

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: University of Thi-Qar
College :Science
Number of Departments in the College:5
Date Of Form Completion :23/5/2022
Department: Physics



Dean's Name

Date : / /

Signature


Dean's Assistant
For Scientific
Affairs

Date : 23 / 5 / 2022
Signature


Prof. Dr. Hussein H. Wameed
The College Quality
Assurance And University
Performance Manager

Date : 23 / 5 / 2022
Signature

Quality Assurance And University Performance
Manager Date : / /
Signature


الاستاذ المساعد الدكتور
عبدالله بن ابراهيم
الكاظمي

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	University of Thi-Qar
2. University Department/Centre	Department of Physics
3. Program Title	Physics science
4. Title of Final Award	Bachelor of Physics Science
5. Modes of Attendance offered	Course
6. Accreditation	ABET
7. Other external influences	conformity of learning and teaching outcomes with the labor market, community service by the department and the extent of students' participation in that.
8. Date of production/revision of this specification	23/5/2022
9. Aims of the Program	
1. Teaching general and specialized courses in various branches of physics.	
2. Develop students' skills to address problems in a scientific manner based on the principles of investigation, analysis and conclusion of objective solutions to the problems presented.	
3. To develop the spirit of scientific research for students and encourage innovations.	
4. Preparing advanced scientific cadres in the fields of physics by selecting an elite group of graduates to be a teaching project in the same department through their	

scientific progression.

5. Preparing scientifically qualified cadres to meet the needs of the labor market in the public and private sectors, such as education, industry, oil, electricity, health, environment, science and technology.

6. Preparing the student appropriately, prompting him to continue his studies in postgraduate programs in various universities inside and outside Iraq.

7. Supporting development programs and plans to solve the scientific and industrial problems facing the various sectors.

8. Forming an integrated scientific system for the practice of scientific research within the framework of joint cooperation between the department and the corresponding departments locally and internationally through holding conferences, workshops and scientific seminars.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1- Enabling students to reach higher levels of scientific and laboratory knowledge.

A2 - Enable students to acquire the principles and applications of the laws of physics.

A3- Enable students to obtain knowledge of how to find methodological vocabulary in scientific sources.

A4- Empowering students on how to use computer science in analyzing research information.

A5 - Using the principles of modern mathematics in solving advanced physical problems.

A6 - Using practical laboratories to raise the experimental aspect for students.

B. The skills goals special to the programm

B1. Possessing a middle school certificate for the scientific branch.

B2. The ability to conduct experiments, analyze and interpret data.

B3. The ability to contribute effectively and work collectively with the ability to use modern technology and an understanding of modern educational means.

Teaching and Learning Methods

1- Providing students with the basics of pure and theoretical sciences through methodological lectures.

2- Develop students' ability to analyze and discuss the results through panel discussions.

3- Providing students with the principles of scientific research through practical laboratories to perform various experiments. Building the student's scientific personality by encouraging him to give lectures and participate in student conferences.

Assessment methods

1- Daily exams for theoretical and practical subjects.

2- Monthly exams for subjects with various questions for theoretical and practical subjects.

3- Homework. Assigning students to do individual scientific work.

C. Affective and value goals

C1- Asking questions of various levels in theoretical and practical lectures.

C2- Organizing discussion panels for the purpose of motivating students to quickly think and draw conclusions.

C 3- Organizing scientific trips outside the university to see the physical phenomena.

C4- Periodic visits to universities and research centers inside Iraq.

Teaching and Learning Methods

- 1- Brainstorming.
- 2- Quick questions and quick answers.
- 3- The exchange of roles.
- 4- Practical application of theoretical ideas and laws. Use of audio-visual aids.

Assessment methods

- D 1- The ability to control time.
- D2 - How to manage the solution of scientific problems.
- D3 - skills of thinking, analysis and conclusion.
- D 4- Skills of using modern technology.

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

D1. The ability to control time.

D2. How to manage the solution of scientific problems.

D3. skills of thinking, analysis and conclusion.

D4. Skills of using modern technology.

Teaching and Learning Methods

- 1- Courses in human development, self-planning and time management.
- 2- Panel discussions on occupational safety and physical security guidelines.
- 3- Organizing statistics courses to develop students' abilities in how to analyze and produce figures and tabulate data. Providing practical experiences with advanced scientific devices that are commensurate with the development taking place in the field of technology.

Assessment Methods

- 1- Granting grades for adherence to the timings of attendance and examinations.
- 2- Making a scientific comparison between the results of the research groups inside the laboratories and evaluating the best results.
- 3- Choosing the best graduate research to participate in the annual scientific student conferences. Choosing the experimental side for students inside the laboratory and choosing the best skills using modern technology.

11. Program Structure

Level/Year	Course or Module Code	Course or Module Title	Credit rating	12. Awards and Credits
First course/First year		Mechanics	2	Bachelor Degree Requires (146) credits
		Electricity	2	
		Practical physics 1	2	
		Mathematics 1	2	
		Computer 1	1	
		Chemistry 1	3	
		Arabic language	2	

		Human rights	1
		Astronomy 1	2
Second course/First year		Mechanics 2	2
		Magnetism	2
		Practical physics 2	2
		Mathematics 2	2
		Computer 2	1
		Chemistry 2	3
		English language	2
		democracy	1
		Astronomy 2	2
First course/Second year		Analogue Electronics	3
		Thermodynamics 1	2
		Modern Physics 1	2
		Mathematics 3	2
		Analytical Mechanics 1	2
		Geometrical optics	2
		Computer 3	1
		English language	2
		Practical physics 3	3
Second course/Second year		digital Electronics	3
		Thermodynamics 2	2
		Modern Physics 2	2
		Mathematics 4	2
		Analytical Mechanics 2	2

	Sound and wave motion	2
	Computer 4	1
	Practical physics 4	3
First course/Third year	Quantum mechanics 1	3
	Laser 1	2
	Physical optics 1	2
	Practical physics 5	2
	Numerical analysis 1	3
	Mathematical physics 1	2
	Medical physics 1	2
	Solar energy 1	2
	English language	2
Second course/Third year	Quantum mechanics 2	3
	Laser 2	2
	Physical optics 2	2
	Practical physics 6	2
	Numerical analysis 2	3
	Mathematical physics 2	2
	Medical physics 2	2
	Solar energy 2	2
First course/Fourth year	Solid state physics 1	2
	Electromagnetic 1	3
	Nuclear physics 1	2
	Mathematical physics 3	2
	Plasma physics 1	2

	Material physics 1	2
	Statistical physics 1	2
	Practical physics 7	2
	Research Project 1	2
Second course/Four th year	Solid state physics 1	2
	Electromagnetic 1	3
	Nuclear physics 1	2
	Mathematical physics 3	2
	Plasma physics 1	2
	Material physics 1	2
	Statistical physics 1	2
	Practical physics 7	2
	Research Project 1	2
	English language	2

13. Personal Development Planning

- 1- The department works on a periodic, scientific intellectual review of the department, and works to fill the vacancies in it.
 - 2- Develop a scientific plan that includes holding training courses for the department's employees in various fields.
 - 3- Urging and encouraging the department's employees to participate in the training courses.
- Design evaluation forms for a) student assessment of the teaching and curriculum. b) the instructor's evaluation of the department head's performance. C) the department head's self-assessment of the department. d) Distinguished teacher and employee evaluation form.

14. Admission criteria .

- 1- Adoption of the central admission system approved by the Ministry of Higher Education and Scientific Research.
- 2- The personal, physical, mental and emotional qualifications of speech and language integrity, as well as the desire and appetite for specialization.

15. Key sources of information about the programme

- 1- Curriculum books approved by the Ministry and the Sectoral Committee for Deans of Faculties of Science.
- 2- Help books are available free of charge in the department as well as the library of the College of Science.
- 3- YouTube, which shows the steps of the approved experiments in the laboratories of the Physics Department.
- 4- The student himself by looking at the Internet (related topics), which is abundant, easy to download, and available in Arabic and English.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course 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 should be cross-referenced with the programme specification.

1. Teaching Institution	University of Thi-Qar
2. University Department/Centre	Physics
3. Course title/code	Not found
4. Modes of Attendance offered	Theoretical and practical
5. Semester/Year	First and second /2021-2022
6. Number of hours tuition (total)	146
7. Date of production/revision of this specification	25/5/2022
8. Aims of the Course	
	1. Teaching general and specialized courses in various branches of physics.
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	3. To develop the spirit of scientific research for students and encourage innovations.
	4. Preparing advanced scientific cadres in the fields of physics by selecting an elite group of graduates to be a teaching project in the same department through their scientific progression.
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7. Supporting development programs and plans to solve the scientific and industrial problems facing the various sectors.

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9. Learning Outcomes, Teaching ,Learning and Assessment Methode

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Assessment methods

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- 3- Homework. Assigning students to do individual scientific work.

D. General and rehabilitative transferred skills (other skills relevant to employability and personal development)

D1- Follow up on scientific developments in methods of analysis

D2 - Participation in multiple dialogues through direct episodes presented by advanced universities

D3 - Participation in local and international scientific conferences in order to learn about the latest skills related to employability and personal development

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
First	2	He can know the nature of atoms and electrons	Atoms and electrons	Providing students with the basics of pure and theoretical sciences through methodological lectures.	Daily exams for theoretical and practical subjects.
second	2	He can study the motion of a charged particle in an electric and magnetic field.	Atomic theory of radiation	Develop students' ability to analyze and discuss the results through panel discussions.	Homework. Assigning students to do individual scientific work.
Third	2	He can study the nature of rays, such as diffraction, scattering, and absorption	X-Ray	Providing students with the basics of pure and theoretical sciences through methodological lectures.	Homework. Assigning students to do individual scientific work.

11. Infrastructure	
1. Books Required reading:	Introduction of solid state physics
2. Main references (sources)	
A- Recommended books and references (scientific journals, reports...).	
B-Electronic references, Internet sites...	Solid-State Physics Introduction to the Theory
12. The development of the curriculum plan	
Preparatory Certificate, Biology and Applied Branch	