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

Academic Program and Course Description Guide

2025

the introduction:

The educational program is a coordinated and organized package of courses that include procedures and experiences organized into study modules. The primary purpose is to build and refine graduates' skills, making them qualified to meet the requirements of the labor market. It is reviewed and evaluated annually through internal or external audit procedures and programs, such as the External Examiner Program.

The academic program description provides a brief summary of the program's main features and courses, indicating the skills students are expected to acquire based on the program's objectives. The importance of this description is evident in that it represents the cornerstone for obtaining program accreditation. It is written by faculty members under the supervision of the academic committees in the academic departments.

This guide, in its second edition, includes a description of the academic program after updating the vocabulary and paragraphs of the previous guide in light of the new developments and changes in the educational system in Iraq, which included a description of the academic program in its traditional form (annual, semester) in addition to adopting the description of the academic program circulated pursuant to the letter of the Department of Studies TM3/2906 dated 5/3/2023 with regard to programs that adopt the Bologna process as the basis for their work.

In this context, we cannot but emphasize the importance of writing descriptions of academic programs and courses to ensure the smooth running of the educational process.

Concepts and terms:

Academic Program Description: The academic program description provides a concise summary of the program's vision, mission, and objectives, including a detailed description of the targeted learning outcomes based on specific learning strategies.

Course Description: Provides a concise summary of the course's key features and the learning outcomes expected of the student, demonstrating whether the student has made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious vision for the future of the academic program to be .an advanced, inspiring, motivating, realistic, and applicable program

Program mission: It briefly explains the objectives and activities required to achieve them, and also identifies the program's development paths and directions.

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

Curriculum structure: All courses/subjects included in the academic program according to the approved learning system (semester, annual, Bologna track) whether required by (ministry, university, college, or scientific department) with the number of academic units.

Learning outcomes: A consistent set of knowledge, skills, and values acquired by the student after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the .program's objectives.

Teaching and learning strategies: These are the strategies used by faculty members to develop student teaching and learning. They are plans followed to achieve learning objectives. They describe all classroom and extracurricular activities to achieve the program's learning outcomes.

Academic Program Description Form

University Name: Al-Kitab Private University

College/Institute: College of Science

School Department: Department of Mathematics

Academic or Professional Program Title: Mathematics

Final Degree Title: Bachelor of Science in Mathematics

Academic System: Bologna Path

Description Date: Date the University President approved the academic program description

File Completion Date: April 26, 2025

:Signature

Name of Department Head: Asst. Prof. Dr. Sufyan Abbas Wahib

Date: 12/1/2025

:Signature

Name of Academic Assistant Dr. Akram :Hatem Shadar

:Date: 12/1/2025

File reviewed by

the Quality Assurance and University Performance Division

Name of the Director of : Dr. Salam Adel Ahmed

Date : **12/1/2025**

Signature :

Approval Of The Dean

1. **Program vision**
Preparing qualified graduates in mathematics, capable of interacting with the requirements of the era and technology, and contributing to building Iraqi society on sound scientific, ethical and health foundations, supporting the research and development process in Iraq, and contributing to building a healthy society.

1. Program message
Providing an educational and technical research environment that stimulates learning and creativity, contributing to the preparation of highly qualified graduates, achieving effective local and international scientific twinning, and strengthening partnerships with community sectors and international institutions in related fields.

1. Program objectives
1. Providing graduates with the necessary scientific knowledge in mathematics, aiming to deepen their understanding of the methodology of analysis, criticism, and scientific research, and to use these skills to study and serve society in the health and education sectors. 2. Empowering graduates with practical and research skills that qualify them to excel and succeed in their professional lives, enabling them to enroll in distinguished graduate programs. 3. Enabling students to train and gain practical experience on a wide range of modern technologies and using advanced scientific equipment in various mathematical disciplines. 4. Increasing awareness of mathematics in society and its role in driving health, development, and national production. 5. Developing students' skills in using modern research resources to enable them to build essential scientific skills, such as scientific writing skills, discussion skills, constructive criticism, and scientific communication.

6. Developing the department to become a distinguished center for mathematical sciences research and graduate studies Preparing students for positions in the industrial and government sectors, and in biological work fields, whether professional, research, or academic.

1. Program accreditation
Is the program accredited? And by which authority? There is no program accreditation because the department was established in 2023-2024...and is twinned with a similar department at the University of Kirkuk.

1. Other external influences
Is there a sponsor for the program Ministry of Health, Ministry of Higher Education and Scientific Research

1. Program structure

comments*	percentage	Study unit	Number of courses	Program structure
				Institutional Requirements
				College Requirements
				Department Requirements
				Summer Training
				Other

Notes may include whether the course is core or optional*

1. Program Description

Credit hours		Course name	Course code	Year/Level
Theoretical	practical			**First Level/2024-2023**

1. Expected learning outcomes of the program	
knowledge	
Learning Outcome Statement 1 Acquire discrimination skills in mathematics and how to deal with them	Learning Outcomes 1 Students who have obtained a Bachelor's degree in Mathematics are expected to have acquired some skills in .mathematical sciences
Skills	
Learning Outcome Statement 2	Learning Outcomes 2
Acquire mathematical skills in computer labs	Acquire some skills in mathematical sciences
values	
Learning Outcome Statement 4 Understanding the process of working as a team, away from personal interests	Learning Outcomes 4
Learning Outcomes Statement 5	Understand the communication process at work

1. Teaching and learning strategies

1. Teaching and learning strategies and methods adopted in implementing the program in general.

2. Incorporating various methods into the curriculum, highlighting the advantages and disadvantages of each method.

3. Incorporating real research problems into the curriculum (specific to the subject) to motivate students to express their opinions and propose solutions for the best approach to addressing problems and challenges.

4. Adopting a continuous improvement approach for all various activities and events to ensure the achievement of the college's mission and approved objectives, in accordance with quality standards (such as workshops and field trips).

Evaluation methods

.Implementing it in all stages of the program in general

- First, practical study:
- Student response through active participation in the lecture and group critique of student projects.
- Monitoring the presentation of the practical and theoretical project (which proceeds in stages leading up to the final stage) through individual and group critique and evaluation of each stage.
- Evaluating classroom tests and comparing the creative level of proposed solutions with the solutions of each student's annual projects.
- Group critique at the end of each project to assess the overall strengths and weaknesses of the students' solutions.
- •Second, theoretical study:
- Student response through student participation during the discussion of information in lectures.
- Conducting midterm and final exams (which give instructors the authority to take additional exams in the event of a delay in a particular subject, to improve student results. The instructor is free to estimate the load for that exam compared to the rest of the exams. Exam results are presented to students for review and to learn from any errors that can be overcome).
- Final exam:
- Third: Summer Training:
- Appropriate training locations are selected to suit the department's specializations. Summer training is considered a basic requirement for a successful student's transition from the third to the fourth grade. Otherwise, the student must complete the training the following year to ensure their transition to the fourth grade.
- Fourth: Monitoring and tracking student progress:
- Student activity and participation during lectures.
- The student's level of interest in submitting additional assignments.
- The student's completion of academic reports that cover more in-depth topics than those required by the curriculum, broadening their horizons and training them in scientific research.
    - ✓ The student's eagerness to attend lectures despite various difficulties.
    - ✓ Through short surprise exams, the student's academic progress and comprehension of the course are evaluated.
    - ✓ A group of committees are formed each academic year to monitor student attendance and absences. Administrative orders are issued at alternating intervals regarding absence rates and warnings. The matter is followed up by the department head and the course instructor, in agreement with faculty members.

Faculty .1 .1					
Faculty members					
Faculty preparation		**Special requirements/skills (if any)**	**Specialization**		**Academic rank**
lecturer	**angel**		**private**	**general**	
	angel	**Supervised more than 10 master's students**	**numerical analysis**	**mathematics**	**1- أ . م . د كاظم محمد حسين**
	angel		**differential**		**2- أ . م . د سفيان عباس وهيب**
	angel		**Ring theory**	**mathematics**	**3- أ . م . د اكرم حاتم شذر**
	angel		**Ring theory**	**mathematics**	**4- أ . م . د مصلح خزيم مكحول**
	angel		**rights**	**law**	**5- م . د شاكر سليمان محمود**
	angel		**physics**	**physics**	**6- أ . د خالد عبد الوهاب احمد**
	angel		**Arab**	**Arab**	**7- أ . م . د رائد رشيد صالح**
	angel		**numerical analysis**	**mathematics**	**8- م . م شنكول محمد غريب**
	angel		**Graph theory**	**mathematics**	**9- م . م احمد طه محمد**
	angel		**computer**	**computer**	**10- م . م يوسف رائد محمد**

Professional development

Orientation of new faculty members

Briefly describe the process used to orient new, visiting, full-time, and part-time faculty members at the institutional and departmental levels.

Develop the curriculum by twinning it with the courses of similar departments in other colleges of (%80) science.

Adopt local design principles, such as sustainability and research, and apply them to student projects.

Participate in local and international conferences and specialized seminars under the .

Professional development for faculty members

Briefly describe the academic and professional development plan and arrangements for faculty members, such as teaching and learning strategies, assessment of learning outcomes, professional development, etc.

One-day internship with corresponding departments

2. Acceptance criteria

Establishing regulations related to admission to the college or institute, whether through) (.central admission or other procedures

Students are admitted to the college based on their grades in the sixth grade of middle school (baccalaureate). The criteria for assigning students to departments are determined :by

- **The student's desire**
- **The student's total score in the sixth grade**
- **The department's capacity**
- **The privilege offered by the student, as his or her father or mother is a teacher • ● at the Ministry of Higher Education.**

2.The most important sources of information about the program

:Briefly remember

Textbooks • Resources • • •Websites

3.Program development plan .

Program Skills Map															
Required learning outcomes of the program															
values				Skills				knowledge				Essential or optional	Course code	Course code	Year/Level /Term
4C	3C	2C	1C	4B	3B	2B	1B	4A	3A	2A	1A				
												Core C	Differential and Integral Calculus I	UOKTB10MS101	2024/2023 First
												Core C	Fundamentals of Mathematics I	UOKTB10MS102	
												Core C	Finite Mathematics I	UOKTB10MS103	
												S Support	Computer I	UOKTB10MS104	
												S Support	Arabic	UOKTB10MS105	
												S Support	Human rights and	UOKTB10MS106	

Program Skills Map					
Required learning outcomes of the program					
values	Skills	knowledge	Essential or	Course	Course code	Year/Level

Program Skills Map															
4C	3C	2C	1C	4B	3B	2B	1B	4A	A3	2A	1A	optional	code		/Term
												Core C	Differential and integral calculus II	UOKTB10MS107	2024/2023 First/Second
												Core C	Basics of mathematics II	UOKTB10MS108	
												Core C	Linear algebra	UOKTB10MS109	
												S Support	General Mechanics	UOKTB10MS110	
												S Support	computer II	UOKTB10MS111	
												S Support	English language	UOKTB10MS112	

Required learning outcomes of the program															
values				Skills				knowledge				Essential or optional	Course code	Course code	Year/Level/ Term
4C	3C	2C	1C	4B	3B	2B	1B	A4	3A	2A	A1				
												Core C	Advanced (1) Calculus	UokScM0310	2025/2024 الثانية / الاول
												Core C	Methods for solving ordinary differential equations	UokScM0313	
												Core C	probability	UokScM0311	
												Core C	Group theory	UokScM0312	
												essential B	Mathematical Physics	UokScM0315	
												Essential B	Programming languages	UokScM0314	
												Support S	Arabic ١١	UokScM0104	

Program Skills Map						
Required learning outcomes of the program			S crimes in Iraq			
values	Skills	knowledge	Essenti	Course code	Course code	Year/Level/

4C	3C	2C	1C	4B	3B	2B	1B	4A	A3	2A	1A	al or optional			Term
												Core C	numerical 1 analysis	UOKTB10ME121	2025/2024
												Core C	Mathematical statistics	UOKTB10ME122	
												Core C	Ring theory	UOKTB10ME123	
												Core C	Methods for solving differential equations	UOKTB10ME124	
												Essenti al B	Matrix Lab (MATLAB)	UOKTB10ME125	
												optiona E l	geometric optics	UOKTB10ME126	
												Suppor t S	computer	UOKTB10ME127	
												Suppor t S	english language II	UOKTB10ME128	

•Please tick the boxes corresponding to the individual learning outcomes of the programme that are subject to assessment.

MODULE DESCRIPTION FORM

Description of the study material model

Module Information Course information					
Module Title	**Calculus I**		**Module Delivery**		
Module Type	**Core**		☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**		
Module Code	**UOKTB10MS101**				
ECTS Credits	**7.00**				
SWL (hr/sem)	**175**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Mathmatic		**College**	Science	
Module Leader	Sardar Gul Amen		**e-mail**	sardar.g.ameen@uoalkitab.edu.iq	

Module Leader's Acad. Title	Assitant Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor		**e-mail**	
Peer Reviewer Name	Kadum Muhammad Hussein	**e-mail**	Kadum.m.allami@uoalkitab.edu.iq
Scientific Committee Approval Date	**1/06/2023**	**Version Number**	**1.0**

Relation with other Modules العالقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات اللإرشادية	
Module Aims أهداف المادة الدراسية	1. Provide the fundamental base for elementary mathematics. 2. Use mathematical functions like algebraic and transcendental functions and application of derivatives to solve mathematics, engineering and physics problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Basic 2D curves drawing and lines using properties. 2. Apply mathematic techniques to find the limits and continuous. 3. Apply differential calculus and higher order to solve mathematics, engineering and Physics problems. 4. Expanding on many of the functions that were taken in the previous stages. 5. Learn about new functions and study their properties.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Chapter 1 Relations and functions, domain and range, operations on functions. Inverse functions, special function and graphs. Graphing linear equations, distance between two points and between point and line. The rate of change functions, increasing and decreasing functions. Slope and Equations for lines, functions and their graph. [18 hrs.] Chapter 2 Limits and continuity, introduction to limit, some properties of limits, limit involving infinity. Formula definition of Limit. The Limits of rational functions. Some important Theorem on limits. Introduction to continuous functions, algebraic operations on continuous functions, properties of continuous functions. [18 hrs.] Chapter 3 Derivative of functions, derivative by using definition. Derivative of corner, Differentiation rules. Second and higher order derivatives. Chain rule, implicit differentiation. [17 hrs.] Chapter 4 Derivative of special functions and some properties of Transcendental functions, such as: Trigonometri functions, Natural logarithm function, Exponential function, Exponential and logarithmic function bases other than e, Hyperbolic functions, inverse of trigonometric functions, Inverse of hyperbolic functions L'Hopital's Rules. [18 hrs.] Chapter 5

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	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. And knowing the basis of the concepts and where they came from and taking realistic applications on that.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعي	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خالل الفصل	175		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	10% (30)	5, 9, 13	LO #1-3
	Assignments	5	1% (5)	2,4,6,8,10	LO # 1-4
	Projects / Lab.				
	Report	1	1% (5)	12	
Summative assessmen	**Midterm Exam**	1r. and half	10% (10)	7	LO # 1-3
	Final Exam	3hrs.	50% (50)	16	All
Total assessment			100% (100Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Relations and functions, domain and range, operations on functions. Inverse functions,
Week 2	Special function and graphs. Graphing linear equations distance between two points and between point and line.
Week 3	The rate of change functions, increasing and decreasing functions. Slope and Equations for lines, functions and their graph.
Week 4	Introduction to limit, some properties of limits, limit involving infinity.
Week 5	Formula definition of Limit, The limits of rational functions. Some important Theorem on limits.
Week 6	Introduction to continuous functions, algebraic operations on continuous functions, properties of continuous functions.
Week 7	**Mid-term Exam +** Derivative of functions, derivative by using definition. Derivative of corner.
Week 8	Differentiation rules. Second and higher order derivatives. Chain rule, implicit differentiation.
Week 9	Derivative of special functions and some properties of Transcendental functions, such as: Trigonometric functions.
Week 10	Natural logarithm function, Exponential function, Exponential and logarithmic function bases other than e.
Week 11	Hyperbolic functions, Inverse of trigonometric functions, Inverse of hyperbolic functions, L'Hopital's Rules.
Week 12	Applications of derivatives: Related rates of change. Slopes and tangent lines with derivatives.
Week 13	Extreme values, Maximum and Minimum Theorems, Rolle's Theorem and Mean Value Theorem, Cauchy's Mean Value Theorem.
Week 14	Monotonicity test (Maximum and Minimum regions) Critical points, concavity and inflections points, Asymptotes, A curve sketching, Graphing Rational functions.
Week 15	Engineering applications, Physical applications, Arithmetic applications, velocity, and acceleration with application.
Week 16	Preparatory week before the final Exam.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي المختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	THOMAS' CALCULUS, 4th edition , 2018 BY: GEORGE B. THOMAS, JR., JOEL HASS, CHRISTOPHER HEIL and MAURICE D. WEIR	Yes
Recommended Texts	CALCULUS, 9th edition , 2020 BY: JAMES STEWART, DANIEL CLEGG and SALEEM WATSON.	Yes
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
	A - Excellent	امتياز	90 - 100	Outstanding Performance

Success Group (50 - 100)	**B -** Very Good	جيد جداً	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	Foundation of Mathematics I	**Module Delivery**
Module Type	**C**	☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**
Module Code	UOKTB10MS102	
ECTS Credits	7.00	
SWL (hr/sem)	175	

Module Level		UGI	**Semester of Delivery**		1
Administering Department		Mathmatic	**College**	Science	
Module Leader	Mulleh Khuzaym Makhoul		**e-mail**		
Module Leader's Acad. Title		Assistant Professor	**Module Leader's Qualification**		Asst. Prof. Dr.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Kadum Muhammad Hussein	**e-mail**	E-mail	
Scientific Committee Approval Date		20/06/2023	**Version Number**	1.0	

Relation with other Modules

العالقة مع المواد الدراسية ألخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات اإلرشادية

Module Aims أهداف المادة الدراسية	1. The department is interested in graduating cadres specialized in mathematics 2. Preparing outstanding students who are able to complete their postgraduate studies from masters and doctorates, in which the country suffers from a shortage 3. Graduating qualified students to work as research assistants in all scientific institutions in the field of mathematics 4. Preparing specialized cadres to work in the various state institutions, such as teaching in schools and others in the field of mathematics

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**- A. Knowledge and Understanding** A1 - That the student be able to familiarize himself with the basic concepts and principles of all courses in the Mathematics Department. A 2- That the student be able to know the importance of the branches of mathematics and link them to life reality. A3 - That the student is able to understand the definitions, mathematical facts, and theories related to the vocabulary and courses of the mathematics department. A4- The student learns about the relationship between the curricula of the Mathematics Department. A 5- That the student becomes familiar with the applications of the courses in practical life.
Indicative Contents المحتويات الإرشادية	B 1- The student acquires the skill of solving mathematical problems of all kinds and forms. B 2- To be able to employ theories in solving mathematical problems, and to have the ability to prove and prove proper mathematical proof. B 3- Develop the student's ability to deal with new and advanced cases and to deal with mathematical problems with all skill and high accuracy.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Follow the method of explanation and clarification of the courses. 2- Lectures and seminars. 3- Discussions and asking questions in the classroom in order to open the door for dialogue. 4- Homework and discussion.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	175	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	79	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) ا الحمل الدراسي الكلي للطالب خالل الفصل	254		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج االسبوعي النظري

	Material Covered

Week 1	Concept of Set, The principles of mathematical logic, Propositions and Truth Tables,
Week 2	Quantifiers, Arguments, Mathematical Proof,
Week 3	Axiomatic Development of Set Theory, Sets agebra.
Week 4	Cartesian Product, Relations and their Properties.
Week 5	Type of Relations.
Week 6	Equivalence Classes, Ordered Sets.
Week 7	Exam
Week 8	Definitions and General Properties.
Week 9	Type of Functions.
Week 10	Composition of Functions.
Week 11	Extension and Restriction of Function, The Image and Inverse Image of a Function,
Week 12	Invertible Functions.
Week 13	The Axiom of Choice and Its Equivalents.
Week 14	Equivalent Sets, Finite and Infinite Sets, Countable sets.
Week 15	Similar Sets, Cardinal numbers, Ordinal, Paradoxes in set theory.
Week 16	Preparatory week before the final Exam.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج االسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	foundations of mathematics Hadi Jaber Mustafa	Yes
Recommended Texts	1. Birkhoff .G and Mac Lane. Saunders." A Survey of Modern Algebra ", New York,1965. 2. Burton D. M." Introduction To Modern Abstract Algebra", London, 1967.	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 – 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد	80 - 89	Above average with some errors
	C - Good	جيد جيداً	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark)for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker)s(will be the automatic rounding outlined above.

Module Description Form

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Finite Mathematics I**			**Module Delivery**	
Module Type	C			☒Theory ☒Lecture ☐Lab ☒Tutorial ☐Practical ☐Seminar	
Module Code	**UOKTB10MS103**				
ECTs Credits	6				
SWL (hr/sem)	150				
Module Level	**UGI**		**Semester of Delivery**		**1**
Administrating Department	Mathematics		**College**	Science	
Module Leader	Akram Hatem Shadher		**E-mail**	akhsh@uoalkitab.edu.iq	
Module leader's Acad. Title	Assistant professor		**Module Leader's Qualification**	Asst. Prof. Dr.	
Module Tutor	---		**E-mail**	-	
Peer Reviewer Name	Kadum Muhammad Hussein		**E-mail**		
Scientific Committee Approval Date	---		**Version Number**	--	

Relation with other Modules العالقة مع المواد الدراسية الأخرى			
Prerequisite Module	None	**Semester**	-
Co-requisite Module	None	**Semester**	-

Module Aim, Learning, Outcomes, and Indicative Contents العالقة مع المواد الدراسية االخرى	
Module Aim اهداف المادة الدراسية	The aim of this module is to introduce students to some topics in the mathematics of combinatorial structures. This theory has wide applications, both in classical mathematics and in theoretical computer science.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	After successful completion of the module, students will be able to: 1. Understand and explain a variety of mathematical structures that do not involve infinite processes and limits. 2. Solve systems of linear equations. 3. Perform matrix operations. 4. Apply mathematical skills to practical problems such as input-output analysis, inventory planning, optimal production schedules, insurance probabilities, and traffic patterns.
Indicative Contents المحتويات االرشادية	Finite mathematics represents an important trend in mathematics. It is possible to single out its typical subject of study, methods, and problems, whose nature is largely determined by the necessity, characteristic of finite mathematics, for rejecting the fundamental concepts of classical mathematics limit and continuity and by the fact that the powerful methods of classical mathematics as a rule prove to be of little use in many problems of finite mathematics.

Learning and Teaching Strategies استراتيجية التعلم والتعليم	
Strategies	Type something like: 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 the type of simple experiments involving some sampling activities that are interesting to

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (hr/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	64	**Structured SWL (hr/week)** الحمل الدراسي المنتظم للطالب اسبوعيا	4.3
Unstructured SWL (hr/sem) الحمل الدراسي الغير منتظم للطالب خالل الفصل	86	**Unstructured SWL (hr/week)** الحمل الدراسي الغير منتظم للطالب اسبوعيا	5.7
Total SWL (hr/sem) الحمل الدراسي الكلي للطالب خالل الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning outcomes**
Formative assessment	**Quizzes**	2	10% (10)	5:10	All
	Assignments	2	10% (10)	2, 12	
	Project/Lab.	2	10% (10)	Continues	
	Report	1	10% (10)	13	
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	
	Final Exam	2 hr	50% (50)	16	All
Total assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Material Covered**
Week 1	Definition of matrix, Operation on Matrices, Some type of Matrices.
Week 2	Determinants and their properties.
Week 3	Inverse of matrix, Invertible matrices.
Week 4	Adjoint matrices, elementary transformations.
Week 5	Applications on matrices, Eigenvalues and Eigenvectors.
Week 6	Standard Eigenvalue Problem, Kronecker Product and Eigenvalues.
Week 7	Approximating Eigenvalues.
Week 8	Diagonalization, Jordan Form.
Week 9	Fundamental concept, representing graph with matrices connected graphs.
Week 10	Graph isomorphism, planar graphs, trees.
Week 11	Binomial Expansion.
Week 12	The Additive and Multiplication Principles.
Week 13	Permutations, Combinations.
Week 14	Random Samples.
Week 15	Tree Diagrams.
Week 16	Preparatory week before the final exam.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Librar?**
Required Texts	1. Bernard Kolman" Introductory Linear Algebra with Applications" 2. Lange. S." Linear Algebra" 3. Mostow. G. D. and Sampson. J. H." Linear Algebra" London, 1969. 4. Stoll .R. R. and Wong .E. T." Linear Algebra" London, 1968. 5, Strang. G. " Linear Algebra and Its Applications" New York, 1980	No
Recommended Texts		No
Websites		

Grading Schemes مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success Group (50-100)	**A.** Excellent	امتياز	90-100	Outstanding Performance
	B. Very Good	جيد	89-80	Above average with some errors
	C. Good	جيد جداً	79-70	Sound works with notable errors
	D. Satisfactory	متوسط	69-60	Fair but with major shortcomings
	E. Sufficient	مقبول	59-50	Work meets minimum criteria
Fail Group (0-49)	**FX.** Fail	راسب (قيد المعالجة)	45-49	More work is required, but credit awarded
	F. Fail	راسب	0-44	A considerable amount of work required

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Arabic Language**			**Module Delivery**	
Module Type	S			☒ **Theory** ☒ **Tutorial** ☐ **Lecture** ☐ **Lab** ☐ **Practical** ☐ **Seminar**	
Module Code	**UOKTB10MS105**				
ECTS Credits	**3.00**				
SWL)hr/sem(	**75**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Mathmatic		**College**	Science	
Module Leader	Ahmed Saeed Alwan		**e-mail**		
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**	Asst. Dr.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	20/06/2023		**Version Number**	1.0	

Relation with other Modules العالقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	تعريف الطالب بأساسيات اللغة العربية. كذلك كسر حاجز الخجل وزيادة ثقتهم داخل وخارج الفصل. هناك فرصة كبيرة إلشراكهم في مناقشات قصيرة حيث يمكنهم الكتابة أو التعبير عن أنفسهم شفهًيا. باإلضافة إلى ما سبق ، سن عمل على تحسين مهارات القراءة والكتابة واالستماع والتحد ث كطالب ، وتقوية ملكة الطالب الأدبية لتذوق أساليب اللغة وإدراك مواطن الجمال فيها.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. خلق وعي كامل باالستخدام الصحيح لقواعد اللغة العربية في الكتابة والمحادثة. 2. إدراك أهمية اللغة العربية داخل وخارج الحياة الجامعية. 3. سيحسن الطالب قدرتهم على التحدث باللغة العربية من حيث الطالقة واالستيعاب. 4. سيقوم الطالب بمراجعة أألشكال النحوية للغة العربية واستخدام هذه أألشكال في سياقات تواصلية .محددة ، والتي تشمل: أألنشطة الصفية ، والواجبات المنزلية ، وقراءة النصوص ، والكتابة. 5. سيعزز الطالب قدرتهم على كتابة فقرات قصيرة وملخصات باستخدام نهج العملية.
Indicative Contents المحتويات اإلرشادية	Indicative content includes the following. -مقدمة عن اهمية اللغة كاساس للتواصل بشكل عام واللغة العربية بشكل خاص ، مع مقدمة عن شروط الكالم عند النحويين في اللغة العربية, شرح كل جزء من الكالم في اللغة العربية مثل أألسماء والضمائر واألفعال وحروف الجر وحروف العطف المهارات أألساسية في تعلم اللغة العربية: القراءة والكتابة يتم .تقديمها بشكل تدريجي , الجزء أألخير مخصص لبعض جلسات تصحيح أألخطاء وردود الفعل. -جعل الطلبة على دراية بالعالقة بين أساليب التعلم وأساليب التدريس. -تشجيع الطلبة على "توسيع" أساليبهم.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. .المحاضرة المصحوبة بالشرح والتحليل. 2. الحلقة النقاشية. 3. التقارير والبحوث. 4. الاسئلة والأجوبة. 5. المشاركة الصفية.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	75	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	49	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خالل الفصل	124		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج االسبوعي النظري	
	Material Covered
Week 1	مقدمة عن اهمية دراسة اللغة العربية في حياتنا كمادة علمية وادبية وكأساس لفهم العقيدة الدينية+ مفاهيم عامة عن Week 1 علم النحو وضرورة تعلمه واتقانه.
Week 2	ما يتالف منه الكالم)الكالم, الكلمة , الكلم(, شروط الكالم عند النحويين واللغويين+ امثلة توضيحية Week 2 لتقريب المادة الى ذهن الطالب.
Week 3	الأسم تعريفه وعالماته وانواعه.
Week 4	التنوين تعريفه وانواعه.
Week 5	الفعل تعريفه بشكل عام+الفعل الماضي وحاالت بناءه والعالمات الداخلة عليه.
Week 6	الفعل المضارع وحاالت بناءه واعرابه, والعالمات الداخلة عليه+ فعل االمر وحاالت البناء وعالماته.
Week 7	المبتدأ والخبر.
Week 8	قواعد كتابة االعداد.
Week 9	قواعد كتابة االعداد المركبة, وحكم تذكيرها وتانيثها مع المعدود وقواعد اعرابها.
Week 10	قواعد كتابة الهمزة باشكالها المختلفة (المتوسطة او المتطرفة وهمزة على السطر).
Week 11	الفرق بين الضاد والظاء.
Week 12	ضوابط كتابة التاء المبسوطة والمربوطة.
Week 13	عالمات الترقيم.
Week 14	همزة الفطع وهمزة الوصل.
Week 15	أختبار

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	شرح ابن عقيل على الفية ابن مالك + النحو التعليمي والتطبيق في القرءان الكريم, د. محمد سليمان ياقوت.	Yes
Recommended Texts	1- الأسلوب ، احمد الشايب ، طرق تعليم التعبير، محمد عبد القادر أحمد 2- موسوعة النحو واالعراب, ج/1,د. مسعد زياد 3- متن االجرومية/ محمد بن اجروم الصنهاجي	Yes
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جداً	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark) for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker (s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Human Rights and Democracy		**Module Delivery**	
Module Type	Core		☒**Theory** ☐ **Lecture** ☐ **Lab** ☒**Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOKTB10MS106			
ECTS Credits	7.00			
SWL (hr/sem)	175			
Module Level	1		**Semester of Delivery**	1
Administering Department	Mathmatic		**College**	Science
Module Leader	Shakir Suleman Mahmud		**e-mail**	Shakir.s.mahmudd@uoalkitab.edu.iq

Module Leader's Acad. Title	Doctor	**Module Leader's Qualification**	Dr.
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	**1/06/2023**	**Version Number**	**1.0**

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	أ- المعرفة والفهم (الهداف المعرفية) أ 1- ان يكون الطالب ملما بمفاهيم حقوق السنسان والديمقراطية ويكتسب الوعي والثقافة السياسية. أ 2- يستطيع ان يميز بين المصطلحات والمفاهيم المختلفة مثل (حقوق الأنسان، الدمقرطة، الديمقراطية، الأنتقال الديمقراطي، العدالة السنتقالية). أ 3- القدرة على تحليل تطورات حقوق السنسان والمراحل التي مرت بها. أ 4- ان يكون قادرا على ادراك واستيعاب الاعلانات والمواثيق الدولية لحقوق الأنسان مثل الاعلان العالمي لحقوق الأنسان. أ 5- ان يكون قادرا على التعبير عن راية بخصوص واحترام اراء الخرين. أ 6- ان تكون لدية القدرة على تحليل اي مشكلة ووصفها والتنبأ بمستقبل الظاهرة السياسية. أ 7- ان يتعرف على انواع الديمقراطية والتمييز فيما بينها داخل النظم السياسية المعاصرة. ب - المهارات الخاصة بالموضوع (الهداف المهاراتية الخاصة بالمقرر) ب 1- اكتساب الطالب لمهارات التفاوض والتواصل وتبادل الراء مع الخرين. ب 2- اكتساب الطالب مهارات الحوار البسناء الهادف. ب 3- اكتساب الطالب مهارات مواجهة اي موقف والتعبيرعن الرأي بكل شجاعة وثقة بالسنفس. ج- مهارات التفكير ج 1- مهارات التحليل. ج 2- مهارات التوظيف للمفردات التي تعلمها في الواقع العملي من خلل دراسة مشكلت محددة من الواقع. ج 3- مهارات التنبؤ والدراسات المستقبلية للنظم الديمقراطية. د - المهارات العامة والمنقولة (المهارات الخرى المتعلقة بقابلية التوظيف والتطور الشخصي) د 1- القدرة على العمل كفريق. د 2- التفاعل مع فريق العمل لتحقيق المهارات المطلوبة. د 3- القدرة على القيام بعرض نظري لبعض الموضوعات ذات العلقة بمفردات المادة. د 4- اكتساب مهارات التحليل العلمي لي ظاهرة سياسية تتعلق بحقوق النسان.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- عرف المفاهيم التية: حقوق السنسان، الشرعة الدولية، الديمقراطية، الدمقرطة، التحول الديمقراطي. 2- وضح اهمية الحقوق السياسية والمدنية. 3- اذكر اهم ما جاء في المواثيق الدولية لحقوق النسان فيما يخص حق الحياة. 4- تكلم باختصار عن اسنواع الحقوق القتصادية والجتماعية والثقافية. 5- سناقش ما جاء في الدستور العراقي لعام 2005 السنافذ من ضماسنات فيما يخص حقوق الأنسان. 6- حدد اهم خصائص النظام الديمقراطي. 7- اشرح انواع الديمقراطية ثم بين اهم الأنواع القابلة للتطبيق العملي. 8- عدد مع الشرح انواع النظم الانتخابية. 9- سناقش الطار الوظيفي للسلطة التشريعية ضمن مؤسسات النظام السياسي العراقي وفق ما جاء في دستور عام 2005. 10- حدد الطار البنيوي للمؤسسة التنفيذية في النظام السياسي العراقي وفق دستور2005. 11- تكلم عن اختصاصات مجلس السنواب في اطار المؤسسة التشريعية. 12- سناقش شروط استنخاب رئيس الجمهورية وفق الدستور العراقي لعام 2005
Indicative Contents **المحتويات الرشادية**	يتضمن المحتوى الرشادي ما يلي:- مفهوم حقوق النسان وتطور الحقوق تاريخيا. مفهوم حقوق النسان وتطور الحقوق تاريخياً يتناول تعريف الحق وتعريف النسان، تعريفاً لغوياً واصطلحياً واجرائياً، خصائص حقوق الانسان، ثم ، من العصور القديمة مروراً التطور التاريخي لحقوق الانسان بالعصور الوسطى والحديثة، ومن ثم حقوق النسان المعاصرة، وما انبثق منها من اشكال واجيال لحقوق الانسان، وانواع ومصادر حقوق الانسان ومن ضمنها الحقوق المدنية والسياسية والحقوق القتصادية والجتماعية والثقافية، وحقوق الانسان في المواثيق الدولية والتشريعات الوطنية، والتحديات العالمية لحقوق الانسان ومن ضمنها التحديات الثقافية مثل العولمة والتطور التكنولوجي، والتحديات السياسية مثل الرهاب والحروب اللمتماثلة والحروب بين الدول. (5 ساعات) حقوق النسان والحريات العامة في الدستور العراقي يتناول ما تضمنه الدستور العراقي من ضمانات قانونية لحماية حقوق الانسان وحرياته العامة، وانواع تلك الضمانات. (ساعتان) الحريات العامة والديمقراطية ، في الحضارات القديمة لسيما في دول المدن اليونانية، مروراً يتناول التطور التاريخي للديمقراطية بالديمقراطية عند المفكرين الغربيين امثال توماس هوبز ومونتسكيو وجان جاك روسو، ثم النماذج التقليدية للديمقراطية (انواع الديمقراطية)، المباشرة وغير المباشرة وشبه المباشرة، وخصWائص وشروط النظام الديمقراطي، وانواع النظم النتخابية في النظمة الديمقراطية. (3 ساعات .(الديمقراطية في نظام الحكم العراقي وفق دستور 2005. يتناول الطار البنيوي لمؤسسات النظام السياسي العراقي، بنية المؤسسة التشريعية المكونة من مجلس النواب ومجلس التحاد، وبنية المؤسسة التنفيذية المكونة من رئيس الجمهورية ومجلس الوزراء، وبنية المؤسسة القضائية المكونة من مجلس القضاء العلى والمحكمة التحادية العليا، محكمة التمييز التحادية، وجهاز الدعاء العام، وهيئة الشراف القضائي، والمحاكم التحادية الاخرى، ثم الاطار الوظيفي واختصاصات مؤسسات النظام السياسي العراقي (التشريعية، التنفيذية، القضائية)، وأخيراً العلاقة بين السلطات (التوازن والتعاون، والفصل بين السلطات). (4 ساعات)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. المحاضرة المصحوبة بالشرح والتحليل. 2. الحلقة النقاشية. 3. التقارير والبحوث. 4. عرض المادة عبر شرائح (بوربوينت). 5. الاسئلة والجوبة. 6. المشاركة الصفية.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ 15 اسبوعاً			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب اسبوعياً	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5,10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2,12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	1r. and half	10% (10)	7	LO #1 - #7
	Final Exam	3hrs.	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج االسبوعي النظري

	Material Covered
Week 1	واقع حقوق الانسان في الحضارات والمجتمعات القديمة.
Week 2	واقع حقوق الانسان في الاسلام.
Week 3	مصادر حقوق الانسان (المصادر الدولية).
Week 4	مصادر حقوق الانسان (المصادر الوطنية).
Week 5	ضمانات حقوق الانسان في الاسلام.
Week 6	ضمانات حقوق الانسان على الصعيد الداخلي.
Week 7	ضمانات حقوق الانسان على الصعيد الدولي.
Week 8	حقوق الطفل.
Week 9	مفهوم الديمقراطية.
Week 10	الديمقراطية بين العالمية والخصوصية.
Week 11	اشكال الديمقراطية.
Week 12	من اشكال الديمقراطية (الديمقراطية المباشرة وشبه المباشرة).
Week 13	من اشكال الديمقراطية (الديمقراطية النيابية).
Week 14	المجلس النيابي.
Week 15	مفهوم الانتخابات وتنظيم عملية الانتخاب.
Week 16	أختبار

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. حافظ علوان حمادي الدليمي، حقوق الانسان، وزارة التعليم العالي والحث العلمي، جامعة بغداد، 2013. 2. محمد سليم مجمد، نظرات حول الديمقراطية، دار الوائل للطباعة، عمان، 2000.	Yes
Recommended Texts	1. بهاء الدين ابراهيم واخرون، حقوق الانسان بين التشريح والتطبيق، دار الجامعة الجدبدة، الاسكندرية، 2008. 2. الدستور العراقي الدائم لعام 2005، الامانة العامة لمجلس الوزراء، بغداد، 2006.	Yes
Websites	https://www.coe.int/en/web/compass/democracy.	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جداً	80 - 89	Above average with some errors

Module A الدراسية	**C** - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
Module Learnin	**E** - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F** – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark) for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker (s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information
معلومات المادة الدراسية

Module Title	**Calculus II**	**Module Delivery**	
Module Type	**Core**	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**UOKTB10MS107**		
ECTS Credits	**7.00**		
SWL (hr/sem)	**175**		
Module Level	1	**Semester of Delivery**	2
Administering Department	Mathmatic	**College**	Science
Module Leader	Sardar Gul Amen	**e-mail**	sardar.g.ameen@uoalkitab.edu.iq
Module Leader's Acad. Title	Assitant Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor		**e-mail**	
Peer Reviewer Name	Kadum Muhammad Hussein	**e-mail**	Kadum.m.allami@uoalkitab.edu.iq
Scientific Committee Approval Date	**1/06/2023**	**Version Number**	**1.0**

Relation with other Modules

العالقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	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. And knowing the basis of the concepts and where they came from and taking realistic applications on that.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعي	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خالل الفصل	175		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	10% (30)	5, 9, 13	LO #1-3
	Assignments	5	1% (5)	2,4,6,8,10	LO # 1-4

	Projects / Lab.				
	Report	1	1% (5)	12	
Summative assessment	**Midterm Exam**	1r. and half	10% (10)	7	LO # 1-3
	Final Exam	3hrs.	50% (50)	16	All
Total assessment			100% (100Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Integration: Introduction of Integrations, Types of integrations, Integrations of special functions, such as: Algebraic functions, celling and floor functions.
Week 2	Trigonometric functions, Natural logarithm function, Exponential function, Exponential and logarithmic function bases other than e.
Week 3	Hyperbolic functions, Inverse of trigonometric functions, Inverse of hyperbolic functions.
Week 4	Techniques of integration: Integration using substitution, Integration by parts, Integration of Trigonometric(power, product).
Week 5	Trigonometric substitutions, Rational functions and partial fractions.
Week 6	Rationaling substitutions, Integration of rational function in sine and cosine, Integral by hyperbolic substation.
Week 7	**Mid-term Exam +** Improper Integral, Comparison test for improper Integrals, King property integration.
Week 8	Applications of integration: Definition of Areas and types of areas, Definition Volumes, Types of volumes.
Week 9	Types of volumes, length of curves in the plane, Areas of Surfaces of revolution.
Week 10	Review the Cartesian coordinates with two dimensions, Polar Coordinates and types of polar equations.
Week 11	Symmetric of polar, Converting between Cartesian and polar, Tangents to polar curves, Area with polar, Arc length of polar curves.
Week 12	Cartesian coordinates with three dimensions, Representations and decrement octanes, distance formula and section formula in three dimensions, graphs, Applications in three dimensions, introduction of cylindrical and spherical coordinates with converting.
Week 13	Introduction about Sequences, formula of sequences, types of sequences, convergent and divergent of sequences, Testing for monotonicity for sequences,

Week 14	Introduction about series and formula of series, geometric series, Test convergence and divergence of series.
Week 15	Introduction of polynomials, Maclaurin polynomial, Taylor polynomial.
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي المختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	THOMAS' CALCULUS, 4th edition , 2018 BY: GEORGE B. THOMAS, JR., JOEL HASS, CHRISTOPHER HEIL and MAURICE D. WEIR	Yes
Recommended Texts	CALCULUS, 9th edition , 2020 BY: JAMES STEWART, DANIEL CLEGG and SALEEM WATSON.	Yes
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جداً	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Foundation of Mathematics II	**Module Delivery**	
Module Type	C	☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	UOKTB10MS108		
ECTS Credits	7.00		
SWL (hr/sem)	175		
Module Level	UGI	**Semester of Delivery**	2

Administering Department	Mathmatic	**College**	Science
Module Leader	Muslleh Khuzaym Makhoul	**e-mail**	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Asst. Prof.
Module Tutor		**e-mail**	
Peer Reviewer Name	Kadum Muhammad Hussein	**e-mail**	Kadum.m.allami@uoalkitab.edu.iq
Scientific Committee Approval Date	20/06/2023	**Version Number**	1.0

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. The department is interested in graduating cadres specialized in mathematics 2. Preparing outstanding students who are able to complete their postgraduate studies from masters and doctorates, in which the country suffers from a shortage 3. Graduating qualified students to work as research assistants in all scientific institutions in the field of mathematics 4. Preparing specialized cadres to work in the various state institutions, such as teaching in schools and others in the field of mathematics

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**- A. Knowledge and Understanding** A1 - That the student be able to familiarize himself with the basic concepts and principles of all courses in the Mathematics Department. A 2- That the student be able to know the importance of the branches of mathematics and link them to life reality. A3 - That the student is able to understand the definitions, mathematical facts, and theories related to the vocabulary and courses of the mathematics department. A4- The student learns about the relationship between the curricula of the Mathematics Department. A 5- That the student becomes familiar with the applications of the courses in

Indicative Contents المحتويات الإرشادية	B 1- The student acquires the skill of solving mathematical problems of all kinds and forms. B 2- To be able to employ theories in solving mathematical problems, and to have the ability to prove and prove proper mathematical proof. B 3- Develop the student's ability to deal with new and advanced cases and to deal with mathematical problems with all skill and high accuracy.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Follow the method of explanation and clarification of the courses. 2- Lectures and seminars. 3- Discussions and asking questions in the classroom in order to open the door for dialogue.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	175	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) ا الحمل الدراسي الكلي للطالب خالل الفصل	271		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan)Weekly Syllabus(

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Binary Operations, Mathematical Systems, Groups, Rings, Fields.
Week 2	Introduction, Construction of Natural Numbers, Axiom of Infinity, Peanos Axioms for Natural Numbers,
Week 3	Arithmetic of the Natural Numbers, Ordered on the Set of Natural Numbers, The set of counting number, Mathematical Induction.

Week 4	Introduction, Construction of Integers, Arithmetic of the Integers, Order on the Set of Integers, Absolute Value.
Week 5	Introduction, Construction of Rational Numbers, Arithmetic of the Rational Numbers,
Week 6	Order on the Set on Rational Numbers, Properties of Rational Numbers .
Week 7	Sequences, Convergence, Cauchy Sequences, Cut, Positive Sequence.
Week 8	Introduction, Construction of Real Numbers, Arithmetic of the Real Numbers, Order on the Set on Real Numbers,
Week 9	exam
Week 10	The Completeness, Properties of Real Numbers.
Week 11	Introduction, Construction of Complex Numbers, Arithmetic of the Complex Numbers,
Week 12	Order on the Set on Complex Numbers, Geometric Representation of Complex Numbers,
Week 13	Modulus of Complex Number, Polar Representation of Complex Numbers, Roots of Complex Numbers

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر	
	Material Covered
Week 1	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	foundations of mathematics Hadi Jaber Mustafa	Yes
Recommended Texts	1. Birkhoff .G and Mac Lane. Saunders." A Survey of Modern Algebra ", New York,1965. 2. Burton D. M." Introduction To Modern Abstract Algebra", London, 1967.	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (**50 – 100**)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد	80 - 89	Above average with some errors
	C - Good	جيد جيداً	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F** – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark)for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker)s(will be the automatic rounding outlined above.

Module Description Form

نموذج وصف المادة الدراسية

Module Information **معلومات المادة الدراسية**					
Module Title	**Linear Algebra**			**Module Delivery**	
Module Type	**C**			☒Theory ☒ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	**UOKTB10MS109**				
ECTs Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		UGI	**Semester of Delivery**		2
Administrating Department		Mathematics	**College**	College of Science	
Module Leader			**E-mail**		

Module leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	---	**E-mail**	
Peer Reviewer Name	---	**E-mail**	
Scientific Committee Approval Date	---	**Version Number**	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aim, Learning, Outcomes, and Indicative Contents العلاقة مع المواد الدراسية الأخرى	
Aim Module **اهداف المادة الدراسية**	This course aims to make the students become familiar with the basic concepts of linear algebra with a thorough understanding of vector spaces, linear transformations and matrix operations enhancing the students' ability to reason mathematically and able to apply this knowledge to many fields in engineering, statistics and computer science.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Students completing this course will be able to compute the inverse of an invertible matrix. 2. Students completing this course will be able to find the null space of a matrix and represent it as the span of independent vectors. 3. Students completing this course will be able to find the matrix representation of a linear transformation given bases of the relevant vector spaces.

Indicative Contents **المحتويات الأرشادية**	This module covers matrix theory and linear algebra, emphasizing topics useful in other disciplines. Linear algebra is a branch of mathematics that studies systems of linear equations and the properties of matrices. The concepts of linear algebra are extremely useful in physics, economics and social sciences, natural sciences, and engineering. Due to its broad range of applications, linear algebra is one of the most widely taught subjects in college-level mathematics.

Learning and Teaching Strategies استراتيجيةالتعلم و التعليم

Strategies	Type something like: 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 the type of simple experiments involving some sampling activities that are interesting to students.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خالل الفصل	79	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خالل الفصل	46	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خالل الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	All
	Assignments	2	10% (10)	2, 12	
	Projects / Lab.	2	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to Linear Algebra, Systems of Linear Equations, Solving Linear Systems
Week 2	Vectors and Matrices
Week 3	Homogeneous Linear Systems
Week 4	Vector Spaces and Transformations, Euclidean Vector spaces
Week 5	Linear Transformations, The Space of Linear Transformations, Rank and Nullity
Week 6	Inverse Transformations, Matrix of Linear Transformations
Week 7	Change of Bases and Normal Forms Matrix Operations, Matrices
Week 8	Matrix inverses
Week 9	Determinants, Properties and Applications
Week 10	Eigenvalues and Eigenvectors
Week 11	Inner Product Vector Spaces
Week 12	Definitions and General Properties, Eigen Space and Diagonalization of a Linear Transformation
Week 13	Similar Matrices, Cayley – Hamilton Theorem and Its Applications
Week 14	Bilinear Functions, Quadratic Functions
Week 15	Quadratic Forms
Week 16	**Preparatory week before the final exam.**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Bernard Kolman" Introductory Linear Algebra with Applications" 2. Lange. S." Linear Algebra" 3. Mostow. G. D. and Sampson. J. H." Linear Algebra" London, 1969. 4. Stoll .R. R. and Wong .E. T." Linear Algebra" London, 1968. 5, Strang . G. " Linear Algebra and Its Applications" New York, 1980	No
Recommended Texts		No
Websites		

Grading Schemes مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success Group (50-100)	**A.** Excellent	امتياز	90-100	Outstanding Performance
	B. Very Good	جيد	89-80	Above average with some errors
	C. Good	جيد جداً	79-70	Sound works with notable errors
	D. Satisfactory	متوسط	69-60	Fair but with major shortcomings
	E. Sufficient	مقبول	59-50	Work meets minimum criteria
Fail Group (0-49)	**FX.** Fail	راسب (قيد المعالجة)	45-49	More work is required, but credit awarded
	F. Fail	راسب	0-44	A considerable amount of work required

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية		
Module Title	**General Mechanics**	**Module Delivery**

Module Type	S	☒ **Theory**
Module Code	**UOKTB10MS110**	☒ **Lecture**
ECTS Credits	4.00	☐ **Lab**
SWL (hr/sem)	**100**	☐ **Tutorial** ☐ **Practical** ☒ **Seminar**

Module Level	UGx1 UGI	**Semester of Delivery**	**2**
Administering Department	Mathematics	**College**	College of Science
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date	01/06/2023	**Version Number**	1

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Physical Sciences aims to develop learners': • Interest in and appreciation of physics and chemistry, and their usefulness in helping to explain phenomena and solve problems encountered in their ever-changing world • Understanding of the theories and models used to describe, explain and make predictions about diverse natural phenomena and chemical systems, structures and properties • Understanding of the ways in which matter and energy interact in physical systems across a range of scales • Understanding of the factors that affect chemical systems, and how chemical systems can be controlled to produce desired products • Appreciation of physics and chemistry as experimental sciences that have developed through independent and collaborative research, and that have significant impacts on society and implications for decision making • Expertise in conducting a range of scientific investigations, including the collection and analysis of qualitative and quantitative data and the

	interpretation of evidence • Ability to critically evaluate and debate scientific arguments and claims in order to solve problems and generate informed, responsible and ethical conclusions • Ability to communicate scientific understanding and findings to a range of audiences, including through the use of appropriate representations, language and nomenclature.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course, students will be able to: 1. Plan activities, monitoring and evaluating progress while completing activities, meeting deadlines and contributing to completion of group activities in the context of physics and chemistry 2. Communicate, predict and explain physical science phenomena, using qualitative and quantitative representations in appropriate modes and genres, and following accepted conventions and terminology 3. Apply discriminating research skills and apply the principles of academic integrity; collecting and recording primary and secondary data from a variety of relevant sources 4. Utilize practical skills safely, and competently select and use scientific techniques and equipment to collect and organize data related to physics and chemistry 5. Use scientific inquiry skills to enable them to perform and evaluate experiments relating to physics and chemistry; analyzing and interpreting data to draw valid conclusions 6. Make connections between knowledge of physics and chemistry and ethical, political, cultural, social, economic and scientific considerations in differing contexts 7. Apply physics and chemistry concepts, models and theories to analyze physical and chemical phenomena 8. Apply physics and chemistry processes to analyze physical and chemical phenomena.
Indicative Contents المحتويات الإرشادية	For the content areas of Physical Sciences, the three (3) interrelated strands: 1-Science Inquiry Skills 2-Science as a Human Endeavour 3-Science Understanding. In the practice of science, the three strands are closely integrated. The work of scientists reflects the nature and development of science, is built around scientific inquiry, and seeks to respond to and influence society. Science Inquiry Skills and Science as a Human Endeavour strands (respectively): • Undertake, interpret and analyze experiments and investigations • Analyze the application and impact of physical science in society • Must be integrated into the five interwoven threads of Science

Learning and Teaching Strategies استراتيجية التعلم والتعليم

Strategies	• Use analogies and anecdotes. • Group your students by knowledge gaps. • Tell your students what they don't know. • Teach everything you can get away with. • Summarize the material in different ways. • Encourage them to ask questions. • Use anecdotes to show how physics works.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	2 and 4	LO #1, #2 and #3, #4
	Assignments	2	10% (10)	3 and 5	LO #5, #6 and #7, #8
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	1	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week V	Material Covered
Week 1	Giving information about the module topics and brief description about evaluation ways in addition to books or references that can be helpful for this module a long with the lectures. General introduction.

Week 2	CH1 : Uniformly Accelerated Motion – part 1
Week 3	CH1 : Uniformly Accelerated Motion – part 2
Week 4	CH2 : Newton laws – part 1
Week 5	CH2 : Newton laws – part 2
Week 6	CH3 : Work , Energy and Power – part 1
Week 7	CH3 : Work , Energy and Power – part 2
Week 8	Mid-term exam
Week 9	CH4 : Impulse and Momentum – part 1
Week 10	CH4 : Impulse and Momentum – part 2
Week 11	CH5 : Fluids – part 1
Week 12	CH5 : Fluids – part 2
Week 13	CH5 : Simple Harmonic Motion and Springs – part 1
Week 14	CH5 : Simple Harmonic Motion and Springs – part 2
Week 15	Preparatory week before the final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week V	**Material Covered**
Week	
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	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**

Required Texts	• Physics for Scientists and Engineers, Serway, 6th edition.	Yes
Recommended Texts	Schaum outlines , College Physics , Frederick j. Bueche Eugne Hecht . Ninth edition , 1997 P. Atkins and J. De Paula, Atkins' Physical Chemistry, eighth edition, W. H. Freeman Company, 2006. Fundamentals of Physics, Halliday, Resnick and Walker, 10th Fundamental Univesity Physics, Marcelo Alonso, Edward J. Finn, Vol. 1	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme
مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.