Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2024

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

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

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

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

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

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

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

- **University Name:** – Al Kut University College

- **Faculty/Institute:** – Al Kut University College

- **Scientific Department:** – Medical Physics Science

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

- **Final Certificate Name:** Bachelor of Science in Medical Physics

- **Academic System:** – Courses / Bologna system

- **Description Preparation Date:** – 1/3/2024

- **File Completion Date:** – 20/5/2024

Signature:

Head of Department Name:
Assit. Prof. Nadhim Abdulkareem

Date: 27/5-2024

Signature:

Scientific Associate Name:
Prof. Dr. Abdulzahra H
Date: 27-5-2024

- **The file is checked by:** Department of Quality Assurance and University Performance

- **Director of the Quality Assurance and University Performance Department:** Dr. Ali Saad Alwan

Date: 28/5/2024

Signature:

Approval of the Dean

1. Program Vision

Building and qualifying an integrated scientific department based on distinguished scientific experiences that are in harmony with the labor market, meeting the needs of scientific institutions, following scientific methods that keep pace and compete with similar departments in local and international universities, and building the ministry's scientific directions.

2. Program Mission

A new and qualitative addition to the field of medical physics by following the latest methodological, studied scientific means and methods, distinguished qualitative research, modern medical laboratories, and an experienced academic teaching staff to qualify specialists in medical physics with a high degree of scientific and technical skill who contribute to meeting the needs of the labor market and advancing this field to serve society.

3. Program Objectives

Graduating and qualifying graduates specialized in the field of medical physics who have the ability to provide supportive medical services in the field of diagnosis and treatment with high quality (medical imaging using X-rays, MRI, radiation therapy, and other related fields), as well as contributing to the development of scientific and health research, and opening horizons New concepts in scientific research, the ability to work in health and field work, and providing them with administrative and practical skills in this specialty.

4. Program Accreditation

Not yet

5. Other external influences

None

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	–	–	–	–
College Requirements	–	–	–	
Department Requirements	**48**	**240**	–	–
Summer Training	**none**	**none**	–	–
Other	–	–	–	–

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
2023–2024 First Stage / First Semester	MPH11001	Electricity	**2**	**2**
	MPH11004	Mathematics	**2**	–
	MPH11003	Chemistry	**2**	**2**
	MPH11006	Fundamental of computer science	**2**	**2**
	MPH12007	Biology	**2**	**2**
	MPH12012	Human Rights	**2**	–
2023–2024 First Stage / second Semester	MPH12010	Magnetism	**2**	**2**
	MPH11002	Mechanics	**2**	**2**
	MPH12009	Programming	**2**	**2**
	SCl12012	General Physics	**2**	**2**
	MPH12011	Arabic Language	**2**	–

	MPH22023	English Language	**2**	–

8. Expected learning outcomes of the program

Knowledge

1– The student should be introduced to the scientific concepts of physics. 2– The student should be introduced to the scientific concepts of medical physics. 3– The student should know how to use laboratory equipment and benefit from them. 4– Preparing qualified and trained cadres to work in health, scientific and educational institutions	1– The student should know the basics of the required sciences 2– The student should understand the required scientific details. 3– The student should analyze scientific developments.

Skills

1 – The skill of using laboratory equipment. 2 – The student is able to describe models and laboratory mediums.	1– Good knowledge of medical terminology. 2– Good knowledge of the English language.Statement
3 – The student is able to link the causes to the causes.	

Ethics

1– Teamwork.	3–Commitment to the ethics of the university institution
2– To recognize the importance of the subjects	4– Receiving information and accepting knowledge

9. Teaching and Learning Strategies

1 – Classroom education through theoretical and practical lectures.

2 – Conducting practical tests in laboratories.

3 – Use the style of thinking, discussion and presentation of information

10. Evaluation methods

1– Exam grades.

2 – Evaluation of reports.

3 – Graduation research.

4 – Evaluation of summer training in health institutions.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/ Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Prof. Dr. Bodour Yassin Hamoud Al-Ameri	Physics Sciences	Atmospheric Physics			✔	
Prof. Faisal Mahmoud Mohamed	Biology	Microbiology			✔	
Prof. Dr. Anam Rashid Abdul Razzaq Al-Salhi	Human Anatomy	Infertility and embryos			✔	
Assist. Prof. Nazem Abdel Karim Abdel Hussein	Philosophy in Physics	Physics Sciences			✔	
Dr. Sura Faiz Abdul Mohsen Al-Fadhli	Radiology and Medical Imaging	Medical Imaging			✔	
Dr. Saad Abbas Hamada Al-Ramahi	Physics Sciences	Nuclear and Applied Physics			✔	
Dr. Ahmed Jassim Mohammed	Physics Sciences	Medical Physics			✔	

Dr. Muhannad Adnan Hamad Ismail	General Medicine	Orthopedics and Traumatology			✔	
Dr. Thuraya Khaled Abdel Wahed	Microbiology	Philosophy in Parasitology			✔	
Assist. lec Tabarak Abdul Karim Hussein Al-Durr Al-Badri	Biology	Microbiology			✔	
Assist. lec Aws Riyad Waheed Al-Issawi	Diagnostic Radiology	Diagnostic Radiology			✔	
Assist. lec. Mai Anwar Raouf Ali Al-Ali	Science in Physics	Medical Physics			✔	
Assist. lec Mahdi Abdul Sahib Mahdi Aljawahri	Science in Physics	Solid State Physics			✔	
Dr. Mohamed Faleh Majed	Science Physics	Nuclear Physics Science				✔
Dr. Alaa Zughayer Sakhil Al-Bajnani	Science of Physics	Biomedical Applications				✔
Assist. lec. Rehab Abdul Hussain Ali	Physics Sciences	Electromagnetic			✔	✔
Assist. lec. Mohamed Thaer Rashid	Mechanical Engineering	Production & Manufacturing			✔	
Assist. lec. Safaa Takleef Yasser	Physics Sciences	Nanotechnology			✔	
Assist. lec. Ali Abdul Suleiman Hassan	Physics Sciences	Medical Physics			✔	
Assist. lec. Russel Nouri Kaeid	Law	Criminal Law			✔	
Assist. lec. Mohamed Mostafa Abdel Kazem	Chemistry Sciences	Biochemistry Sciences			✔	

Professional Development

Mentoring new faculty members

Directing the new faculty members to the need to work on developing the scientific method, methods of delivering a scientific lecture, and how to deliver the practical material to the student.

Professional development of faculty members

Work on finding development ideas and work on developing scientific laboratories and the practical side since the students' specialization is a scientific specialization

12. Acceptance Criterion

Students who graduated from the preparatory study are allowed to accept the college of the Department of Medical Physics after passing the study and success and obtaining an average of 56.5% or more for admission and the department accepts graduates of the preparatory scientific study biological, scientific and applied branch.

13. The most important sources of information about the program

– Textbooks prescribed by the Ministry of Higher Education and Scientific Research

2– External scientific sources

3– Using libraries and the Internet.

14. Program Development Plan

The department seeks to provide a lot of methodological and research plans in order to develop the department and the scientific environment, as the department presidency, the department council and the scientific committee are working to provide all the requirements for the development of the department.

				Required program Learning outcomes											
				Knowledge				Skills				Ethics			
Year/Level	Course Code	Course Name	Basic or optional	A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
2023-2024 First Stage / First Semester	MPH11001	Electricity	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH11004	Mathematics	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH11003	Chemistry	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH11006	Fundamental of computer science	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH12007	Biology	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH12012	Human Rights	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
2023-2024	MPH12010	Magnetism	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH11002	Mechanics	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH12009	Programming	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Stage / second Semester	SCI12012	General Physics	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH12011	Arabic Language	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	MPH22023	English Language	**Basic**	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluation.**

Course Description Form (1)

1. Course Name:	
• **Electricity**	
2. Course Code:	
3. Semester / Year:	
• **1ˢᵗ Semester 2024-2023**	
4. Description Preparation Date:	
• **2024**	
5. Available Attendance Forms:	
• **Attendance**	
6. Number of Credit Hours (Total) / Number of Units (Total)	
150 hrs /6 credits	
7. Course administrator's name (mention all, if more than one name)	
• **Name: Dr. Mohammed Falih Majid**	
Email: alwassity@ymail.com	

8. Course Objectives

Course Objectives	• The study of electric charge involves differentiating between conductors and insulators and using them to demonstrate the existence of charges. • Coulomb's law will be stated and its expression derived and used in calculations. • Along with this, electric field, dipole moments; potential energy; and torque on an electric dipole. • flux of electric field will be defined. Their expressions will be derived and also used to solve problems.

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills.

		This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Evaluation method
Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15 Week 16	2	Electric charge, Charge is conserved, Electric Charge and the Structure of Matter. Conductors, Insulators, and Induced Charges, Charging an object. Coulomb's law. Electric field, A point charge in an electric field, A dipole in an electric field. Flux of the electric field, Gauss's law. Gauss's law and Coulomb law, An insulated conductor. Electric potential, Potential and the electric field, A group of point charges. Potential due to a dipole, Electric potential energy. Capacitance, Calculating Capacitance. Energy storage in an electric field, Parallel plate capacitor with dielectric. Dielectrics and atomic view. Current and current density, Ohm's law-A microscopic view. Electromotive force, Calculating the current. Potential difference. Multi loop circuits. Preparatory week before the final Exam	

11. Course Evaluation

Quizzes	10% (10)			
Assignments	10% (10)			
Projects / Lab.	10% (10)			
Report	10% (10)			

Midterm Exam	**10% (10)**		
Final Exam	**50% (50)**		
Total assessment	**100% (100 Marks)**		

12. Learning and Teaching Resources

Required Texts	**Physics/John D. Cutnell & Kenneth W. Johnson—9th ed.**
Recommended Texts	**Fundamentals of Physics Extended 9th-HQ-Halliday**
Websites	**https://engineeringinterviewquestions.com/electrostatic-electrical-engineering-multiple-choice-questions-and-answers/**
Required Texts	**Physics/John D. Cutnell & Kenneth W. Johnson—9th ed.**

Course Description Form (2)

13.	Course Name:
Mathematics	

14.	Course Code:
Kus1101	

15.	Semester / Year: Semester
1st semester \2024	

16.	Description Preparation Date:
2024	

17.Available Attendance Forms:
Attendance

18.Number of Credit Hours (Total) / Number of Units (Total)
125 Hours   /5 ECTS

19.	Course administrator's name (mention all, if more than one name)
Name: Dr.Alaa zghair skheel Email: alaa.skheel@alkutcollege.edu.iq	

20.	Course Objectives
Course Objectives	1. Identify the properties of mathematical functions and their opposites. 2. Familiarity with the properties of polynomials, exponential and logarithmic functions, trigonometric functions and their opposites. 3. Recognize the concept of differential functions and its relationship to speed and the rate of their change with time (acceleration). 4. Identify the integration of the functions and methods of Integration. 5. Knowledge of applications of integral in geometry

21.	Teaching and Learning Strategies
Strategy	1- Following up the scientific development of mathematics by reviewing modern curricula. 2- Follow-up and development of academic courses and compare them with other universities. 3- Using the latest teaching aids to motivate the student to learn and understand

22. Course Structure

Week	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method	Hos
Week 1	Functions, Inverse Functions.		Continuous guidance of students by the professor during daily lectures	Through discussions, direct questioning, and daily exams	2 Hours
Week 2	Trigonometric Functions, Inverse Trigonometric Functions.				
Week 3	Exponential and Logarithmic Functions.				
Week 4	Limits and Continuity				
Week 5	The Derivative, The Chain Rule.				
Week 6	Implicit Differentiation, L'Hopitals Rule.				
Week 7	The Derivative in graphing and applications, Relative Extrema.				
Week 8	Rolle's Theorem; Mean –Value Theorem				
Week 9	The indefinite integral, Areas under a curve				
Week 10	The fundamental theorem of integral calculus, Area between two curves				
Week 11	The integral of trigonometric functions , the integral of inverse trigonometric				
Week 12	The integral of the functions $\log u(x), \ln u(x)\ e^{u(x)}$ and $a^{u(x)}$				
Week 13	Methods of integration , powers of trigonometric functions				
Week 14	Integration by parts				
Week 15	Volumes				

23. Course Evaluation

Quizzes	10% (10)		
Assignments	20% (20)		
Projects / Lab.			
Report	10% (10)		
Midterm Exam	10% (10)		
Final Exam	50% (50)		
Total assessment	100% (100 Marks)		

24. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Thomas & Finney "Calculus and Analytic Geometry" (2005), 11th edition, Addison Wesley.**
Main references (sources)	**Howard Anton,IrI Bivens & Stephen Davis "Calculus"(2009),9th edition,John Wiley & Sons,NC.**
Electronic References, Websites	**Various lectures and lecture notes on the interr**

Course Description Form (3)

1. Course Name:
Computer

2. Course Code:
KUS 1102

3. Semester / Year:
The first stage – the first semester / for the academic year 2023–2024

4. Description Preparation Date:
22/05/2024

5. Available Attendance Forms:
Classroom teaching (in-person)

6. Number of Credit Hours (Total) / Number of Units (Total)
Number of hours (30) / Number of units (3)

7. Course administrator's name (mention all, if more than one name)
Name: zaid hekmet kareem Email: zaid.hekmet@alkutcollege.edu.iq

8. Course Objectives

Course Objectives	The computer course, in the theoretical aspect, also includes computer basi as a brief historical summary of the development and generations of compute as well as types of computers. Detailed explanation of computer compone (hardware and software); In addition to introducing the student to num systems (decimal & binary); The last topic revolves around introducing student to the Internet and the internal network. As for the practical aspect, student learns the basics of ready–made programs that include Microsoft Of and the Windows operating system, such as the course includes practical hou so the most important outcome is the student's mastery of dealing with calculator as an easy tool to handle.

9. Teaching and Learning Strategies

Strategy	In order to enable students to learn computer skills effectively, he are some of them Strategies that can be used: 1. Provide hands-on activities: Incorporate hands-on activiti projects, events, and exercises to effectively engage students in t learning process. Practical Application of concepts helps studer understand how computers work and enhances their understandin

2. Using visual aids and interactive resources: Use visual aids, graph Infographics and interactive resources such as tutorials, simulatio and programming platforms to make abstract concepts more realis and engaging.

3. Promote a collaborative learning environment: Encourage stude to work in teams or pairs on projects or programming exercis Cooperative learning allows students to share ideas, help each oth and learn from different perspectives.

4. Personalize the learning experience: Recognize studen differences
Learning methods and steps. Providing individual learni opportunities, allowing students to progress at their own pace a explore topics of interest to them. Design the learning experience accommodate diversity of learning needs.

5. Encourage exploration and experimentation: Encourage students explore
And experience different programming languages, tools, and tools Technologies. Allow them to pursue their own programming proje and interests. This promotes curiosity and self-directed learning.

6. Connect with real-world applications: Show the extent of yo computer skills
Applied in various fields and industries. Show examples of how to u markup
In creating websites, mobile applications, robots, or data analys delivery
Computer skills for real-world applications can motivate and ass students
They understand the practical importance of what they learn.

7. By updating technology trends: Stay up to date with the lat developments
Technology trends, tools and programming languages. Merge relat and
Updated content in the curriculum to ensure students learn skills Which are required in the labor market.

It is important to create a supportive and inclusive learni environment
Students feel encouraged to ask questions, take risks, and explore th interests. by
By implementing these strategies, we can help students develop a so foundation in...
Computer skills and enhance their passion for technology

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	2	Introduction to computers computer history. Computer classes. Computer components 1 Computer components 2 Computer components 3 Computer components 4 temporary memory Secondary memory Number systems 1 Number systems 2 Number systems 3 Number systems 4 Definition of the Internet and Intrane final exam		Continuous guidance of students by the professor during daily lectures	Through discussions, direct questions, and daily tests

11. Course Evaluation

Formative assessment:
- Daily exams 5%
- Homework 10%
- Laboratory 20%
- Reports 5%
Summative evaluation:
- Midterm exam 10%
- Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	-Ata Elahi, "Computer Systems, Digital Design , Fundamentals of Computer, Architecture and Assembly Language", Springer International Publishing AG 2018 . -Peter Norton "Introduction to Computers", sixth Edition, 2008, ISBN-13:978-0-07-059374-9. -B. Hemanta, Computer Fundamental, Stratford College London, pp.1-20 . -R Mansfield, "Mastering VBA for Microsoft Office ,"

	944 ,2019Pages.
Main references (sources)	non
Recommended books and references (scientific journals, reports…)	Steven Freund, Gary B. Shelly, Thomas J. Cashman , Misty Vermaat, Introduction to Computers, Eighth Edition, 2012, ISBN10 143908131X, ISBN13 9781439081310
Electronic References, Websites	non

Course Description Form (4)

1. Course Name:
General Biology

2. Course Code:
SCI 1104

3. Semester / Year:
First semester/First stage

4. Description Preparation Date:
21/5/2024

5. Available Attendance Forms:
In class and online

6. Number of Credit Hours (Total) / Number of Units (Total)
175/7

7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecturer Tabarak Abd Alkareem Email: Tabarak.alkareem@alkutcollege.edu.iq

8. Course Objectives	
Course Objectives	1. Give a general understanding of the types, divisio and components of organisms. 2. Understand the effect of organisms on humans their environments. 3. Gain practical knowledge of the classification organisms 4. Complete the reports, seminars, and presentatio to develop the student's skills.

9. Teaching and Learning Strategies	
Strategy	Many strategies will be used in this module to encourage students learn such as participation in the exercises, seminars, lab experimen and workshops, as well as using educational videos and electronic refine and expand their critical thinking skills. This will be achiev through classes, interactive tutorials, and by considering types simple experiments involving some interesting sampling activities the students.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1	2 Hours	Introduction to chemistry Introduction to the science		Continuous guida of students by professor during d lectures	Through discussions,di questioning, and daily exa
Week 2			The characteristics of life		
Week 3			The characteristics of organisms		
Week 4			The kingdom of organisms		
Week 5			Classification of Animal and plant Kingdoms		
Week 6			Kingdom Monera		
Week 7			Mid-term Exam		
Week 8			Chemistry of life (1)		
Week 9			Chemistry of life (2)		
Week 10			Cell structure and function (1)		
Week 11			Cell structure and function (2)		
Week 12			Cell life cycle		
Week 13			Mitosis		
Week 14			Meiosis		
Week 15			Final exam		

11. Course Evaluation

Formative assessment :
Quizzes 5%
Assignments 10%
Projects / Lab. 20%
Report 5%
Summative assessment:
 Midterm Exam 10%
Final Exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books any)	Biology: Concepts and Connections; Campb Reece, Taylor, and Simon; Latest edition 2018
Main references (sources)	
Recommended books and references (scientific journals, reports…)	The Science of Biology by Sadava, Hillis, Heller a Berenbaum 9th ed. 2011
Electronic References, Websites	https://www.coursera.org/browse/biology-science

Course Description Form (5)

1. Course Name:	
General Chemistry	
2. Course Code:	
SCI 1105	
3. Semester / Year:	
First semester/First stage	
4. Description Preparation Date:	
22/5/2024	
5. Available Attendance Forms:	
In class and online	
6. Number of Credit Hours (Total) / Number of Units (Total)	
175/7	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant Lecturer Doctor Ali Khalaf Email:	

8. Course Objectives

Course Objectives	1-To develop skills and understanding of different types of elements through the application of techniques. 2. To understand metals, physical and chemical properties. 3. This course deals with the basic concept of general chemistry. 4. To understand periodic table and distribution elements on it

9. Teaching and Learning Strategies

Strategy	To describe the learning activities of the students and the teaching methods of the staff. Effective module design should result in a varied range of active learning experiences for students, including learning activities which are 'research-like'. Activities should, of course, motivate and encourage deep learning (reflection on wider meanings, rather than superficial memorisation of information). They should also be varied and flexible enough to accommodate different learning styles and orientations, and allow for inclusivity of students from different backgrounds and with different kinds of learning abilities. Learning activities therefore need to include reference to independent, interdependent (peer- supported) and online activities, as well as participation in different kinds of taught class.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1	2 Hour		Introduction to chemistry	Continuous guidance of students by the professor during daily lectures	Through discussions, direct questioning, and daily exams.
Week 2			Periodic table		
Week 3			Atomic structure types of bonding		
Week 5			Physical and chemical properties/ Drawing Lewis Structures		
Week 6			Chemical Reactions		
Week 7			Preparation solution (types of concentration)		
Week 8			Exam		
Week 10			Acids and Bases and titration		
Week 12			Titrimetric Methods		
Week 14			Separation method of elements		
Week 1			Preparatory week before the final Exam		

11. Course Evaluation

Formative assessment :
Quizzes 10%
Assignments 10%
Projects / Lab. 10%
Report 10%
Summative assessment:
 Midterm Exam 10%
Final Exam 50%

12. Learning and Teaching Resources

Required textbooks (curricu books, if any)	A Textbook of Physical Chemistry Vol-6 Kapoor,K.L Graw-Hill 2019
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Introductory Chemistry Essentials, Global Edition Tro, N Pearson 2015

Electronic References, Website	https://openstax.org/details/books/chemistry-2e
	https://open.umn.edu/opentextbooks/textbooks/219

Course Description Form (6)

1. Course Name:	
Democracy And Human Rights	
2. Course Code:	
KUS1103	
3. Semester / Year:	
First \2024-2023	
4. Description Preparation Date:	
6/11/2023	
5. Available Attendance Forms:	
Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
7/175	
7. Course administrator's name (mention all, if more than one name)	
Name: sajad kadem Email: none	

8. Course Objectives

Course Objectives	The article aims to explain the importance of the original rights that are inherent to the human be that are consistent with his nature, that are accepted by the abstract mind, and that do not d according to time and place. These are human rights.

9. Teaching and Learning Strategies

Strategy	In this aspect, it depends on the following: 1- The student is introduced, starting with a brief content of the vocabulary that will be cove during the lecture, then we ask him some questions that move his mind and attract his attention ensure good listening\ 2- Scientific vocabulary is explained in depth within limits commensurate with the average scien levels to ensure that individual differences are not exceeded among all students. 3- Space is left for free discussion regarding the framework of the topic assigned to the lecture. 4- Make sure to provide information feedback before the end of the lecture 5- Communicate electronically with students to publish recorded and written lectures through university's website.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week1	2	Definition and nature of human rights		Continuous guidance	1-report

Week2		Historical development of human right	students by professor through lectures	2-quize 3-projects
Week3		Advantages of human rights over other rights		
Week4		Human rights in heavenly religions		
Week5		Human rights in international conventions		
Week6		Human rights in internal legislation		
Week7		Personal human rights		
Week8		Social human rights		
Week9		Cultural human rights		
Week10		Economic human rights		
Week11		International human rights guarantees		
Week12		Regional human rights guarantees		
Week13		Internal (national) human rights guarantees		
Week14		Penalties resulting from violating huma rights		
Week15		final exam		

11. Course Evaluation

Formative assessment: daily exams 10%
Homework: 10%
Reports10%
Attendance 10%
Summative assessment
Midterm exam 10%
Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Book: Human rights (their development, contents, and protection)/Dr. Riad Aziz Hadi
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Human Rights/ Dr. Hamid Hanoun
Electronic References, Websites	https://ar.wikipedia.org/wiki https://www.un.org/ar/about-us/universal-declaration-of-human-rights https://www.noor-book.com/

Course Description Form (7)

1. Course Name:	
• Magnetism	
2. Course Code:	
• MPH12008	
3. Semester / Year:	
• 2nd Semester 2024−2025	
4. Description Preparation Date:	
• 2024	
5. Available Attendance Forms:	
• Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
• **150 hrs.** /6 credits	
7. Course administrator's name (mention all, if more than one name)	
• Name: Dr. Mohammed Falih Majid	
• Email: alwassity@ymail.com	

8. Course Objectives	
Course Objectives	• This unit is designed to provide experiences for the student that will lead him/her into an understanding of the similarities and differences among electric, magnetic, and gravitational fields. • The inquiry projects used here will support instruction in electrical circuits, gravitational dynamics, and electromagnetic phenomena of all sorts. • The students will know how to demonstrate magnetic field and interaction using magnets, and current-carrying wire, show the influence of the magnetic field by a moving charge using a oscilloscope, and demonstrate the electromagnetic induction/ Faraday's law using simple materials
9. Teaching and Learning Strategies	
Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking

skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

10. Course Structure

Week	H	Required Learning Outcomes	Evaluation method
Week 1		The magnetic field, Magnetism, The magnetic field	Exercises and discussions
Week 2		Magnetic field lines, Magnetic flux	
Week 3		Calculating the magnetic field.	
Week 4		Motion of charged particles in magnetic fields.	
Week 5		The Torque on a Current-Carrying Coil.	
Week 6		Ampere's law, Applications of ampere's law	
		Magnetic field of current, Sources of magnetic field Magnetic field of moving charge.	
Week 7	2	Magnetic field of current element, Biot-Savart law.	
Week 8		Magnetic field of a long straight conductor, Force between parallel Conductors	
Week 9		Magnetic field of circular loop.	
Week 10		Induced electromotive force, Faraday's law.	
Week 11		Induced electric fields, Lens's law.	
Week 12		Inductance	
Week 13		1- Mutual and self-inductance	
Week 14		2- Energy in an inductor	
Week 15		R-L circuit, L-C circuit	
Week 16		Preparatory week before the final Exam	

11. Course Evaluation

Quizzes	10% (10)		
Assignments	10% (10)		
Projects / Lab.	10% (10)		
Report	10% (10)		
Midterm Exam	10% (10)		
Final Exam	50% (50)		
Total assessment	100% (100 Marks)		

12. Learning and Teaching Resources

Required Texts	Physics/John D. Cutnell & Kenneth W. Johnson—9th
Recommended Texts	Fundamentals of Physics Extended 9th-HQ-Halliday
Websites	https://engineeringinterviewquestions.com/electrostatic-ectrical-engineering-multiple-choice-questions-and-answers/

Course Description Form (8)

1. Course Name:	
General Physics	
2. Course Code:	
SCI12012	
3. Semester / Year: Semester	
2nd semester \ 2024	
4. Description Preparation Date:	
• 2024	
5. Available Attendance Forms:	
• Attendance	
6. Number of Credit Hours (Total) / Number of Units (Total)	
175 Hours /7 **ECTS**	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr.Alaa zghair skheel Email: alaa.skheel@alkutcollege.edu.iq	

8. Course Objectives

Course Objectives	1. To have knowledge about General Physics basic principles like Mechanics of liquid and material properties.
	2. To get skills in solving mathematical problems that related to physics subjects.
	3. To get practical skills in managing physics experiments in the lab. and record measurements and then calculate required quantitie
	4. Analysis the physical information in syllabus and be able to make conclusions by joining between physical concepts.
	5. To be able to apply his knowledge in physics in market.

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same

time refining and expanding their critical thinking skills. This will be achieved through classes, online lectures and home works and by considering type of simple experiments involving some sampling activities that bring attention of the students.

10.	11.	12. Course Structure			
Week	**Required Learning Outcomes Unit or subject name**		**Hours**	**Learning method**	**Evaluation method**
Week 1	Fluid Mechanics: Fluid Density and Pressure		2 hrs	Continuous guidance of students by the professor during daily lectures	Through discussions, direct questioning, and daily exams
Week 2	Measuring Pressure				
Week 3	Pascal principle.				
Week 4	Archimedes principle of Buoyancy				
Week 5	Fluid dynamics and Bernoulli's Equation				
Week 6	Surface tension				
Week 7	Exam.				
Week 8	Thermal Physics: Heat and internal energy				
Week 9	Specific Heat				
Week 10	Energy transfer				
Week 11	Applications of Energy transfer				
Week 12	Calorimeter				
Week 13	Ideal gases				
Week 14	Kinetic theory of gases				
Week 15	**Applications of Kinetic theory of gases**				

13.Course Evaluation

Quizzes	10% (10)
Assignments	10% (10)

Projects / Lab.	10% (10	
Report	10% (10)	
Midterm Exam	10% (10)	
Final Exam	50% (50)	
Total assessment		**100% (100 Marks)**

14.	15.	16.Learning and Teaching Resources
Required textbooks (curricu books, if any)		Applied Physics by Schaum 2013.
Main references (sources)		Physics for scientists and engineers by Serway 200

Course Description Form (9)

17.	Course Name:
Mechanics	
18.	Course Code:
MPH12007	
19.	Semester / Year:
Second semester/2024	
20.	Description Preparation Date:
2024/5/21	
21.Available Attendance Forms:	
Inside the class and online	
22.Number of Credit Hours (Total) / Number of Units (Total)	
175	
23.	Course administrator's name (mention all, if more than one name)
Name: mohammed thair rashid Email: mohamed.rashid@alkutcollege.edu.iq	

24.	Course Objectives	
Course Objectives		• **Define the meaning of mechanics.** • **Develop a clear understanding of basic physical phenomena in physics and materials science as an integral part of the student's overall education** • **Compare between vectors and scalar quantities.** • **Calculate and find the displacement, velocity and acceleration of bodies.** • **Use algebra, trigonometry, and basic calculus, in solving problems in one and** • **two-dimension motion.** • **Provide detailed and accurate description of forces effect on bodies.** • **Classify the energy types.** • **Calculate the work done on subject**

25.	Teaching and Learning Strategies	
Strategy		This course will be delivered through a combination between theoretical lectures in the classroom and

experimental lectures in the Lab. The students will receive the outcome of each lecture through discussions, videos related to the subject and questions. In addition, the information will be developed by self-learning through reading and searching to hand in the essay and home works.

26. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15 Week 16	2	Vectors and scalar Unit victors. Motion in one dimension Motion in two dimensions Uniform circular motion. Force and motion: Newton's laws. Midterm exam. Forces types Work Energy, kinetic energy Potential energy Power Momentum Collision in one dimension Collision in two dimensions **Preparatory week before the final Exam**		Continuous guidance of students by the professor during the lecture	Through discussions, direct questions, and tests today

27. Course Evaluation

<table>
<tr><th colspan="6">Module Evaluation</th></tr>
<tr><th></th><th></th><th>Time/Number</th><th>Weight (Marks)</th><th>Week Due</th><th>Relevant Learning Outcome</th></tr>
<tr><td rowspan="4">Formative assessment</td><td>Quizzes</td><td>2</td><td>10% (10)</td><td>5,10</td><td>LO#1,2,10 and 11</td></tr>
<tr><td>Assignments</td><td>2</td><td>10% (10)</td><td>2,12</td><td>LO#3,4,6 and 7</td></tr>
<tr><td>Projects / Lab.</td><td>5</td><td>10% (10)</td><td>2,4,6,8,10</td><td></td></tr>
<tr><td>Report</td><td>1</td><td>10% (10)</td><td>13</td><td>LO#5,8, and 10</td></tr>
<tr><td rowspan="2">Summative assessment</td><td>Midterm Exam</td><td>1hr</td><td>10% (10)</td><td>7</td><td>LO,#1-7</td></tr>
<tr><td>Final Exam</td><td>3hr</td><td>50% (50)</td><td>16</td><td>All</td></tr>
<tr><td colspan="2">Total assessment</td><td></td><td>100% (100 Marks)</td><td></td><td></td></tr>
</table>

28. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Hans C. Ohanian, John T. Markert "physics for engineers and scientists "(2009), 3rd edition. yes
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Jearl Walker "fundamental of physics" (2005), 8 th edition.

Course Description Form(10)

1. Course Name:	
• Arabic language	

2. Course Code:	
• KUS12010	

3. Semester / Year:	
• Second Semester \2024	

4. Description Preparation Date:	
• 1/3/2024	

5. Available Attendance Forms:	
• Inside the classroom	

6. Number of Credit Hours (Total) / Number of Units (Total)

7/175

7. Course administrator's name (mention all, if more than one name)

Name: Rusul Noori gaeed
Email: none

8. Course Objectives

Course Objectives	• **Teaching proper Arabic as it is the official language of the country**
	• **Language is the essence and symbol of identity**
	• **Identify the phonetic lesson of language and its relationship to physics**
	• **Language differs from dialect, as the former is global and the latter is local**
	• **Being able to write research and articles with purely scientific content in classica Arabic**
	• **Enriching students' lexical storage to help build charisma in communication**

9. Teaching and Learning Strategies

Strategy	An integrated personal creation for the university student in terms of prec scientific specialization and supporting specialization

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week1	2	The difference between scientific and literary language		Continuous guidance students by professor through lectures	1-report 2-quize 3-projects
Week2		Arabic dictionaries and their types			
Week3		punctuation marks			
Week4		Style			
Week5		Verbs - their types and division			
Week6		Examples of ancient Arabic poetry, Islamic poetry, and Umayyad poetry			
Week7		Midterm test			
Week8		Drawing the hamza/hamzat al-wasl and hamzat al-qat`			
Week9		Writing the hamza at the beginning and end of a speech			
Week10		The subject and the predicate - number writing skills			
Week11		Objects/objects - the direct object			
Week12		The object with it - the object in it - the absolute object			
Week13		Arabic prose			
Week14		Common mistakes - how to write formal applications			
Week15		Examples of Abbasid and Islamic poetry			
Week16		final exam			

11. Course Evaluation	

Formative assessment: daily exams 10%
Homework: 10%
Reports10%
Attendance 10%
Summative assessment
Midterm exam 10%
Final exam 50%

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Book: University Arabic for non-specialists / Dr. Abd Al-Rajhi Applied Grammar Book/Dr. Abdo Al-Rahji
Main references (sources)	
Recommended books and references (scientific journals, reports…)	Applied morphology/Dr. Abdo Al-Rajhi History of Arabic Literature/Shawki Deif
Electronic References, Websites	Al-Fasih Network for Arabic Language Sciences

Course Description Form (11)

1. Course Name:	
	computer programming
2. Course Code:	
	MPH12009
3. Semester / Year:	
	The first stage – the second semester / for the academic year 2023−2024
4. Description Preparation Date:	
	22/05/2024
5. Available Attendance Forms:	
	Classroom teaching (in-person)
6. Number of Credit Hours (Total) / Number of Units (Total)	
	30
7. Course administrator's name (mention all, if more than one name)	
	Name: yousif ali abdulkhaleq Email: youssif.ali@alkutcollege.edu.iq

8. Course Objectives

Course Objectives	• **This chapter provides a guide to running MATLAB. It provides a detailed course on the MATLAB code capabilities required for general programming.** • **MATLAB is a high-performance language for technical computing. It integrates computation, visualization, and programming in a user-friendly environment where problems and solutions are expressed in writing programs and implementing algorithms through a graphical user interface. MATLAB is an interactive system whose primary data element is arrays that do not require dimensions. This allows many technical computing problems to be solved, especially those involving matrix and vector formulas.** • **This course includes interactive lectures and practical applications to enable the student to apply image processing algorithms and apply optimization methods. In addition, it enables the student to rotate and scale the image by applying many examples.**

9. Teaching and Learning Strategies

	• Hands-on programming: It should provide ample opportunities for students to write code and practice programming by assigning programming exercises, projects, and challenges that allow students to apply the concepts they have learned.
	• Code reviews and comments: Regularly review students' code and provide comments. Provide constructive criticism and guidance on how to improve their programming skills. Encourage students to review and provide feedback to their peers, and foster a culture of collaboration and continuous improvement.
	• Project-based learning: Assign projects that require students to design and develop software applications or solve real-world problems using programming. Project-based learning provides a context for applying programming skills, encourages creativity, and fosters a deeper understanding of programming concepts.
Strategy	• Coding: Model good coding practices by writing clean, well-structured code. Explain the reasons behind coding decisions, such as variable names and organization of code and documentation. Show examples of code refactoring and optimization to help students understand the importance of writing efficient code.
	• Real-world examples and applications: Connect programming concepts to real-world examples and applications. Demonstrate how programming is used in different fields, such as web development, mobile app development, data analysis, or game development. This helps students understand practical applications of programming and enhances motivation.
	• Updated with technology trends: Stay up to date with the latest programming languages, frameworks, and tools. Incorporate current and relevant examples into your teaching to expose students to industry-relevant skills.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first second third fourth Fifth sixth Seventh Eighth Ninth	2	Variables Interface with MATLAB General Matlab code Matrices Logical operations Drawing diagrams Working with files Graphical interfaces 1 Graphical interfaces 2		Continuous guidance of students by the professor during daily lectures	Through discussions, direct questions, and daily tests

tenth		Image processing 1		
eleventh		Image processing 2		
twelfth		Image processing 3		
Thirteenth		Image processing 4		
fourteenth		Image processing 5		
Fifteenth		final exam		

11. Course Evaluation

Formative assessment:
• Daily exams 5%
• Homework 10%
• Laboratory 20%
• Reports 5%
Summative evaluation:
• Midterm exam 10%
• Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if an	1-Matlab: Numerical Computing, Tutorials point,2014. 2- Alasdair McAndrew, An Introduction to Digital Image Processing with Matlab, Notes for SCM2511 Image, Processing 1, Semester 1, 2004, School of Computer Science and Mathematics, Victoria University of Technology. 3- The MathWorks, Image Processing Toolbox For Use with MATLAB, Version 2, COPYRIGHT 1993 - 2000.
Main references (sources)	non
Recommended books and references (scientific journals, reports…)	Brian R. Hunt, Ronald L. Lipsman, Jonathan M. Rosenberg, R. Coombes, John E. Osborn, and Garrett J. Stuck, AGuide to MATLAB for Beginners and Experienced Users, Cambridge, University Press,2001
Electronic References, Websites	non

Course Description Form (12)

1. Course Name:
• English Language

2. Course Code:
• KUS12011

3. Semester / Year:
The first stage – the second semester / for the academic year 2023−2024

4. Description Preparation Date:
22/05/2024

5. Available Attendance Forms:
Classroom teaching (in-person)

6. Number of Credit Hours (Total) / Number of Units (Total)
2 Credits \ 50 hours

7. Course administrator's name (mention all, if more than one name)
Name: Waleed Fayyad Email: Waleed.Fayyad @alkutcollege.edu.iq

8. Course Objectives	
Course Objectives	a. to enable the learner to communicate effectively and appropriately in real life situation: b. to use English effectively for study purpose across the curriculum; c. to develop interest in and appreciation of Literature; d. to develop and integrate the use of the four language skills i.e. Reading, Listening, Speaking and Writing; e.to revise and reinforce structure already learnt

9. Teaching and Learning Strategies	
Strategy	Use will be made of individual, pair and groupwork to develop students abilities to read increasingly complex academic and general texts. Other skills will be practised and developed within this modules and students will be expected to work extensively out of class to develop their reading fluency. Students will study the specialist vocabulary in the context of published listening and reading materials produced particularly for these ESP situations and also explore lexis within authentic sources. Groups will be managed according to specialist areas and students will be expected to work extensively outside class contact time. Emphasis will be placed on

		integrating this module to work done within the International Foundation option module programme		

10. Course Structure

Week	Hours	Required Learning Outcome	Learning method	Evaluation method
Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15 Week 16	2	Reading Comprehension Writing I Writing I Learning English through Literature Advanced Reading Linguistics Advanced Writing Grammar I Grammar I Introduction to Literature Debate and Dialogue General Translation Listening & Speaking Listening & Speaking Preparatory Exam before the final Exam	Continuous guidance of students by the professor during daily lectures	Through discussions, direct questions, and daily tests

11. Course Evaluation

Formative assessment:
• Daily exams 5%
• Homework 10%
• Laboratory 20%
• Reports 5%
Summative evaluation:
• Midterm exam 10%
• Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Haarman et al. Reading Skills for the Social Sciences. OUP Cotton, D. et al. Business Class. Nelson NO
Recommended books and references (scientific journals, reports…)	An appropriate selection of Collins Specialist English Dictionaries, ArangeofA-leveltypeStudyGuides N
Electronic References, Websites	non