

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Mathematics I			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIMaI 1 01 01				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	The student can be enabled to understand and explain the various phenomena in a mathematical way through scientific presentation and logical analysis, linking these phenomena with each other and knowing the effect of different phenomena on each other, as the course paves the way for entering the wider world of mathematics in the later stages. And an attempt to link this science with the different sciences by teaching the student how to draw different functions, which are mathematical representations of natural events, knowing the slope and equation of the straight line, as well as real numbers, ends, groups, inequalities, absolute values, conic sections, ends, continuities, derivatives of transcendental functions, integration with the quality of the determinant and the indefinite, and its various applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Study and comprehend general concepts and basic principles in mathematics 2. Take advantage of connecting topics with equations to solve them correctly. 3. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy 4. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Indicative Contents

المحتويات

1. The ability to visualize the geometric shape of a drawing
2. Ability to work on a computer and master its programs
3. The lie is from the famous AutoCAD drawing program, which needs to imagine the drawing and realize it for the purpose of drawing it
4. Mastery of mathematics to relate it to the stereoscopic geometry of a purpose the answer in descriptive engineering.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Lines and Trigonometric Functions
Week 2	Lines and Trigonometric Functions
Week 3	Domain and corresponding field
Week 4	Domain and corresponding field
Week 5	Objectives and the installation of functions
Week 6	Objectives and the installation of functions
Week 7	Continuity of functions and derivatives
Week 8	Continuity of functions and derivatives
Week 9	Derivative applications تطبيقات
Week 10	Derivative applications تطبيقات
Week 11	Trigonometric Inverse Functions
Week 12	Domain and corresponding domain of inverse trigonometric functions
Week 13	Domain and corresponding domain of inverse trigonometric functions
Week 14	Domain and corresponding domain of inverse trigonometric functions
Week 15	Domain and corresponding domain of inverse trigonometric functions
Week 16	Domain and corresponding domain of inverse trigonometric functions

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing & Graphic Technology" By Thomas E. French, McGraw Hill Book Company. 1990	yes
Recommended Texts	"Exercises in Mechanical Drawing", By SKBogolyubov, Mir Publishers. 1975	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Mechanics I			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIMeI 1 02 02				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	The student can be enabled to understand and explain the various phenomena in a mathematical way through scientific presentation and logical analysis, linking these phenomena with each other and knowing the effect of different phenomena on each other, as the course paves the way for entering the wider world of mathematics in the later stages. And an attempt to link this science with the different sciences by teaching the student how to draw different functions, which are mathematical representations of natural events, knowing the slope and equation of the straight line, as well as real numbers, ends, groups, inequalities, absolute values, conic sections, ends, continuities, derivatives of transcendental functions, integration with the quality of the determinant and the indefinite, and its various applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. During the course, the student will be introduced to many basic physical and engineering terms that help him understand physical and engineering concepts and theories. 2. The student learns how to calculate the sum of the systems of forces and at the same time analyze the forces into their components. 3. The course helps the student on how to calculate the center of gravity for a group of molecules and thus he knows the method of calculating the center of gravity for a specific body and learns to calculate the center of gravity. 4. The student learns how to calculate the center of pressure and how to deal with its engineering applications, especially in the field of fluid mechanics. 5. During the course, the student becomes acquainted with the concept of equilibrium and the meaning of the free-body diagram, and then how to form equilibrium equations for all types of power systems, the student uses equilibrium equations for structural analysis For trusses and structural structures. 6. The course helps the student to Understand the nature, benefits and applications of friction Physical and engineering. 7. The student learns many problems and applications of how to calculate the second moment of area. The course sheds light on a group of topics related to preparing the student's mind to understand the basic concepts of kinesiology.

Indicative Contents

المحتويات

1. The ability to imagine the geometric shape for the purpose of drawing and develop appropriate solutions for it
2. Ability to work on issues related to the article

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	INTRODUCTION
Week 2	Scalar and vector quantities
Week 3	Forces
Week 4	Composition and resolution of forces
Week 5	Moment of a force
Week 6	Principles of moments
Week 7	Couples
Week 8	Transformation of a couple
Week 9	Resolution of a force into a force and a couple
Week 10	<u>Resultant of Force System (4 weeks)</u>
Week 11	<u>Resultant of Force System (4 weeks)</u>
Week 12	<u>Resultant of Force System (4 weeks)</u>
Week 13	<u>Resultant of Force System (4 weeks)</u>
Week 14	Resultant of a nonconcurrent, coplanar force system
Week 15	Resultant of a nonconcurrent, coplanar force system
Week 16	Resultant of a concurrent ,noncoplanar force system

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	J-Thomas (Calculus and Analysis Geometry)	yes
Recommended Texts	Howard Anton (Calculus and Analysis Geometry)	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 جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Drawing and Drawing by Computer			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIDE 1 03 03				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

- 1.The student can draw geometric shapes, stereoscopic drawings, and sections, and he can read ready-made engineering drawings.
- 2- The student will be able to draw geometric shapes using AutoCAD.
- 3_The student imagines the final shape of the engineering drawing

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

- 1. The student will be familiar with the AutoCAD interface and its contents.**
- 2. The student will be familiar with the methods of drawing lines and geometric shapes using the computer.**
- 3. The student learns how to use drawing aids.**
The student learns about the modification commands represented by displacement, erasure, transfer, rotation.

Indicative Contents

المحتويات

1. - The ability to visualize the geometric shape of a drawing
2. C2- Ability to work on a computer and master its programs
3. C3- The lie is from the famous AutoCAD drawing program, which needs to imagine the drawing and realize it for the purpose of drawing it

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	primary principles
Week 2	primary principles
Week 3	Lines in engineering drawing
Week 4	Lines in engineering drawing
Week 5	Lines in engineering drawing
Week 6	geometric line
Week 7	geometric line
Week 8	engineering operations
Week 9	engineering operations
Week 10	engineering operations
Week 11	engineering operations
Week 12	Geometric projections
Week 13	Geometric projections
Week 14	Geometric projections
Week 15	Geometric projections
Week 16	Geometric projections

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing & Graphic Technology" By Thomas E. French, McGraw Hill Book Company. 1990	yes
Recommended Texts	"Exercises in Mechanical Drawing", By SKBogolyubov, Mir Publishers. 1975	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 جدا	80 - 89	Above average with some errors
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Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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Module Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Statistics			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEs 1 04 04				
ECTS Credits	4				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	Engineering Statistic is a sequence that covers the fundamental elements of statistic methods for engineering applications and problems. Statistics is one of the most important sciences on which political, economic and cultural development depends, etc. Statistics has a key role in the work of academic institutions and the research organizations. In these semesters, students will study statistic with respect to engineering applications and problems in order to obtain
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student will be familiar with the principles of statistics 2. The student learns how to use engineering statistics to solve civil engineering problems
Indicative Contents المحتويات	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
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Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction and terminology in statistics
Week 2	Description, tab and data display
Week 3	Description, tab and data display
Week 4	Measures of Central Tendency Measures of Concentration
Week 5	Measures of dispersion or change
Week 6	Principles of probability theory
Week 7	Principles of probability theory
Week 8	Principles of probability theory
Week 9	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 10	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 11	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 12	sampling theory Methods and sampling distribution, central limit theorem
Week 13	guess theory
Week 14	Statistical Decision Theory
Week 15	regression and correlation
Week 16	Revision

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Statistics and its engineering applications, Dr. Neamat Hamid Emara and Sahar Shaker Tawfiq, 1989.	yes
Recommended Texts	Statistics and its engineering applications, Dr. Neamat Hamid Emara and Sahar Shaker Tawfiq, 1989.	yes
Websites		

Grading Scheme				
مخطط الدرجات				
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Module Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Building Materials			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIBm 1 05 05				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

Considering the importance of construction and building materials in practical life by constructing buildings and implementing projects and ages, through knowledge of the engineering properties of materials, and their suitability in construction work, as the construction process of buildings and projects, as it constitutes the main nerve in the development of societies and urban movement of that country The development of the country is identified through the development of characteristics and uses of modern materials, so the course aims to develop knowledge capabilities and familiarize students with the features, properties and methods of manufacturing and the use of construction materials, in order to involve them in the design and implementation of buildings and urban projects. knowledge and proficiency for predicting the Solutions and the logical explanation of these problems.

Module Learning Outcomes

مخرجات التعلم للمادة
الدراسية

- 1. The student learns about the quality of construction materials**
- 2. The student learns about the physical and chemical composition of structural materials.**

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Classification of engineering materials and their engineering properties
Week 2	Mechanical properties of the material (types of forces, Hooke's law, strain, stress, modulus of elasticity, creep)
Week 3	Exercises on the mechanical properties of materials
Week 4	Clay bricks (classification of soils according to granular gradation, the most important clay minerals)
Week 5	Stages and methods of making clay bricks (forming methods, drying, burning)
Week 6	Engineering properties of clay bricks
Week 7	Kinds of clay bricks
Week 8	Other types of bricks and non-clay blocks (thermstone, limestone)
Week 9	Concrete bricks, glass bricks
Week 10	Types of bonding materials (plaster)
Week 11	Plaster industry and its classifications according to the Iraqi and British standards
Week 12	Gypsum products and additives to gypsum (Gypsum uses)
Week 13	Noura (Noura industry) Noura furnaces, Noura extinguishing, Noura types
Week 14	The properties of the inflorescence, and its uses in construction, the properties of the cement mortar
Week 15	Classification of engineering materials and their engineering properties
Week 16	Mechanical properties of the material (types of forces, Hooke's law, strain, stress, modulus of elasticity, creep)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Building construction , ZoiharSako ,Baghdad university , 1984	yes
Recommended Texts	Iraqi Standard Specifications	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 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 (فيد 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.				

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction and terminology in statistics
Week 2	Description, tab and data display
Week 3	Description, tab and data display
Week 4	Measures of Central Tendency Measures of Concentration
Week 5	Measures of dispersion or change
Week 6	Principles of probability theory
Week 7	Principles of probability theory
Week 8	Principles of probability theory
Week 9	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 10	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 11	Special Distributions A- Discrete Probability Distributions B- Continuous Distributions
Week 12	sampling theory Methods and sampling distribution, central limit theorem
Week 13	guess theory
Week 14	Statistical Decision Theory
Week 15	regression and correlation
Week 16	Revision

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Statistics and its engineering applications, Dr. Neamat Hamid Emara and Sahar Shaker Tawfiq, 1989.	yes
Recommended Texts	Statistics and its engineering applications, Dr. Neamat Hamid Emara and Sahar Shaker Tawfiq, 1989.	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Building Materials			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEI 1 05 05				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	Considering the importance of construction and building materials in practical life by constructing buildings and implementing projects and ages, through knowledge of the engineering properties of materials, and their suitability in construction work, as the construction process of buildings and projects, as it constitutes the main nerve in the development of societies and urban movement of that country The development of the country is identified through the development of characteristics and uses of modern materials, so the course aims to develop knowledge capabilities and familiarize students with the features, properties and methods of manufacturing and the use of construction materials, in order to involve them in the design and implementation of buildings and urban projects.knowledge and proficiency for predicting the Solutions and the logical explanation of these problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student learns about the quality of construction materials 2. The student learns about the physical and chemical composition of structural materials.

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Classification of engineering materials and their engineering properties
Week 2	Mechanical properties of the material (types of forces, Hooke's law, strain, stress, modulus of elasticity, creep)
Week 3	Exercises on the mechanical properties of materials
Week 4	Clay bricks (classification of soils according to granular gradation, the most important clay minerals)
Week 5	Stages and methods of making clay bricks (forming methods, drying, burning)
Week 6	Engineering properties of clay bricks
Week 7	Kinds of clay bricks
Week 8	Other types of bricks and non-clay blocks (thermstone, limestone)
Week 9	Concrete bricks, glass bricks
Week 10	Types of bonding materials (plaster)
Week 11	Plaster industry and its classifications according to the Iraqi and British standards
Week 12	Gypsum products and additives to gypsum (Gypsum uses)
Week 13	Noura (Noura industry) Noura furnaces, Noura extinguishing, Noura types
Week 14	The properties of the inflorescence, and its uses in construction, the properties of the cement mortar
Week 15	Classification of engineering materials and their engineering properties
Week 16	Mechanical properties of the material (types of forces, Hooke's law, strain, stress, modulus of elasticity, creep)

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Building construction , ZoiharSako ,Baghdad university , 1984	yes
Recommended Texts	Iraqi Standard Specifications	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Mathematics II			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIMaII 1 07 07				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		Version Number	1.0	

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

Module Aims أهداف المادة الدراسية	The student can be enabled to understand and explain the various phenomena in a mathematical way through scientific presentation and logical analysis, linking these phenomena with each other and knowing the effect of different phenomena on each other, as the course paves the way for entering the wider world of mathematics in the later stages. And an attempt to link this science with the different sciences by teaching the student how to draw different functions, which are mathematical representations of natural events, knowing the slope and equation of the straight line, as well as real numbers, ends, groups, inequalities, absolute values, conic sections, ends, continuities, derivatives of transcendental functions, integration with the quality of the determinant and the indefinite, and its various applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	5. Study and comprehend general concepts and basic principles in mathematics 6. Take advantage of connecting topics with equations to solve them correctly. 7. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy 8. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.
Indicative Contents المحتويات	5. The ability to visualize the geometric shape of a drawing 6. Ability to work on a computer and master its programs 7. The lie is from the famous AutoCAD drawing program, which needs to imagine the drawing and realize it for the purpose of drawing it 8. Mastery of mathematics to relate it to the stereoscopic geometry of a purpose the answer in descriptive engineering.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Domain and corresponding domain of inverse trigonometric functions
Week 2	Domain and corresponding domain of inverse trigonometric functions
Week 3	Domain and corresponding domain of inverse trigonometric functions
Week 4	Conic Sections and Other Curves
Week 5	Conic Sections and Other Curves
Week 6	integration
Week 7	space
Week 8	Trapezoidal and Simpson base
Week 9	Sizes
Week 10	Sizes
Week 11	surface area
Week 12	Logarithmic functions
Week 13	Logarithmic functions
Week 14	Exponential functions
Week 15	Exponential functions
Week 16	integration methods

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing & Graphic Technology" By Thomas E. French, McGraw Hill Book Company. 1990	yes
Recommended Texts	"Exercises in Mechanical Drawing", By SKBogolyubov, Mir Publishers. 1975	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 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.				

Module Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Mechanics II			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIMeII 1 08 08				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	The student can be enabled to understand and explain the various phenomena in a mathematical way through scientific presentation and logical analysis, linking these phenomena with each other and knowing the effect of different phenomena on each other, as the course paves the way for entering the wider world of mathematics in the later stages. And an attempt to link this science with the different sciences by teaching the student how to draw different functions, which are mathematical representations of natural events, knowing the slope and equation of the straight line, as well as real numbers, ends, groups, inequalities, absolute values, conic sections, ends, continuities, derivatives of transcendental functions, integration with the quality of the determinant and the indefinite, and its various applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	8. During the course, the student will be introduced to many basic physical and engineering terms that help him understand physical and engineering concepts and theories. 9. The student learns how to calculate the sum of the systems of forces and at the same time analyze the forces into their components. 10. The course helps the student on how to calculate the center of gravity for a group of molecules and thus he knows the method of calculating the center of gravity for a specific body and learns to calculate the center of gravity. 11. The student learns how to calculate the center of pressure and how to deal with its engineering applications, especially in the field of fluid mechanics. 12. During the course, the student becomes acquainted with the concept of equilibrium and the meaning of the free-body diagram, and then how to form equilibrium equations for all types of power systems, the student uses equilibrium equations for structural analysis For trusses and structural structures. 13. The course helps the student to Understand the nature, benefits and applications of friction Physical and engineering. 14. The student learns many problems and applications of how to calculate the second moment of area. The course sheds light on a group of topics related to preparing the student's mind to understand the basic concepts of kinesiology.

Indicative Contents

المحتويات

3. The ability to imagine the geometric shape for the purpose of drawing and develop appropriate solutions for it
4. Ability to work on issues related to the article

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	2.2 Resultant of a concurrent ,coplanar force system
Week 2	2.3 Resultant of a nonconcurrent, coplanar force system
Week 3	2.3 Resultant of a nonconcurrent, coplanar force system
Week 4	2.4 Resultant of a concurrent ,noncoplanar force system
Week 5	2.5 Resultant of a parallel ,noncoplanar force system
Week 6	2.6 Resultant of a system of couples in space
Week 7	<u>3.Equilibrium (3 weeks)</u>
Week 8	<u>3.Equilibrium (3 weeks)</u>
Week 9	3.1 Equilibrium
Week 10	3.2 Free-body diagram
Week 11	3.3 Equations of equilibrium for a concurrent ,coplanar force system
Week 12	3.4 Equilibrium of bodies acted on by two forces or three forces
Week 13	<u>4.Analysis of structures (3 weeks)</u>
Week 14	<u>4.Analysis of structures (3 weeks)</u>
Week 15	<u>4.Analysis of structures (3 weeks)</u>
Week 16	4.1 Analysis of beams

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	J-Thomas (Calculus and Analysis Geometry)	yes
Recommended Texts	Howard Anton (Calculus and Analysis Geometry)	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Computer Language			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCICl 1 09 09				
ECTS Credits	4				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

The student will be able to know the hardware and software components of the computer. The student can Learn about algorithms and their importance in being the rationale for a solution Any arithmetic or logical question. The student can write programs in BASIC to solve mathematical and engineering problems. Learning Outcomes, Teaching ,Learning and Assessment Method Cognitive goals The student will be familiar with number systems and writing flowcharts. Recognition Input and output sentences And the Library functions in BASIC and how to use them in writing its program The student recognizes on one-dimensional matrices And the Two-dimensional arrays and their great importance in software applications . Identify the first section of the subprograms, which is the external function and the second section of the subprograms,

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

1. The student will be familiar with number systems and writing flowcharts.
2. Recognition Input and output sentences And the Library functions in BASIC and how to use them in writing its program
3. The student recognizes on one-dimensional matrices And theTwo-dimensional arrays and their great importance in software applications .
4. Identify the first section of the subprograms, which is the external function And theThe second section of the subprograms, which is the subroutines.

Indicative Contents

المحتويات

1. Familiarize students with the basics of programming
2. The ability to write a program for the purpose of applying it to a computer
3. Ability to work on a computer and master its programs
4. The lie from the BASIC program, which needs to understand and realize its commands for the purpose of solving engineering problems

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Familiarize yourself with the physical and software components of the calculator
Week 2	Familiarize yourself with the physical and software components of the calculator
Week 3	Number systems
Week 4	Number systems
Week 5	Algorithms
Week 6	Algorithms
Week 7	Flowcharts
Week 8	Flowcharts
Week 9	Input and output sentences
Week 10	Input and output sentences
Week 11	Input and output sentences
Week 12	Input and output sentences
Week 13	Office functions in BASIC
Week 14	Office functions in BASIC
Week 15	Familiarize yourself with the physical and software components
Week 16	Familiarize yourself with the physical and software components

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Programming Microsoft Visual Basic 6.0 <i>Author: Francesco Balena</i>	yes
Recommended Texts	Beginning Visual Basic 6 Database Programming <i>Author: John Connell</i>	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Geology			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEg 1 10 10				
ECTS Credits	3				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	Engineering Geology teaches civil engineering students to learn the fundamental of soil formations, minerals of the different layer. The source syllabus includes: Introduction, Minerals, Rocks, Physical and Mechanical Properties of Rock, Soil Engineering, Underground Water Geology, Geological Maps, Tunnel Geology, Types and Location of Tank and Dams, Geological Investigation Quarry. Engineering Geology teaches civil engineering students to learn the fundamental of soil formations, minerals of the different layer. The source syllabus includes: Introduction, Minerals, Rocks, Physical and Mechanical Properties of Rock, Soil Engineering, Underground Water Geology, Geological Maps, Tunnel Geology, Types and Location of Tank and Dams, Geological Investigation Quarry.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Preparing the student to study engineering geology topics. 2. The student learns about the components of the Earth, its layers and the coverings that make up it. With an explanation of the types of rocks and the geochemical cycle they go through in nature. 3. The student learns about the physicochemical processes that cause the cracking and fragmentation of igneous and metamorphic rocks that lead to the formation of soil, as well as identifying secondary minerals known as clay and clay minerals found in the soil. 4. The student learns about the minerals that make up the rocks of the earth's crust and result from the union of the eight elements among them (O₂, Si, Al, Fe, Ca, Na, K, Mg) with an explanation of its physical properties. 5. The student studies the physical properties and mechanical properties of rocks, which mean how these rocks are deformed or collapsed under the influence of forces applied to them. Also, the field and engineering classification of rocks for foundation purposes. 6. The student studies subsurface water and how to search for it and determine its level changes, taking into consideration its impact on engineering facilities. The student learns about the mechanics of rivers represented by the energy relationships "velocity" - "discharge", "gradient" and "channel shape in the river"

Indicative Contents المحتويات	General and transferable skills (other skills related to employability and personal development). The ability to understand the composition of materials The ability to employ the use of materials
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	The origin and nature of rock materials and includes:
Week 2	The geological origin of the soil and its engineering properties.
Week 3	Subsurface water geology (ground water).
Week 4	Surface water geology includes the study of energy relationships, velocity, discharge, slope, and
Week 5	Study the mechanics of rivers, represented by the following properties:
Week 6	Geological maps and how to draw them with various examples
Week 7	Various examples of how to take advantage of geological and topographic maps in the sites of
Week 8	Geological and geotechnical investigations of engineering buildings sites.
Week 9	Identify the methods used to select the type of foundation used after completing the geological
Week 10	Geological investigation of building materials used in road paving projects.
Week 11	Studying geological investigation methods in quarries near construction sites and studying
Week 12	Assessment of geological strata and stabilitye slopes.
Week 13	Geophysical survey methods used in civil engineering.
Week 14	Explanation of the geophysical survey based on electrical and elastic properties to determine the
Week 15	General review and questions.
Week 16	The origin and nature of rock materials and includes:

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering Geology – F.G. Bell Classic textbook	yes
Recommended Texts	Principles of Engineering Geology – K.M. Bangar	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Building Construction			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIBc 1 11 11				
ECTS Credits	3				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	Considering the importance of construction and building materials in practical life by constructing buildings and implementing projects and ages, through knowledge of the engineering properties of materials, and their suitability in construction work, as the construction process of buildings and projects, as it constitutes the main nerve in the development of societies and urban movement of that country The development of the country is identified through the development of characteristics and uses of modern materials, so the course aims to develop knowledge capabilities and familiarize students with the features, properties and methods of manufacturing and the use of construction materials, in order to involve them in the design and implementation of buildings and urban projects.knowledge and proficiency for predicting the Solutions and the logical explanation of these problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student learns about the quality of construction materials 2. The student learns about the physical and chemical composition of structural materials.

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Half-year holiday
Week 2	The chemical composition of Portland cement and its physical properties
Week 3	Types of Portland and non-Portland cement
Week 4	Wood (its uses, advantages)
Week 5	Factors that affect the bearing of wood
Week 6	Dimensional changes in wood, wood drying methods, wood defects
Week 7	Kinds of wood (natural, various types)
Week 8	Types of auxiliary materialsE For flooring (kashi industry)
Week 9	Kashi characteristics and necessary checks, Kashi defects
Week 10	Kashi types
Week 11	Other types of clothing materials
Week 12	Metals (classification of minerals, preparation of minerals from ores of ferrous metals)
Week 13	Types of iron (Alhin, wrought iron, steel), their properties and uses
Week 14	Iron properties and uses
Week 15	Building stone (geological classification of stone or rock) properties and uses of each category in construction
Week 16	The engineering properties of the stone, the necessary examinations and the limits of its specifications

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Building construction , ZoiharSako ,Baghdad university , 1984	yes
Recommended Texts	Iraqi Standard Specifications	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 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 (فيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Mathematics			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIMa 2 13 01				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	The aim of this course is for students to learn how to solve problems in matrices, sequences and series, parametric equations and polar coordinates, vectors, functions of several variables, multiple integration, complex numbers, and second-order differential equations. The other aim is how to connect the aforementioned materials to real life problems and its actual applications. Cognitive goals Study and comprehend general concepts and basic principles in mathematics Take advantage of connecting topics with equations to solve them correctly. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Study and comprehend general concepts and basic principles in mathematics 2. Take advantage of connecting topics with equations to solve them correctly. 3. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy 4. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Indicative Contents

المحتويات

1. The ability to imagine a geometric figure for the purpose of drawing and preparing its own calculations
2. Ability to work on adding equations to solve different problems
3. Mastery of mathematics to relate it to the stereoscopic geometry of a purpose the answer in descriptive engineering

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Polar Coordinate System
Week 2	Polar Coordinate System
Week 3	Polar Coordinate System
Week 4	Polar Coordinate System
Week 5	Vectors
Week 6	Vectors
Week 7	Vectors
Week 8	Vectors
Week 9	Partial Derivatives and Differential Equations
Week 10	Partial Derivatives and Differential Equations
Week 11	Partial Derivatives and Differential Equations
Week 12	Partial Derivatives and Differential Equations
Week 13	Partial Derivatives and Differential Equations
Week 14	Partial Derivatives and Differential Equations
Week 15	Complex Numbers
Week 16	Complex Numbers

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing & Graphic Technology" By Thomas E. French, McGraw Hill Book Company. 1990	yes
Recommended Texts	"Exercises in Mechanical Drawing", By SKBogolyubov, Mir Publishers. 1975	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Strength of Materials I			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCISmI 2 14 02				
ECTS Credits	4				
SWL (hr/sem)	90				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

The course starts with an introduction and definition for the strength of material including analysis of forces. The concept of simple stresses is introduced in which the direct (normal) and shearing stresses are explained according to each type of these stresses which includes also the behavior of the generated stresses in the pressure vessels. Simple strain represented by axial deformations for the determinate or indeterminate models are given for the case of indeterminate and indeterminate systems. The torsional stress which is the stress that usually subjected on the shafts is considered also. Plotting methods of shear and bending moment diagrams are studied according to two methods, equations and graphical methods. The behavior of the generated flexural stresses in beams are studied including the composite type of beams. Similarly, the behavior of shearing stresses in beams is given taking into account the vertical shear and the shear flow subjected upon the cross section. The combination between axial and flexural stresses will be studied accordingly. Plane stress and strain are given later using the equations and Mohr's circle of transformation of the plane stress. Methods that used to determine the deflection in beams is given at the end of the second semester.

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

1. During the course, the student will be introduced to many basic physical and engineering terms that help him understand physical and engineering concepts and theories.
2. The student learns how to calculate the sum of the systems of forces and at the same time analyze the forces into their components.

	3. The course helps the student on how to calculate the center of gravity for a group of molecules and thus he knows the method of calculating the center of gravity for a specific body and learns to calculate the center of gravity. 4. The student learns how to calculate the center of pressure and how to deal with its engineering applications, especially in the field of fluid mechanics. 5. During the course, the student becomes acquainted with The concept of equilibrium and the meaning of the free-body diagram, and then how to form equilibrium equations for all types of power systems, the student uses equilibrium equations for structural analysis For trusses and structural structures. 6. The course helps the student to Understand the nature, benefits and applications of friction Physical and engineering. 7. The student learns many problems and applications of how to calculate the second moment of area. The course sheds light on a group of topics related to preparing the
Indicative Contents المحتويات	1. The ability to imagine the geometric shape for the purpose of drawing and develop appropriate solutions for it 2. Ability to work on issues related to the article

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	INTRODUCTION
Week 2	Scalar and vector quantities
Week 3	Forces
Week 4	Composition and resolution of forces
Week 5	Moment of a force
Week 6	Principles of moments
Week 7	Couples
Week 8	Transformation of a couple
Week 9	Resolution of a force into a force and a couple
Week 10	<u>Resultant of Force System (4 weeks)</u>
Week 11	<u>Resultant of Force System (4 weeks)</u>
Week 12	<u>Resultant of Force System (4 weeks)</u>
Week 13	<u>Resultant of Force System (4 weeks)</u>
Week 14	Resultant of a nonconcurrent, coplanar force system
Week 15	Resultant of a nonconcurrent, coplanar force system
Week 16	Resultant of a concurrent ,noncoplanar force system

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	J-Thomas (Calculus and Analysis Geometry)	yes
Recommended Texts	Howard Anton (Calculus and Analysis Geometry)	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Surveying I			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEsI 2 15 03				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

It enables the student to understand the means and devices of engineering surveying and to know the handling and measurement of them with practical applications for determining and measuring distances, areas and volumes of roads and other engineering sites Learning Outcomes, Teaching ,Learning and Assessment Method Cognitive goals Study and comprehend general concepts and basic principles in engineering space, benefit from linking topics with equations to solve them correctly. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

- 1. Study and comprehend general concepts and basic principles in engineering space, benefit from linking topics with equations to solve them correctly.**
- 2. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.**

Indicative Contents

المحتويات

1. The ability to solve various problems
2. The ability to understand the flow mechanism of different fluids

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction
Week 2	Measure distances with tape
Week 3	Measure distances with tape
Week 4	leveling
Week 5	leveling
Week 6	leveling
Week 7	syllables
Week 8	syllables
Week 9	syllables
Week 10	Theodolite
Week 11	Theodolite
Week 12	directione
Week 13	directione
Week 14	Area Calculation
Week 15	Area Calculation
Week 16	Area Calculation

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering Survey, Yassin Obaid, Baghdad, 1990	yes
Recommended Texts	Engineering Survey, Yassin Obaid, Baghdad, 1990	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Concrete Technology			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCICt 2 16 04				
ECTS Credits	4				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

This course provides a comprehensive treatment of the materials and civil engineering principles which results in production and construction of high quality concrete for buildings and infrastructure. During the semester, students will practice and learn to characterize and predict the behavior of aggregates, Portland cement, and concrete products. In-depth study of composition, characteristics and hydration of cements; structure and properties of hardened cement paste; aggregates; workability, production, handling; placing; vibration; and curing of concrete; strength; mix design; volume changes and permeability of concrete; durability to chemical and physical attacks.

Module Learning Outcomes

مخرجات التعلم للمادة
الدراسية

1. The ability to determine the type of facilities
2. Ability to analyze and design facilities

Indicative Contents

المحتويات

- Concrete and steel reinforcement properties.
- 2.Reinforced concrete behavior at different load stage.
- 3.Beam flexure design.
- 4.Beam shear design.
- 5.Bond and anchorage requirement.
- 6.Control of cracking.
7. Control of deflection.
8. Beam torsion design.
- 9.Continuous beams shear and moment coefficient.
- 10.One way solid slab design.
11. One way ribbed slab design.
12. Two way solid slab design.
- 13.Two way ribbed slab design.
- 14.Compression plus bending member design.
15. Rectangular and circular column design and ACI code requirement.
16. Biaxial rectangular column.
17. Stairways design.
18. ACI and structural stairs requirements.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	. Concrete and steel reinforcement properties.
Week 2	Reinforced concrete behavior at different load stage.
Week 3	Beam flexure design.
Week 4	Beam shear design.
Week 5	Bond and anchorage requirement.
Week 6	Control of cracking.
Week 7	Control of deflection.
Week 8	Beam torsion design.
Week 9	Continuous beams shear and moment coefficient.
Week 10	One way solid slab design.
Week 11	One way ribbed slab design.
Week 12	Two way solid slab design.
Week 13	Two way ribbed slab design.
Week 14	Compression plus bending member design.
Week 15	Rectangular and circular column design and ACI code requirement.
Week 16	Biaxial rectangular column.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Design of concrete structures, By Winter and Nilson	yes
Recommended Texts	b. Reinforced concrete fundamentals, By Ferguson	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Fluid Mechanics I			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIFmI 2 17 05				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

The course Fluid Mechanics is designed to introduce students to the fundamental engineering science concepts related to the mechanics of fluids. This includes basic fluid properties, fluid statics, fluid dynamics, fluid viscosity and turbulence, introduction to flow in closed conduits, pumps and pumping. The aim of this course is to provide students with an understanding of the basic principles of fluid mechanics and of their application to civil engineering problems. There is a strong focus on water in the course as this is one of the most important fluids for Civil Engineering practice.

Module Learning Outcomes

مخرجات التعلم للمادة
الدراسية

- 1. The ability to solve various problems**
- 2. The ability to understand the flow mechanism of different fluids**

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	fluid properties
Week 2	fluid properties
Week 3	Static fluids (pressure and measurement methods)
Week 4	Static fluids (pressure and measurement methods)
Week 5	Forces acting on immersed planes
Week 6	Forces acting on immersed planes
Week 7	Forces acting on curved immersed objects
Week 8	Forces acting on curved immersed objects
Week 9	relative balance
Week 10	vertical rotation (axial)
Week 11	fluid flow
Week 12	continuity equation
Week 13	Energy equation
Week 14	Energy equation
Week 15	Momentum equation
Week 16	Momentum equation

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Building construction , ZoiharSako ,Baghdad university , 1984	yes
Recommended Texts	Iraqi Standard Specifications	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 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 (فيد 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 Information

معلومات المادة الدراسية

Module Title				Module Delivery	
Module Type	Engineering Analysis			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEa 2 19 07				
ECTS Credits	4				
SWL (hr/sem)	90				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	This class is an introductory level on applying some numerical methods in civil/structural engineering. The class will cover several topics include a solution of non-linear equations, solution of simultaneous equations, numerical interpolation, numerical integration, Fourier series for the function of one variable, solution of initial and boundary value problems in ordinary differential equations, method of least squares, and solution of high order equation finite differences.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Analytical ability Comparison between Species The different differential equations Know how to solve numerical problems in different ways

Indicative Contents المحتويات	1. differential equations Ordinary first-rateits applications 2. 2. differential equations linear normal And theits applications 3. 3. Laplace transforms and the expanded and gamma functions 4. 4. Solve differential equations Linear Ordinary Using Laplace Transforms 5. 5. Algebra of matrices and determinants 6. 6. Solve a set of linear algebraic equations using Cramer's rule and the inverse matrix method 7. 7. Matters of eigenvalues

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Subject vocabulary, resources, and general introduction to ODEs (classification, types of solutions,
Week 2	Ordinary differential equations of the first order (separable variables, homogeneous, perfect, linear,
Week 3	Ordinary differential equations of the first order (separable variables, homogeneous, perfect, linear,
Week 4	Ordinary differential equations of the first order
Week 5	Linear Differential Equations of Order (n) with constant coefficients (1)
Week 6	Linear Differential Equations of Order (n) with constant coefficients (2)
Week 7	Euler – Cauchy equation
Week 8	second order ordinary differential equations (1)
Week 9	second order ordinary differential equations (2)
Week 10	Laplace transforms
Week 11	Laplace Transforms and the Expansion and Kama Functions
Week 12	Solve differential equations Linear Ordinary Using Laplace Transforms
Week 13	Algebra of Matrices and Determinants (1)
Week 14	Algebra of Matrices and Determinants (2)
Week 15	Algebra of Matrices and Determinants (3)
Week 16	Preliminary exam for the semester the first

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Kreyszib, E. (1972). "Advanced Engineering Mathematics." John Wiley & Sons, USA, 3th edition.	yes
Recommended Texts	Bronson, R. (1972)."Modern Introductory Differential Equations." McGraw-Hill, USA.	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Strength of Materials II			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCISmII 2 20 08				
ECTS Credits	4				
SWL (hr/sem)	90				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

The course starts with an introduction and definition for the strength of material including analysis of forces. The concept of simple stresses is introduced in which the direct (normal) and shearing stresses are explained according to each type of these stresses which includes also the behavior of the generated stresses in the pressure vessels. Simple strain represented by axial deformations for the determinate or indeterminate models are given for the case of indeterminate and indeterminate systems. The torsional stress which is the stress that usually subjected on the shafts is considered also. Plotting methods of shear and bending moment diagrams are studied according to two methods, equations and graphical methods. The behavior of the generated flexural stresses in beams are studied including the composite type of beams. Similarly, the behavior of shearing stresses in beams is given taking into account the vertical shear and the shear flow subjected upon the cross section. The combination between axial and flexural stresses will be studied accordingly. Plane stress and strain are given later using the equations and Mohr's circle of transformation of the plane stress. Methods that used to determine the deflection in beams is given at the end of the second semester.

Module Learning Outcomes

مخرجات التعلم للمادة
الدراسية

1. Study and comprehend general concepts and basic principles in mathematicsTake advantage of connecting topics with equations to solve them correctly.
2. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracyRefining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not

in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Indicative Contents

المحتويات

1. The ability to imagine a geometric figure for the purpose of drawing and preparing its own calculations
2. Ability to work on adding equations to solve different problems
3. Mastery of mathematics to relate it to the stereoscopic geometry of a purpose the answer in descriptive engineering

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	The nature of soil - Basic structural units of clay minerals.
Week 2	Particle size analysis – Methods, definitions, effect of soil gradation on behavior of coarse grained soils.
Week 3	Plasticity of fine soils - liquid limit, plastic limit, liquidity index, soil activity.
Week 4	Soil description and soil classification - Comparisons between description and classification.
Week 5	Uses of description and classification. The unified soil classification system (USCS).
Week 6	Phase relationships: - definition, void ratio, porosity, water content, air content, degree of saturation.
Week 7	Specific gravity, density (dry, total, saturated), unit weight (dry, total, saturated, submerged).
Week 8	Theory of soil compaction
Week 9	Standard compaction tests and compaction parameters
Week 10	Control on compaction activities
Week 11	Field compaction equipment
Week 12	Field density measurement
Week 13	Soil water, conditions of ground & static water, seeping water condition, heads and Bernoulli's equation, capillarity in soil.
Week 14	The nature of soil - Basic structural units of clay minerals.
Week 15	Particle size analysis – Methods, definitions, effect of soil gradation on behavior of coarse grained soils.
Week 16	Plasticity of fine soils - liquid limit, plastic limit, liquidity index, soil activity.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Programming Microsoft Visual Basic 6.0 <i>Author: Francesco Balena</i>	yes
Recommended Texts	Beginning Visual Basic 6 Database Programming <i>Author: John Connell</i>	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Surveying II			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEsII 2 21 09				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

It enables the student to understand the means and devices of engineering surveying and to know the handling and measurement of them with practical applications for determining and measuring distances, areas and volumes of roads and other engineering sites Learning Outcomes, Teaching ,Learning and Assessment Method Cognitive goals Study and comprehend general concepts and basic principles in engineering space, benefit from linking topics with equations to solve them correctly. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

3. Study and comprehend general concepts and basic principles in engineering space, benefit from linking topics with equations to solve them correctly.
4. Learn the correct ways to solve mathematical problems and train the student to solve within the general concepts of speed and accuracy. Refining the scientific concept and consolidating the scientific material correctly through continuous examinations and activating the role of the student not in obtaining the degree, but in understanding and benefiting from this material to the maximum extent.

Indicative Contents

المحتويات

3. The ability to solve various problems
4. The ability to understand the flow mechanism of different fluids

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Tables of quantities and arms
Week 2	Tables of quantities and arms
Week 3	Methods adopted for calculating quantities and volume of materials
Week 4	The central line method for calculating quantities
Week 5	The central line method for calculating quantities
Week 6	use a program (AUTOCAD) for calculating quantities
Week 7	use a program (AUTOCAD) for calculating quantities
Week 8	Structural price analysis
Week 9	Technical specifications for civil engineering works
Week 10	Technical specifications for civil engineering works
Week 11	General terms of construction contracting
Week 12	General terms of construction contracting
Week 13	Building estimation project
Week 14	Building estimation project
Week 15	Tables of quantities and arms
Week 16	Tables of quantities and arms

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering Survey, Yassin Obaid, Baghdad, 1990	yes
Recommended Texts	Engineering Survey, Yassin Obaid, Baghdad, 1990	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Fluid Mechanics II			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIFmII 2 22 10				
ECTS Credits	6				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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	
Module Aims أهداف المادة الدراسية	The course Fluid Mechanics is designed to introduce students to the fundamental engineering science concepts related to the mechanics of fluids. This includes basic fluid properties, fluid statics, fluid dynamics, fluid viscosity and turbulence, introduction to flow in closed conduits, pumps and pumping. The aim of this course is to provide students with an understanding of the basic principles of fluid mechanics and of their application to civil engineering problems. There is a strong focus on water in the course as this is one of the most important fluids for Civil Engineering practice.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The ability to solve various problems 2. The ability to understand the flow mechanism of different fluids

Indicative Contents المحتويات	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Half-year holiday
Week 2	dimensional analysis
Week 3	dimensional analysis
Week 4	dynamic similarity
Week 5	Pipe networks design
Week 6	pipe connection
Week 7	pipe connection
Week 8	Pipe branches
Week 9	Pipe branches
Week 10	pipe networks
Week 11	pipe networks
Week 12	Flow in open channels
Week 13	Flow in open channels
Week 14	Flow in open channels
Week 15	Exam
Week 16	critical flow

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Building construction , ZoiharSako ,Baghdad university , 1984	yes
Recommended Texts	Iraqi Standard Specifications	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Structural Drawing			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCISd 2 23 11				
ECTS Credits	4				
SWL (hr/sem)	90				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims أهداف المادة الدراسية	A structural drawing, a type of engineering drawing, is a plan or set of plans and details for how a building or other structure will be built. Structural drawings are generally prepared by registered professional engineers, and based on information provided by architectural drawings. The structural drawings are primarily concerned with the load-carrying members of a structure. They outline the size and types of materials to be used, as well as the general demands for connections. They do not address architectural details like surface finishes, partition walls, or mechanical systems. The structural drawings communicate the design of the building's structure to the building authority for review
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The student learns about the quality of construction materials 2. The student learns about the physical and chemical composition of structural materials.

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Preliminary for the semester
Week 2	Preliminary for the semester
Week 3	Floors and ceilings
Week 4	Floors and ceilings
Week 5	Arches and thresholds
Week 6	Moisture blocker
Week 7	the stairs
Week 8	Stairs and their drawings
Week 9	Doors and Windows
Week 10	joints in buildings
Week 11	joints in buildings
Week 12	Stoves and chimneys
Week 13	Finishing walls and ceilings
Week 14	general references
Week 15	General Review
Week 16	Preliminary exam for the second semester

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing & Graphic Technology" By Thomas E. French, McGraw Hill Book Company. 1990	yes
Recommended Texts	"Exercises in Mechanical Drawing", By SKBogolyubov, Mir Publishers. 1975	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 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 (فيد 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 Information					
معلومات المادة الدراسية					
Module Title				Module Delivery	
Module Type	Engineering Mangmant & Economy			☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EnCIEMe 2 24 12				
ECTS Credits	3				
SWL (hr/sem)	125				
Module Level					
Administering Department		Engineering	College	Engineering College	
Module Leader			e-mail		
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	N.A.		e-mail	N.A.	
Peer Reviewer Name	N.A.		e-mail	N.A.	
Scientific Committee Approval Date	31/05/2023		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

Module Aims

أهداف المادة الدراسية

It may be concluded that management plays a key role in improving standard of living of the people in the society through developing an ideal organizational structure and making economic use of available resources. The knowledge of management theory and practice enables managers to take more realistic view about organizational and social problems and to find out their effective solution. Management is an important factor for the success of any organized activity. Today management basically concern with changes and challenges, and it is difficult to manage. Management is an art of getting things done through others. Management is to plan, organize, direct and control the resources of the organization for obtaining common objectives or goals. It is related with resources like material, money, machinery, methods, manufacturing and marketing. Management principles are universal in nature. Management is necessary for all types of organization, such as

Module Learning Outcomes

مخرجات التعلم للمادة
الدراسية

- 1. Thinking strategy according to the student's ability (for example: if the student can learn the correct concept of management, he will acquire the skill of managing and organizing his personal life)**
- 2. High thinking skill strategy**
- 3. Desire to make a good decision, it is important to make the decision**

Indicative Contents

المحتويات

The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams. With a practical laboratory through which experiments are conducted on various construction materials.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The course is given to students in the form of class lectures that are received and written on the board with illustrative examples. There is a practical hour in which problems and exercises are solved with the participation of the audience of students. Students are assigned homework. Also, students' understanding and comprehension of the material is tested through sudden daily exams.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.13
Total SWL (h/sem) الحمل الدراسي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	5, 9, 13	LO #1, 3 and 5
	Assignments	4	10% (10)	3,6,9,12	LO #1-5
	Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 3, 5 and 6
Summative assessment	Midterm Exam	2 hrs	10% (10)	11	LO # 1-6
	Final Exam	3 hrs	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	construction management(Introduction to engineering management & Environment consideration, Relationships between project achieving team & project phases)
Week 2	construction management(Introduction to engineering management & Environment consideration, Relationships between project achieving team & project phases)
Week 3	construction management(Introduction to engineering management & Environment consideration, Relationships between project achieving team & project phases)
Week 4	Planning techniques(Planning Techniques)
Week 5	Critical Path Methods (CPM)
Week 6	Critical Path Methods (CPM)
Week 7	Critical Path Methods(CPM)
Week 8	precedence networks (Precedence Net Work Technique)
Week 9	precedence networks (Precedence Net Work Technique)
Week 10	networks of precedence (Precedence Net Work Technique)
Week 11	schemes (PERT)(Program Evaluation and Review Technique)
Week 12	schemes (PERT)(Program Evaluation and Review Technique)
Week 13	T-schemes (PERT)(Program Evaluation and Review Technique)
Week 14	budget line style (LOB)(Line of Balance)
Week 15	budget line style (LOB)(Line of Balance)
Week 16	General Conditions of Contracting for Civil Engineering Works in Iraq

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Principles of Construction management By: Roy Piltcher	yes
Recommended Texts	* Construction management By: Robert Hares & Frank Hares	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 جدا	80 - 89	Above average with some errors
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	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 (فيد 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.				