPH-2308**	**Semester 3**
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**optics**	MPH-2319	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	C	**Atomic physics**	MPH-23010	
✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	S	**physiology**	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	

Compatibility of the curriculum with the program's educational objectives:

The College has full authority to determine, review, implement and achieve the educational objectives of the program. The primary role of the College is to establish, review and evaluate program topics as well as set and review the educational objectives of the program and ensure the achievement of student outcomes. Therefore, the above process ensures that the curriculum is aligned with the educational objectives of the program as shown in the various tables. The Department of Medical Physics ensures that students receive all scientific analyzes within the context of the science programme.

The sixth axis: the teaching staff

Administrative regulation:

The Head of the Department of Medical Physics is responsible for all aspects of department management. The department has an administrative system with a clear structure in terms of responsibilities, and the administrative work in the department is distributed within an organizational structure. Note that the program of the Department of Medical Physics is determined by the Department Council, which in turn sets the foundations and controls for implementing the program since the beginning of the academic year, while providing the opportunity for faculty members to contribute to making this policy through their participation in the various department committees, which in turn submit recommendations to the department management for the purpose of Take it into account when making decisions.

a. Description of faculty members in the Department of Medical Physics:

The Department of Medical Physics is distinguished by a teaching staff from all precise specializations in physics, life sciences, and chemistry, and from foreign and Iraqi universities. The department includes 32 teaching staff, distributed according to their certificates and academic titles in the following table:

academic degree							Certificate of		Number of teaching staff
Assistant Instructor	Instructor		Assistant Professor		Professor		outside diameter	Inside diameter	
8	master	PhD	master	PhD	master	PhD	5	27	32
	7	7	1	7		2			

a. Names of teaching staff for the Department of Medical Physics for the year 2023-2024:

University email,	general and exact specialty,	academic title,	certificate,	full name and surname	
marwanzt@uomosul.edu.iq	Physics/nano semiconductors	Assistant Professor	Ph.D	Marwan Zuhair Elias	1.
drmahmoudahmed@uomosul.edu.iq	Chemistry/Biochemistry	Instructor	Ph.D	Mahmoud Ahmed Muhammad Fakhri Al-Dabbagh	2.
profdrsundusalkallak@uomosul.edu.iq	Life/animal sciences	Professor	Ph.D	Sondos Nazir Hamid Al Kalak	3.
mahmoodalhasso@uomosul.edu.iq	Life sciences/microbiology	Professor	Ph.D	Mahmoud Zaki Suleiman Al-Hasso	4.
dr.zeyadalrassam@uomosul.edu.iq	Life Sciences/Microbiology	Assistant Professor	Ph.D	Ziad Thanoun Daoud Mustafa the painter	5.

drranaaltaee@uomosul.edu.iq	Life sciences / life sciences	Assistant Professor	Ph.D	Rana Tariq Yahya Qasim Al Qasim Agha	**6.**
qusaykhatab@uomosul.edu.iq	Physics/Medical Physics	Assistant Professor	Ph.D	Qusay Khattab Omar Khattab Al-Dulaimi	**7.**
dr.enaamhamza@uomosul.edu.iq	Life/animal sciences	Assistant Professor	Ph.D	Inaam Ahmed Hamza Hussein Al-Daghistani	**8.**
talal.salih@uomosul.edu.iq	Life sciences/molecular microbiology	Assistant Professor	Ph.D	Talal Subhan Saleh Al-Salami	**9.**
rafidahmed@uomosul.edu.iq	Laser physics	Assistant Professor	Ph.D	Rafid Ahmed Abdullah Al-Abdali	**10**
khalid.alshawi@uomosul.edu.iq	Solid state physics	Instructor	Ph.D	Khaled Qasim Khader Al-Obaidi	**11**
	Solid state physics	Instructor	Ph.D	Ziad Ghazi	**12**
aymen.abd@uomosul.edu.iq	Materials Science Physics	Instructor	Ph.D	Ayman Abdel-Jabbar Ahmed	**13**
aseelallayla@uomosul.edu.iq	Life Sciences/Bacteriology	Instructor	Ph.D	Aseel Abdel Moneim Hussein tonight	**14**
Sumaya.adnan@uomosul.edu.iq	Life Sciences/Microbiology	Instructor	Ph.D	Sumaya Adnan Saleh	**15**
Huda.phy@uomosul.edu.iq	Solid state physics	Instructor	Ph.D	Hoda Masoud Muhammad Hussein	**16**
omrsbio82@uomosul.edu.iq	Life sciences/microbiology	Assistant Professor	Master's	Omar Muayyad Muhammad Tawfiq Al-Obaidi	**17**
Jasim.yaseen@uomosul.edu.iq	Life sciences/life technologies	Instructor	Master's	Jassim Mohammed Yassin	**18**
shaimaa.talal.atalla@uomosul.edu.iq	Radiation physics	Instructor	Master's	Shaima Talal Atallah Al Dabbagh	**19**
emanmuwafiq@uomosul.edu.iq	Chemistry/organic chemistry	Instructor	Master's	Iman Muwaffaq Ramadan Mullah Hussein	**20**
samaheralneame@uomosul.edu.iq	Life/animal sciences	Instructor	Master's	Samaher Hazem Sultan Al Nuaimi	**21**
dalobio121@uomosul.edu.iq	Life sciences/microbiology	Instructor	Master's	Dalia Abdel-Ilah Muhammad Rahawi	**22**
hiba.khaleel@uomosul.edu.iq	Life sciences/microbiology	Instructor	Master's	Heba Khalil Saeed Al-Shakarji	**23**
raghad.riyadh@uomosul.edu.iq	Life sciences/microbiology	Instructor	Master's	Inaam Ahmed Hamza Hussein Al-Daghistani	**24**
nadia.alhamdaney@uomosul.edu.iq	Computational theoretical physics	Assistant Instructor	Master's	Nadia Adel Saeed Khalil Al-Hamdani	**25**
Mohmsbio118@uomosul.edu.iq	Herbal/botanical sciences	Assistant Instructor	Master's	Muhammad Abdullah Ahmed	**26**

Noor.atarbashi@uomosul.edu.iq	Life/animal sciences	Assistant Instructor	Master's	Nour Mazen Abdel Rahman	27
Younis.h81@uomosul.edu.iq	English language	Assistant Instructor	Master's	Younis Hamad Ahmed Al-Jubouri	28
Sajaobady7@uomosul.edu.iq	Life/animal sciences	Assistant Instructor	Master's	Saja Hussein Ali Abd	29
aleenmowafaq@uomosul.edu.iq	Herbal/botanical sciences	Assistant Instructor	Master's	Elaine Muwaffaq Khalil Jumaa	30
Sara92mh@uomosul.edu.iq	Herbal/botanical sciences	Assistant Instructor	Master's	Sarah Muhammad Hamad Khanjar	31
Aminaismmail91@uomosul.edu.iq	Herbal/botanical sciences	Assistant Instructor	Master's	Security Ismail Abdel Hamid	32

B. Administrators and support staff

List of undergraduate names for the year 2023-2024

	Full Name	Job title
.1	Lama Hazem Saeed	Assistant Chief Chemists
.2	Watif Badr Bassem	Assistant Chief Chemists
.3	Hudhayfa Muhammad Sheet	Associate Chief Biologist
.4	Heba Muzaffar Mahmoud	Senior biology
.5	Muhammad Muharib Muhammad	My physical assistant
.6	Hozan Rommel Zyur	My physical assistant
.7	Marwa Ammar Abdullah	My physical assistant
.8	Ghaith Mahmoud Ayoub	Associate Engineer

List of employee names for the year 2023-2024

Job title	the name	
Queries employee	Muhammad Sami Awni	.1

The seventh axis: the department's

Study buildings and laboratories:
The department occupies the third and fourth floors of a building shared with the Department of New and Renewable Energies.
The department includes administrative offices, classrooms, laboratories, a library, and other annexes. As shown below:

Classrooms:

The department has 7 classrooms qualified to receive students at the preliminary studies level, equipped with most of the needs and illustrative means for giving lectures and scientific discussions.

Laboratories:

The laboratories in the Department of Medical Physics are shown in the following table:

Laboratory uses (primary, superior)	Number of weekly working hours in the laboratory	Laboratory readiness %	number of devices	Number of students	Laboratory area m2	Laboratory name	
أولية	24	%50	5	30	100 م^2	**Medical Physics Laboratory 1 MPhy.1))**	1
أولية	24	%90	20	30	100 م^2	**Medical Physics Laboratory 2 (MPhy.2)**	2
أولية	22	%75	10	30	100 م^2	**Medical Physics Laboratory 3 MPhy.3))**	3
أولية	24	**80%**	13	30	100 م^2	**Medical Physics Laboratory 4 MPhy.4))**	4
أولية	18	**60%**	20	25	81 م^2	**Medical Physics Laboratory 5 MPhy.5))**	5

Library and references:

Department library

The department owns a library that includes (584) books, scientific references, and periodicals in various scientific disciplines issued by Iraqi and international scientific

publishing houses, as well as periodic CDs of books and modern research. In addition to the presence of a hall attached to the library that is qualified for reading and equipped with air conditioning devices as well as other obedience requirements, the department seeks to expand the library as much as possible by supplying the library with the latest modern editions of auxiliary books, including printed books and electronic books.

Free education

The department has a free education unit that contains more than 1,984 methodological and auxiliary books.

The eighth axis: institutional support

Supporting the educational institution in terms of financial resources and constructive leadership must be effective to ensure the sustainability and value of the program. Resources must be prepared to ensure the continuity and operation of all facilities and laboratory equipment related to the program, in addition to supporting the service-related items.

The Department of Medical Physics is affiliated with the College of Science at the University of Mosul. The College of Science contains the Accounts Division, which manages financial matters at the college level. Add to this some contributions from international organizations and civil society organizations. However, these contributions constitute only a small portion of government allocations. Therefore, the main source of financial support for departments is from government allocations.

Government allocations to the department:

The allocations included the provision of a fire system, laboratory equipment, and classroom chairs.

Chapter III

Results and analysis using (SWOT) And improvement plan

SWOT analysis system:
SWOT analysis is known as the framework that is used to evaluate a company or institution, identifying its strengths and weaknesses, and identifying the opportunities and threats it may be exposed to. It is also called the “SWOT matrix” or the “SWOT analysis tool.” This analysis is not limited to projects only, but rather includes several other fields such as marketing, human development, and business management. The emergence of this analysis goes back to experts at Stanford University, where this analysis was conducted between 1960 and 1970 under the supervision of Albert Humphrey, with the aim of determining the reasons for the failure of joint planning, the resulting economic problems, and how to address them.

Importance of SWOT Analysis:
SWOT analysis is responsible for helping projects improve their position in the market, as its importance stems from the fact that it works on:
1. Show strengths and exploit them to achieve project goals.
2. Show weaknesses, work to correct them and benefit from them.
3. Explore good opportunities and benefit from them in developing the project.
4. Study potential threats to the project, and work to avoid them.
5. Develop alternative plans, supplementary plans, and emergency arrangements for the project.
6. Work on marketing strategies, so that they are creative and distinctive.
7. Prepare a risk management plan for the project.
8. It helps measure the project's performance compared to its competitors in the market.
9. Knowing and identifying tools that help develop project performance.
SWOT analysis is used in the strategic planning process, as it is an important tool for exploring opportunities for success and where threats are located.

SWOT Analysis Elements:
SWOT analysis is an abbreviation of four words in the English language that represent the elements on which the analysis is based. These elements relate to the external and internal environment of the project, which are:
Strengths S
Weaknesses
Opportunities
T Threats

Results :
The results of the self-evaluation study showed the extent to which the standards were met as follows:

Degree of conformity			Standard name	Standard number
Completely	partially	does not exist		
✓			Students	1
✓			Objectives of the educational program	**2**
✓			Program outputs	**3**
	✓		Continuous quality improvement	**4**
✓			educational subjects	**5**

✓			education institution	**6**
	✓		The capabilities and infrastructure of the department	**7**
	✓		Institutional support	**8**

Analyze the results using SOWT

The first axis: students

- **strength point:**
- • Provides modern resources and books for them and provides free education books for primary studies students.
- • The educational institution provides a clear, specific and announced admission policy.

- • Introductory and instructive booklets for student services are available, which are the student's guide.
- • The department's sponsorship of artistic and sports activities
- • There are mechanisms for activating communication with graduates.
- **Weaknesses:**
- • Accepting students to colleges on a central basis sometimes does not reflect the students' desire.
- • There are no foreign students.
- • The small number of scholarships available to students at reputable international universities.
- **Opportunities:**
- • Developing scientific visit programs to enhance the practical aspect of students.
- • Modernizing studies and curricula and focusing more on extracurricular scientific activities.
- **Risks:**
- • Reflection of the risks of the security situation on the lives of students.
- • Lack of job opportunities after graduation, which affects students' motivation
- Improvement plan:
- • Providing financial support to develop scientific, artistic, sports, cultural, and other capabilities and encouraging students to participate in fields that suit their interests and needs.
- • Improving teaching and learning through continuous evaluation.
- • Continuous development of the infrastructure of the department and the department as a whole.
- • Encouraging teamwork among students

The second axis: Objectives

strength point:
* Publishing the mission, vision, and goals of the university, college, and department on their websites.

Weaknesses:

• There is no mission and vision for the educational program level.
• The lack of a mechanism to activate relations between the corresponding departments and colleges at the Arab and international levels.

Improvement plan:
* Disseminate the content and message of the department outside the institution by presenting it to stakeholders in society, such as parents of students.
* A plan must be developed to build relationships between the institution and international institutions.
* A clear strategy must be drawn up and followed to measure the criterion for achieving the goal.
* Forming a unit to develop students' non-athletic talents, noting that the college contains a sports unit in addition to sports, which already exists.

The third axis: program

- strength point :
- • Publishing the educational objectives of the university, college and department on their websites as well.
- • The teaching methods are appropriate, which facilitates the teaching work to develop the lecture method.
- • There is a research orientation in the department.
- • Strengthening the cooperation mechanism with society through cooperation mechanism channels.
- • Follow an organized approach in the department regarding the distribution of responsibilities and management in the department.
-
-
- Weaknesses:
- • Limited training and development courses for teaching and administrative staff.

- • Limited allocations for scientific research, fees for lectures, supervision of postgraduate studies, and scientific evaluation.
- • Limited opportunities to exchange experiences with external universities.
-
- Opportunities:
- • Interest in obtaining accreditation.
- • Signing a memorandum of understanding with different universities.
- • State institutions and the private sector in Iraq need researchers specializing in medical physics.
- • The need for a number of department members to contribute and benefit from agreements with corresponding universities.
- • Enhancing the practical aspect and exchanging experiences through joint seminars and conferences with many parties and field visits.

Risks:
• Lack of awareness of the importance of medical physics in all different areas of life.
• Lack of awareness of the extent of health problems.
Improvement plan
• Develop a plan and prepare a team to make visits to the institutions where college graduates work to learn about their scientific competencies.
• Conducting a survey of graduates in the labor market.
• The educational institution prepares annual evaluation reports on the contributions it has made to society in detail.
• Setting a dedicated budget to organize student training programs in specialized institutions locally and internationally.

Fourth axis: continuous improvement

- strength point:
- • The department began the process of continuous evaluation, evaluation and improvement.
- • The preparation of the course portfolio began through lectures and ongoing advice to the faculty by the department's Quality Assurance Committee and the Dean's Office.
- Weaknesses:
- • Lack of sufficient green spaces.
- Opportunities:
- • Continuous encouragement and support from the Dean's Office and the Dean personally of the departments.
- Risks:
- • Lack of financial support.
- • Lack of modern tools, methods and techniques used in teaching and learning.

-
- **Improvement plan**
- • There is a serious interest in addressing these weaknesses through instructions from the dean sent to each department. These instructions are: the necessity of providing the largest number of classrooms and equipping them with all the modern methods used in the traditional as well as electronic education method. Each department in the college should also be trained by experts to familiarize faculty members with new teaching and learning methods and encourage faculty members to use them.
- • Identifying additional programs and courses for outstanding students.
- • Conduct an evaluation of educational outcomes so that they are compatible with local and international standards.
- • Adopting other types of education (open education, distance education).
- • Increase financial support for the department/section.

The fifth axis: the academic

- strength point :
- • Scientific topics consist of sciences that are appropriate to the student's field of study.
- • Teaching methods enhance student learning in the department.
- • A special committee, the Curricula Evaluation and Review Committee, writes their proposals, if any, to develop the curriculum.
- Weaknesses:
- • The curriculum does not help students learn the principle of teamwork.
- • The absence of mechanisms for taking the opinions of those concerned with the labor market into the program.
- Opportunities:
- • Coordinating with international university faculties and accrediting their programs in order to reduce time and effort to reach an advanced stage in curriculum development.
- • Redesigning curricula to allow for interdisciplinary teaching and learning.

Risks: • Failure to meet the changing labor market requirements and development through school curricula due to rapid developments in all fields.
Improvement plan:
• Increasing the number of agreements with corresponding departments in reputable international universities to develop curricula and hosting curriculum experts in international universities to discuss mechanisms for evaluating and developing them.
• Increased financial support and increased number of agreements with corresponding departments in international universities.
Al-Rasaina for Curriculum Development
• Develop a plan to study the curricula to be developed and select the corresponding departments.
• Curriculum development should be more flexible and generally controlled by the college.
• The curriculum must include the principle of teamwork.

The sixth axis: the teaching

strength point:
• The teaching methods are appropriate, which facilitates the teaching work to develop the lecture method.
• There is a very good research orientation in the department.
• Strengthening the cooperation mechanism with society through cooperation channels.
• Follow an organized approach in the department regarding the distribution of responsibilities and management in the department.
Weaknesses:
• Limited training and development courses for teaching and administrative staff.
• Limited allocations for scientific research, fees for lectures, supervision of postgraduate studies, and scientific evaluation.
• Limited opportunities to exchange experiences with external universities.
Opportunities:

• The need for a number of department members to contribute and benefit from agreements with corresponding universities.
• The need to benefit from the expertise of departments related to the department to develop curricula to serve the health and environmental reality in the city.
•
The Foundation allocates some incentive rewards and certificates of appreciation to creative and distinguished faculty members in the fields of teaching, scientific research and community service.
• The institution adopts some rules to develop the professional capabilities of faculty members
• Enhancing the practical aspect and exchanging experiences through joint seminars and conferences with many parties and field visits.
• Opportunities to sign research cooperation contracts with state institutions to serve society and direct research towards the applied direction.
Risks:
• The modest experience of some teachers sometimes prevents the proper implementation of the curriculum.

Seventh axis:

- strength point :
- • Some laboratories are equipped with good equipment.
-
- Weaknesses:

- • The department needs sufficient additional offices for faculty members and an expansion of laboratories.
- • It is necessary to provide the department and laboratories with modern and advanced devices and equipment.
- • The department needs an elevator.
-
- Opportunities:
- • Developing the laboratory by subjecting it to calibration and quality requirements.
- • Encouraging cooperation with state departments to act as a bridge between the university and society.
- • Classrooms and laboratories must be available with modern equipment that is compatible with the objectives of the program and provides an appropriate educational environment.
- • Providing these requirements is necessary to increase interaction between the teaching staff and students and create an appropriate and encouraging climate for the growth and development of the profession.
- • The program must provide an opportunity for students to learn and use the latest scientific equipment
- • Information technology infrastructure must be available to support the educational activities carried out by students and teachers and the educational objectives of the program and the educational institution.
-
- Risks :
- • The continued limited financial allocations lead to a narrow location in the department and limited laboratory halls.
- • Limited development of laboratory equipment due to financial allocations and severe routine in this field.
- Improvement plan:
- • Providing an elevator for the department.

The eighth axis:

strength point:
• Good teaching income.

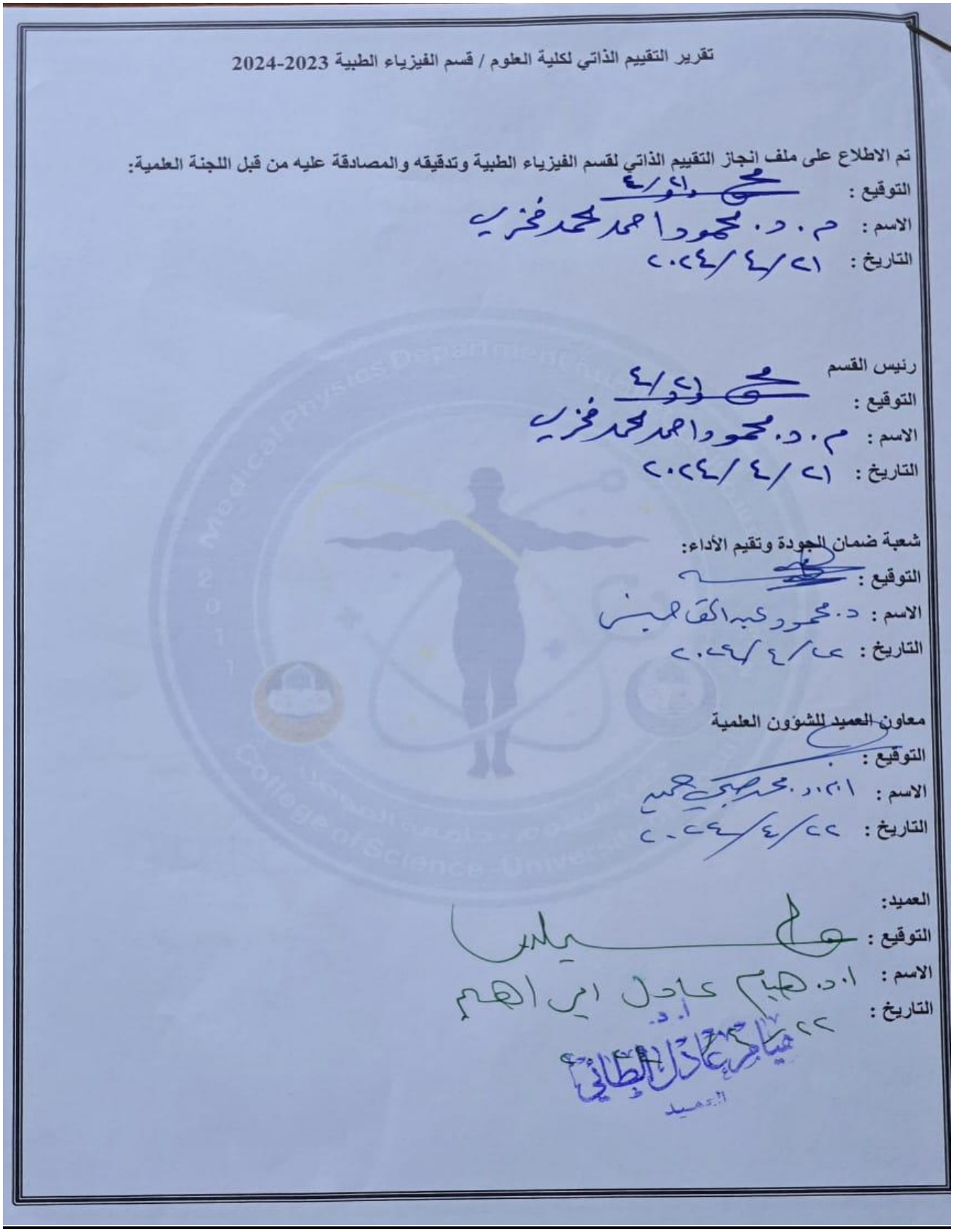
Weaknesses:
• Purchasing procedures are complex and restricted.
• Insufficient funding for research and purchasing the necessary devices and equipment.

Risks :

• Financial corruption and the security situation that affects the state and its capabilities in general.

Improvement plan:
• Adopting self-financing sources.
• Increase funding for maintaining devices and equipment and purchasing new devices.
• Ensuring integration between material resource planning and the college plan and providing financial appropriations.
• Preparing intensive training and professional development programs for specialists in the field of active investment.
• - The college must have the ability to make appointments, retirement, or transfer of employees.

Approving and auditing the file for completing the self-evaluation report on ABET standards for the Department of Medical Physics



تقرير التقييم الذاتي لكلية العلوم / قسم الفيزياء الطبية 2023-2024

تم الاطلاع على ملف انجاز التقييم الذاتي لقسم الفيزياء الطبية وتدقيقه والمصادقة عليه من قبل اللجنة العلمية:

التوقيع :

الاسم : م. د. محمود احمد محمد مخزي

التاريخ : ٢١/٤/٢٠٢٤

رئيس القسم

التوقيع :

الاسم : م. د. محمود احمد محمد مخزي

التاريخ : ٢١/٤/٢٠٢٤

شعبة ضمان الجودة وتقييم الأداء:

التوقيع :

الاسم : د. محمود كبه اكف لهيس

التاريخ : ٢٢/٤/٢٠٢٤

معاون العميد للشؤون العلمية

التوقيع :

الاسم : ا.د. محمد صبحي حسين

التاريخ : ٢٢/٤/٢٠٢٤

العميد:

التوقيع :

الاسم : ا.د. هيثم عادل ابراهيم

التاريخ :

ا.د. هيثم عادل الطائي

العميد