

**Al-Ayen Iraqi University,
Engineering Technical College,
Power Mechanics Technical
Engineering Department**



جامعة العين العراقية التقنية
الكلية التقنية الهندسية
قسم هندسة تقنيات ميكانيك القدرة

**First Cycle – Bachelor's degree (B.Sc.) – Power Mechanics
Technical Engineering**

بكالوريوس هندسة تقنيات ميكانيك القدرة



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Principals		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	AAU14011		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Module Leader	Hussam Shamkhi Jabr	e-mail	konst25666@gmail.com
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.sc
Module Tutor		e-mail	
Peer Reviewer Name	Dr. Ashraf Raihan Masser	e-mail	Ashraf.RihanMasir@alayen.edu.iq
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of computer programs. 2. To understand functions of engineering programs. 3. This course deals with the basic concept of derivation of functions programs. 4. This is the basic subject for all method of integration methods.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize different types of functions and their behavior in science topics. 2. List the various laws associated with limits of computer. 3. Summarize what is meant by a basic computer. 4. Discuss the domain and range of many types of functions. 5. Describe computer components.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. introduction to computer systems, hardware and software, input/output devices, CPU and memory, operating systems, Microsoft Office applications, basic networking, file management, and applications of computers in mechanical engineering.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (10)	3,5,10 and 12	LO #1, #2 and #10, #11
	Assignments	4	20% (10)	5,7, 9and 13	LO #3, #4 and #6, #7
	Projects / Lab.	0	10% (10)	-----	----
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
Week الموضوع	الاسبوع
تعريف الحاسبات مكوناتها اجيالها	1-2
نظام تشغيل ال MS-Doc	3
اوامر نظام التشغيل الداخلية	4-5
اوامر نظام التشغيل الخارجية	6
مفهوم نظام وندوز ومزاياه	7
الاستفادة من بعض المفاتيح للدخول الى ال رايامج واغلاقها	8
التعرف على مكونات سطح المكتب	9
الاستفادة من لوحة السيطرة	10
الاستفادة من ال رايامج الاضافية	11
التعامل مع Note pad ,WordPad	12-13
مفهوم ف ريوسات الحاسوب	14-15
امتحان	16

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	أساسيات الحاسوب وتطبيقاتها تأليف أ.د. غسان حميد عبد المجيد أ.م.د. زياد محمد عبود	Yes
Recommended Texts	None	No
Websites	None	

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 (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	English for Academic		Module Delivery	
Module Type	Support		☒ Theory ☐ Lecture ☐ lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AAU14012			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery		1
Administering Department	PME	College	TEC	
Module Leader	musaid hendi jazae		e-mail	musaidhindy 2003@gmail.com
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.sc
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/06/2023		Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Teaching the student, the basic principle of English Language. 2. Teaching students the exits of letters. 3. Teach the student the basic rules of the subject .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Listening, Question, Cities and Countries, Numbers, Reading, Every Day English . 2. The Family, Possessives, Possessives Adjectives Vocabulary, Listening, Reading, Everyday English. 3. Sport, Food and Drinks, Present Simple, Number and Price, Listening. 4. Questions, Pronouns and Possessives. 5. Prepositions, Everyday English, Past Simple Irregular Verbs,. 6. Times Past, Reading, Past Simple- Regular, Everyday English, Vocabulary, Grammar,. 7. Present Continuous, Present Simple and Continuous, Reading, Opposite Verbs.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A -</u> Introduction , Listening, Question, Cities and Countries, Numbers, Reading, Every Day English, Jobs, Question and Negatives, Address, Phone Remember, Listening, Pronunciation, Listening, Everyday English, Sport, Food and Drinks, Present Simple, Number and Price, Listening, Object Pronouns, Questions Words, Why and Because, Vocabulary, Reading, Writing, Everyday English. <u>Part B -</u> , Prepositions, Everyday English, Past Simple Irregular Verbs, Times Past, Reading, Past Simple- Regular, Everyday English, Vocabulary, Grammar, Past Simple, Making Conversation, Time Expression, Reading, Everyday English, Present Continuous, Present Simple and Continuous, Reading, Opposite Verbs.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	18	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	32	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	-	-	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Basics of Present simple tense
Week 3	Spelling of –S and –ES and Exercises.
Week 4	Present continuous tense and Exercises.
Week 5	Spelling of –ing and Spelling of –ed.
Week 6	Past simple tense and Exercises.
Week 7	Mid-term Exam
Week 8	Past continuous tense and Exercises.

Week 9	EXPRESSIONS OF QUANTITY.
Week 10	Present perfect tense
Week 11	COMPARE THE PAST SIMPLE AND PRESENT PERFECT
Week 12	Verb Patterns
Week 13	The Second Conditional
Week 14	Past Perfect Tense
Week 15	Present Perfect Continuous
Week 16	Preparatory week before the final Exam

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

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Headway	Yes
Recommended Texts		
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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☒ Practical ☐ Seminar
Module Code	AAU14013		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PEM	College	TEC
Module Leader	Mohammed Kadhim Alhachami	e-mail	Mohammed.kadhim@alayan.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PH.D
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	10/06/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1- Introducing students to the importance of engineering drawing and its relationship to other engineering subjects 2- Developing the student's mental and motor abilities in drawing simple and complex shapes 3- Expanding the student's horizons of engineering shapes and complexes to identify their components and parts 4- Organizing the student's thought to draw, assemble and disassemble engineering shapes and mechanical parts
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. To familiarize the student with the importance of engineering drawing 2. The student learns how to imagine geometric shapes 3- The student should be able to draw geometric shapes, diagrams and isometrics through the skill he has acquired 4. To distinguish the mechanical components and parts and the principle of their work 5. Passing the curriculum of computer drawing AutoCAD 6. The student should be 100% proficient in the skill
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - Engineering tools T-square ruler, compass, pens, triangles, drawing paper, drawing boards Geometric figures, identification boards, data show Part B- Computer hall A computer equipped with AutoCAD 2007, a data show data display device, the use of information and its practical applications

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	87	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	63	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	15	30% (10)	1 -15	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (10)	Continuous	All
	Report	0	0% (10)		LO #5, #8 and #10
Summative assessment	Midterm Exam	3hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Define the Engineering Drawing
Week 2	The tools used in Engineering Drawing
Week 3	Typed of drawing sheets, types of lines
Week 4	English and Arabic Letters writing and sheet table
Week 5	Geometric construction, types of lines and arcs
Week 6	Geometric construction, types of regular polygons , Quadrilateral
Week 7	Geometric construction, types of circles and ellipse
Week 8	Isometric Views
Week 9	Dimensions

Week 10	Exercises , Center translation
Week 11	Theory of projection 1" angle
Week 12	Theory of projection 3" angle
Week 13	Drawing the three projection views
Week 14	sections
Week 15	Draw sections
Week 16	Final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering drawing book , Illustration aids, computer graphics book	Yes
Recommended Texts	Engineering drawing , Abdul Rasool Al-Khafaf	No
Websites	https://www.scribd.com/document/370481058/%D9%83%D8%AA%D8%A7%D8%A8-%D8%A7%D9%84%D8%B1%D8%B3%D9%85-	

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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Mathematics -I		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☐ Lecture ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	AAU14014		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Samah Hussein Badr	Samah Hussein Badr	e-mail	samahh.alzaydi@student.uokufa.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.sc
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of mathematics, engineering, and the natural sciences through the application of algebra and trigonometry concepts. 2. To understand functions, their plots and properties and plots. 3. This course deals with the basic concept of derivation of functions. 4. This is the basic subject for all method of integration methods. 5. To understand special types of trigonometry functions such as hyperbolic functions with their related Laws.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize different types of functions and their behavior in science topics. 2. List the various laws associated with limits of function. 3. Summarize what is meant by a basic electric circuit. 4. Discuss the domain and range of many types of functions. 5. Describe logarithmic, exponential, and trigonometric functions. 6. Identify the basic definition of derivatives and their applications. 7. Discuss the various methods of integration process to traditional and special types of functions.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – functions:</u> -Functions, with their types, properties, graphing, and available application in different fields. - Revision problem for homework and assessment tests. <u>Part B – Limits And Continuity</u> Continuity clarifying the continuity and limits definitions by confining the term “endpoints” to intervals instead of more general domains, and we moved the subsection on continuous extension of a function to the end of the continuity section. - Revision problem for homework and assessment tests. <u>Part C – Derivatives</u> Derivatives clarified the meaning of differentiability for functions of several variables, and added a result on the Chain Rule for functions defined along a path. Brief geometric insight justifying l’Hôpital’s Rule. Some examples for derivative applications. - Revision problem for homework and assessment tests. <u>Part D – Integrals</u> Integrals view basic integration formulas and the Substitution Rule, using them in combination with algebraic and trigonometric identities, before presenting other techniques of integration - Revision problem for homework and assessment tests.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (10)	3,5,10 and 12	LO #1, #2 and #10, #11
	Assignments	4	20% (10)	5,7, 9and 13	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (10)	-----	----
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المناهج الاسبوعي النظري	
	Material Covered
Week 1	Determinants, properties
Week 2	Grammar's rule, application of determinant
Week 3	Trigonometric functions& relation
Week 4	Graphing of functions, Trigonometric equations
Week 5	Vectors, vectors in space, unit vector
Week 6	Scalar product, vector product
Week 7	Function of limits, Algebraic limit
Week 8	Trigonometric limit, Infinity as limit
Week 9	Derivative rule, Algebraic& Trigonometric derivative
Week 10	Chain rule, velocity& acceleration
Week 11	Inverse trigonometric functions& its derivative
Week 12	Logarithm& Exponential functions& its derivative
Week 13	Hyperbolic functions& its derivative
Week 14	Inverse hyperbolic functions& its derivative
Week 15	Integration, integrals of trigonometric& inverse functions
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Thomas' Calculus Thirteenth Edition, George B. Thomas, Jr. Cenveo® Publisher Services.2013	Yes
Recommended Texts	Higher Engineering Mathematics, Fifth Edition John Bird, BSc(Hons), by Published by Elsevier Ltd.2006	No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد 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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Work Shops		Module Delivery
Module Type	Core		☐ Theory ☐ Lecture ☐ lab ☐ Tutorial ☒ Practical ☐ Seminar
Module Code	AAU14015		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Module Leader	Safa Hameed Majeed	e-mail	Safa.Hameed@alayen.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Teaching and training the student to be able of, getting a skill in applying a machining and industrial operations with using different kinds of hand tools and measuring tools.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Teaching the student, the fundamentals of metals casting. 2. Recognize the steps of wilding 3. Describe the tools of filing. 4. Recognize the steps of cutting tools types, uses of measuring instruments. 5. Summarize Turning Processes: - Facing, simple steps, learning using measuring instruments.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A -</u> Foundry work shop- Filing Work Shop <u>Part B -</u> Lath Work Shop- Welding work shop

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	93	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	57	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	0	0% (20)	5 and 10	
	Assignments	15	80% (10)	1-15	
	Projects / Lab.	-	-	Continuous	
	Report	4	20% (10)	13	
Summative assessment	Midterm Exam	2hr	0% (0)	7	
	Final Exam	3hr	0% (0)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Foundry work shop: - Metal casting and its importance , purpose of using casts in industry, casting work shop equipments, industrial safety regulation in works shop, making sand mold for one piece pattern and cores types , resources of sand and mould properties, additives materials, mixing processes and percentage of quality , using sand mixing, sand treatment and sand handling equipments, making manual sand mold for one piece cast.
Week 2	Making sand mold for one-piece cast with runner and risers, cast cleaning make core and baking it in baking furnace, make sand mold for two pieces pattern with core.
Week 3	Making sand mold with core, melting the metal, pouring the metal. take out the cast from the mold, cleaning the cast, Melting furnaces of metals: types, specifications, its uses (rotary, crucible) heat treatment and cat inspection, visual surface defects and its causes. Measuring cast dimension and insure equal to original dimension.
Week 4	Filing Work Shop: - Vernier types, measuring methods, measuring height and depth, sketching process on sheet metal plate, tools used, scratching pointer, strip divider, bended edge divider, 90-degree square ruler, bended rulers.
Week 5	Files, files and filling process: filing types and its specifications, clamp vices types, processes of fixing work piece on it, the uses of different types of fillings, filing cleaning process, filling methods, exercises on scratching method and simple file,

Week 6	Saw cutting, hand saw, saw blade, fixing the saw blade, the saw blade condition available for sawing process, exercises for saw cutting process
Week 7	Lath Work Shop: -Lathe machine, specifications its uses, accessory lathe parts, lathe operation, lathe cutting tools types, uses of measuring instruments.
Week 8	Turning Processes: - Facing, simple steps, learning using measuring instruments
Week 9	Internal and external taper turning, making exercises for both methods.
Week 10	Welding work shop: - work shop safety, safety requirement, Gas welding: equipment, assembly and regulation, welding tools, gases used, specifications, fluxes, fillers, flame types and its uses, flame ignition, flame regulation.
Week 11	Corner and butt-welding training exercises
Week 12	Oxygen cutting: equipments, safety, requirement, cutting exercises
Week 13	Arc welding: welding machine and equipments, safety regulation, arc ignition
Week 14	Making exercises, making beaks on plates, using different kinds of electrodes
Week 15	Edge preparation, making exercises of T joints.
Week 16	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

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

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts		
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 (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Fundamentals of Engineering Mechanics-Statics		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☐ lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	AAU14016		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Module Leader	Mohammed Hameed Khalaf	e-mail	mohamedkhalaf@utq.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PH.D
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Teaching the student, the fundamentals of engineering mechanics (Static's & Dynamics) in the engineering applications, the loads analysis, resultants. 2. Equilibrium in 2-D and 3-D, moments and couples. 3. First and second moment of inertia, motion of particles, and their theories.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Teaching the student, the fundamentals of engineering mechanics (Static's & Dynamics) in the engineering applications, the loads analysis, resultants, 2. equilibrium in 2-D and 3-D, moments and couples. 3. first and second moment of inertia, motion of particles, and their theories. 4. Equipment and machinery design. 5. Inspection, installation, operation, maintenance and repair of all kinds of devices, turbocharged machines and equipment.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A -</u> Introduction , Fundamentals concepts, Load Analysis & Vectors, Moments, Couples, Resultant of Force Systems, Equivalent Systems of Forces. <u>Part B -</u> Equilibrium of Rigid Bodies , Centroids of Area, Friction, Center of Gravity, Work, Moment of Inertia.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	102	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	-	-	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Fundamentals concepts
Week 3	Load Analysis & Vectors
Week 4	Moments
Week 5	Couples
Week 6	Resultant of Force Systems
Week 7	Resultant of Force Systems
Week 8	Equivalent Systems of Forces
Week 9	Equivalent Systems of Forces

Week 10	Equilibrium of Rigid Bodies
Week 11	Centroids of Area
Week 12	Centroids of Area
Week 13	Friction
Week 14	Center of Gravity
Week 15	Work
Week 16	Moment of Inertia

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

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	J. L. Meriam L. G. Kraige	Yes
Recommended Texts	John Wiley & Sons, Inc	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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing (CAD Draw)		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	AAU14017		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Module Leader	Riyam Abdulridha shreef	e-mail	RIYAM.ABDULRIDHA@alayan.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.SC
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	10/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ATU24016	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1- Enabling students to obtain knowledge and understanding in the subject of engineering drawing and using the computer through the AutoCAD program 2- Understanding and teaching students the basics of computer engineering drawing 3- Knowing the correct methods of engineering drawing using the computer and how to apply them in the AutoCAD 2007 program in engineering fields. 4- Increasing the student's experience in identifying drawing and designing engineering shapes and mechanical parts.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Cognitive goals 1 - Giving the student sufficient knowledge in the AutoCAD program to employ it in design by developing the students' practical, theoretical and creative abilities in computer design techniques of various types. 2 - Developing perception skills and knowing the technique of implementing design using the computer to enrich the students' experience through the use of the various techniques of the AutoCAD program to complete the required design plans. 3 - That the student be able to make any design scheme on the program through which he can fully clarify the idea. 4 - Providing the student with the skill of computer design easily and easily through the use of samples from the student's reality and applying them directly. 5- It is possible to use some exercises or projects to be completed in other subjects, such as designing mechanical parts. 6 - Developing the student's imagination skill to feel the difference between the AutoCAD program environment and the realistic building space and different spaces
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. A computer equipped with AutoCAD 2007, a data show data display device, the use of information and its practical applications

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	87	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	63	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	4	20% (10)	Continuous	All
	Report	0	0% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	3hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1-2	The use of CAD in engineering drawing description of menu Bar and toolbars
Week 3-6	drawing orders
Week 7-10	drawing Ellipse, Rectangle, line, Ray, Circle, point , Arc, Polygon , Rectangle , Donut ----- etc.
Week 11	Editing commands: copy, cut, paste, erase, move,
Week 12	selecting objects
Week 13	Add texts
Week 14	Technical terms
Week 15	orthogonal projection, ISO drawing.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	AutoCAD Beginning and Intermediate	Yes
Recommended Texts	AutoCAD from zero to hero	yes
Websites	Any other materials available on the web	

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 (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Electricity Fundamentals		Module Delivery	
Module Type	Support		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AAU14018			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	1	Semester of Delivery		2
Administering Department	PEM	College	TEC	
Module Leader	Ashraf Raihan Masser		e-mail	Ashraf.RihanMasir@alayen.edu.iq
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	PH.D	
Module Tutor	Ashraf Raihan Masser		e-mail	Ashraf.RihanMasir@alayen.edu.iq
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	Teaching the student, 1. The principles of electrical technology 2. To develop problem solving skills and understanding of circuit theory through the application of techniques. 3. To understand Ohms law, series connection, parallel connections, compound connection 4. To understand voltage, current and power from a given circuit. 5. This is the basic subject for all electrical and electronic circuits. 6. To understand Kirchhoff's current and voltage Laws problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Recognize how electricity works in electrical circuits. 2. List the various terms associated with electrical circuits. 3. Summarize what is meant by a basic electric circuit. 4. Discuss the reaction and involvement of atoms in electric circuits. 5. Describe electrical power, charge, and current. 6. Define Ohm's law. 7. Identify the basic circuit elements and their applications. 8. Discuss the operations of sinusoid and phasors in an electric circuit. 9. Discuss the various properties of resistors, capacitors, and inductors. 10. Explain the two Kirchhoff's laws used in circuit analysis. 11. Identify the capacitor and inductor phasor relationship with respect to voltage and current.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A - Circuit Theory</u> Current and voltage definitions, Passive sign convention and circuit elements, Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Introduction to mesh and nodal analysis. -Thevenins theorem, maximum power, Norton theorem ,Nodal method ,Maxwells loop current method, superposition <u>Part B -</u> Fundamentals Parallel A.C circuit, R,L,C Parallel A.C circuit Addmittance, power factor, phasor diagram -phase circuit, star and delta connection , Active, reactive, apparent power in A.C circuit ,Transformer /1 ,Transformer/2, Voltage rectification, half wave rectifier

Learning and Teaching Strategies

اس رتاتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)

الحمل الدرايس للطالب محسوب ل ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدرايس المنتظم للطالب خلال الفصل	93	Structured SWL (h/w) الحمل الدرايس المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدرايس غير المنتظم للطالب خلال الفصل	57	Unstructured SWL (h/w) الحمل الدرايس غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدرايس الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Resistance, conductance, effect of temp. on the resistance value
Week 2	Ohms law, series connection, parallel connections, compound connection
Week 3	Kirchhoffs current law, kirchhoffs voltage law-Star-delta conversion, voltage and current source conversion
Week 4	Thevenins theorem, maximum power
Week 5	Norton theorem - Nodal method
Week 6	Maxwells loop current method, superposition
Week 7	Electromagnetic-Alternating voltage and current
Week 8	Frequency, period, instantaneous value of voltage and current
Week 9	Series A.C circuit, R,L,C
Week 10	Impedance, phase angle, resonance, phasor diagram 22 Parallel A.C circuit, R,L,C
Week 11	Addmittance, power factor, phasor diagram
Week 12	3-phase circuit, star and delta connection
Week 13	Active, reactive, apparent power in A.C circuit
Week 14	Transformer/1 , Transformer/2
Week 15	Voltage rectification, half wave rectifier-Voltage rectification, full-wave rectifier
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Using measurement devices
Week 2	Lab 2: Ohms law
Week 3	Lab 3: Kirchhoffs current law- kirchhoffs voltage law
Week 4	Lab 4: Thevenins theorem
Week 5	Lab 5 Series A.C circuit
Week 6	Lab 6: Parallel A.C circuit
Week 7	Lab 7: half wave rectifier- full-wave rectifier

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Fundamentals of Electric Circuits, C.K. Alexander and M.N.O Sadiku, McGraw-Hill Education	Yes
Recommended Texts	DC Electrical Circuit Analysis: A Practical Approach Copyright Year: 2020, dissidents.	No
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد 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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Materials		Module Delivery	
Module Type	Support		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AAU14019			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	1	Semester of Delivery		2
Administering Department	PME	College	TEC	
Module Leader	Zahraa Saad Abdulaali		e-mail	Zahraasaadzahraa668@gmail.com
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.Sc
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. This course deals with the basic concept of engineering materials. 2. To understand the type of material 3. To know the properties, advantage, disadvantage of each type of materials 4. To know the application of each type of materials.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Recognize the types and properties of engineering materials 2- Summarize what is meant crystalline structures and imperfections in crystals. 3- Discuss the types of thermal equilibrium diagrams 4- Describe thenano materials 5- Recognize the Non-destructive testing and Macro- and Micro-examination 6- Summarize what is meant materials selection
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – concept of engineering materials</u> Type, bond type on structure, crystalline structures, imperfections in crystals, dislocations and plasticity in metals slip, dislocations and plastic deformation, Defects. <u>Part B- Thermal equilibrium diagrams</u> Type of thermal diagrams, lever rule, Applications on binary phase diagrams, Phase Diagrams and Alloy Formation, Phase Transformations and Diffusion <u>Part C- detailed explanation of type of materials</u> Metals, ceramics, polymers , composite materials, nano materials <u>Part D- testing and selection materials</u> Non-destructive Testing, Macro- and Micro-examination, materials selection,

Learning and Teaching Strategies اسراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students’ participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
الحمل الدرايس للطالب محسوب ل ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدرايس المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدرايس المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدرايس غير المنتظم للطالب خلال الفصل	67	Unstructured SWL (h/w) الحمل الدرايس غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدرايس الكلي للطالب خلال الفصل	100		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	-Introduction; The range of materials; Properties of engineering materials; Cost and availability; Possibilities for the future -Atomic Structure and Bonding
Week 2	-Influence of Bond Type on Structure and Properties -Inter atomic Bonding, metallic, ionic, and covalent, van der Waals bonds
Week 3	-Crystalline Structures -Crystallographic Directions and Plans,

	-Coordination number and Atomic Packing Factor (APF)
Week 4	-Imperfections in crystals -Dislocations and Plasticity in Metals Slip, Dislocations and Plastic Deformation
Week 5	-Elastic Behaviour -Viscoelastic Behaviour
Week 6	-Thermal equilibrium diagrams -Lever rule
Week 7	-Applications on binary phase diagrams
Week 8	Metals
Week 9	Polymer -Thermoplastics -Thermosetting -Elastomers
Week 10	Ceramics and Glasses
Week 11	Composite materials
Week 12	-Electrical and Magnetic Properties -Optical, Thermal and Other Properties
Week 13	-Non-destructive Testing -Macro- and Micro-examination
Week 14	-Materials Selection
Week 15	-Nano materials
Week 16	Preparatory week before the final Exam

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

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Materials Science and Engineering An Introduction William D. Callister, Jr. David G. Rethwisch, eight edition , 2007	No
Recommended Texts		
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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Human Right & Democracy		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AAU14020			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery		2
Administering Department	PME	College	TEC	
Module Leader	Nada Nazem Naji		e-mail	nadhimnada2@gmail.com
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.sc
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. الدفاع عن ثرامة الإنسان. 2. المساهمة في تغيير حياة الإنسان إلى الأفضل بشأن: التغيير في القيم والمشاعر - والتغيير في السلوك. 3. ترجمة المعارف والخبرات والقيم وأنماط السلوك إلى عمل دائم ونشاط مستمر من أجل الدفاع عنها في الواقع المعاش وتعزيز الجهود الكفيلة بمعالجة قضايا حقوق الإنسان.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. تعزيز الربط بين الفرد والجماعة والدولة ومؤسساتها. 2. تعزيز مشاعر التضامن مع الآخرين. 3. تنمية مهارات رصد الانتهاكات والتعامل مع المنتهكين. 4. دعم مهارات فهم قضايا حقوق الإنسان. 5. تعزيز سبل التعليم التفاعلي. 6. تعزيز سبل المشاركة في الشأن العام – المواطنة. 7. تعرف المبادئ الرئيسة لأبرز حقوق الإنسان ومصادرها وأنواعها والآليات المستخدمة لحمايتها. تعرف القيم والاتجاهات وأنماط السلوك التي تُعلي من شأن حقوق الإنسان 8. وتعمل على التمسك بها
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>None</u>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	18	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	1
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	32	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (10)	3,5,10 and 12	LO #1, #2 and #10, #11
	Assignments	0	0% (10)	5,7, 9and 13	LO #3, #4 and #6, #7
	Projects / Lab.	0	10% (10)	-----	----
	Report	2	20% (10)	4 and 13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
Week الموضوع	الاسبوع
التعرف على الحرية والديمقراطية - يفي المجتمعات المتعددة وعلى مر العصور وأنواعها وكيف تحولت - لحرية والديمقراطية الحرية ليست فكرة مطلقة بل هي نسبية متغيرة من حيث الزمان والمكان - أنظمة بعض الدول من آخر للنسبية - يفي مع الحرية	1

	والسلطة والمذهب السياسي	
2	ضمانات الحريات العامة- للحرية ضمانات قانونية وسياسية تقسيم الحريات العامة- تتضمن الحريات الطبيعية والخاصة والحريات الفكرية والجماعية والحريات الاقتصادية	
3	الحريات الفردية -تتضمن حرية الرأي والتعبير والصحافة والنش والاجتماع والتظاهر السلمية وحرية الفكر والضمير والعقيدة والالانام بالاحوال الشخصية والتنقل والسكن وحرية الاتصالات وسريتها	
4	الديمقراطية والأنظمة السياسية - نبذة عن الديمقراطية وتاريخها- انواع الديمقراطية - الديمقراطية المباشرة والغربية المباشرة	
5	مفاهيم عن الديمقراطية -تشمل المعنى التقليدي (الواسع) والمعنى الحديث(المعاصر)	
6	الديمقراطية -يفي الحضارة الإغريقية ومقارنتها بالديمقراطية الحديثة - أزمة المعاصرة للديمقراطية -حيث واجهت الديمقراطية صعوبات اقتصادية واجتماعية وثقافية وسياسية	
7	امتحان الفصل بلي	
8	حقوق الإنسان -يفي التاريخ...خوالث الإنسان -يتناول حقوق الإنسان خلال فترة العصور القديمة كحضارة وادي الرافدين والنيل والحضارة اليونانية والرومانية	
9	حقوق -يفي الأديان السماوية -حقوق الإنسان -يفي الديانة المسيحية و -يفي القرآن الكريم والسنة النبوية الى رشفة	
10	مفهوم حقوق الإنسان وخصائصها وفئاتها- الاعنفاي الدوليل بحقوق الانسان- الاعنفاي الإقلييم بحقوق الانسان -المصادر القانونية الدولية لحقوق الإنسان من خلال المواثيق العالمية والإقليمية	
11	المنظمات غري الحكومية ودورها -يفي الدفاع عن الإنسان- حقوق المرأة - حقوق المرأة -يفي العصر الإسلامي	
12	حقوق الطفل- اهم حقوق الأطفال لدى الحضارات القديمة والرشائع السماوية وكذلك حقوقها -يفي الاتفاقية الدولية لعام 1989	
13	الانتخابات وحقوق الإنسان -سانحقوق مبدأ متالين مبادئ الانتخابات الحرة ال...بي...هه	
14	مصادر حقوق الإنسان -يفي العراق -القواعد ال...ين تتضمن حقوق الإنسان -يفي العراق من خلال دستور جمهورية العراق لعام 2005	
15	الحقوق المدنية -تتضمن حق المساواة والحياة والحرية الشخصية وحرمة المساكن والخصوصية الشخصية والحق بجنسية- الحقوق السياسية والاقتصادية -تتضمن حق الانتخاب وحق انتقاد الحكومة وحق اللجوء السياسي أيضاوتتضمن حق العمل وحق الملكية وقانونية فرض ال صرائب والرسوم. الحقوق الاجتماعية والثقافية	
16	الامتحان النهائي	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	حقوق الانسان والديمقراطية تأليف الاستاذ المساعد الدكتور عبدالله لفته البديري-كتاب حقوق الانسان -يفي الاسلام النظرية العامة - تأليف جمال الدين عطية	Yes
Recommended Texts	كتاب حقوق الانسان والحريات العامة تأليف الدكتور رامي محمد عمار	No
Websites	None	

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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Mathematics -II		Module Delivery	
Module Type	Basic		☒ Theory ☐ Lecture ☐ Lecture ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	AAU14021			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	1	Semester of Delivery		2
Administering Department	PME	College	TCM	
Module Leader	Fadhil Abid Elaiwi		e-mail	fadhil.alrubaiy@atu.edu.iq
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name	Name		e-mail	E-mail
Scientific Committee Approval Date	01/06/2023		Version Number	1.0

Relation with other Modules				
العلاقة مع المواد الدراسية الأخرى				
Prerequisite module	ATU24O13		Semester	1
Co-requisites module	None		Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of mathematics, engineering, and the natural sciences through the application of algebra and trigonometry concepts. 2. To understand functions, their plots and properties and plots. 3. This course deals with the basic concept of derivation of functions. 4. This is the basic subject for all method of integration methods. 5. To understand special types of trigonometry functions such as hyperbolic functions with their related Laws.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize different types of functions and their behavior in science topics. 2. List the various laws associated with limits of function. 3. Summarize what is meant by a basic electric circuit. 4. Discuss the domain and range of many types of functions. 5. Describe logarithmic, exponential, and trigonometric functions. 6. Identify the basic definition of derivatives and their applications. 7. Discuss the various methods of integration process to traditional and special types of functions.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – functions:</u> -Functions, with their types, properties, graphing, and available application in different fields. - Revision problem for homework and assessment tests. <u>Part B – Limits And Continuity</u> Continuity clarifying the continuity and limits definitions by confining the term “endpoints” to intervals instead of more general domains, and we moved the subsection on continuous extension of a function to the end of the continuity section. - Revision problem for homework and assessment tests. <u>Part C – Derivatives</u> Derivatives clarified the meaning of differentiability for functions of several variables, and added a result on the Chain Rule for functions defined along a path. Brief geometric insight justifying l’Hôpital’s Rule. Some examples for derivative applications. - Revision problem for homework and assessment tests. <u>Part D – Integrals</u> Integrals view basic integration formulas and the Substitution Rule, using them in combination with algebraic and trigonometric identities, before presenting other techniques of integration - Revision problem for homework and assessment tests.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2.4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (10)	3,5,10 and 12	LO #1, #2 and #10, #11
	Assignments	4	20% (10)	5,7, 9and 13	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (10)	-----	----
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Integrals of hyperbolic functions& its derivative
Week 2	L'Hopitals's rules
Week 3	Integration methods; Integration by parts
Week 4	Integration by partial fraction
Week 5	Integration by trigonometric substitution
Week 6	Integration of $ax+bx+c$
Week 7	Application of Integration
Week 8	Area under the curve& between two curves
Week 9	Surface area generated
Week 10	Length of the curve
Week 11	Volume generated by rotation of curve
Week 12	Simple differential equations
Week 13	Simpson rule for area
Week 14	Trapezoidal rule for area
Week 15	Integrals of hyperbolic functions& its derivative
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Thomas' Calculus Thirteenth Edition, George B. Thomas, Jr. Cenveo® Publisher Services.2013	Yes
Recommended Texts	Higher Engineering Mathematics, Fifth Edition John Bird, BSc(Hons), by Published by Elsevier Ltd.2006	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد 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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Fundamentals of Engineering Mechanics-Dynamics		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☐ lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	AAU14022		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	PME	College	TEC
Module Leader	Mohammed Hameed Khalaf	e-mail	mohamedkhalaf@utq.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PH.D
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	AAU24022	Semester	2
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Teaching the student, the fundamentals of engineering mechanics (Static's & Dynamics) in the engineering applications, the loads analysis, resultants. 2. Equilibrium in 2-D and 3-D, moments and couples. 3. First and second moment of inertia, motion of particles, and their theories.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Teaching the student, the fundamentals of engineering mechanics (Static's & Dynamics) in the engineering applications, the loads analysis, resultants, 2. equilibrium in 2-D and 3-D, moments and couples. 3. first and second moment of inertia, motion of particles, and their theories. 4. Equipment and machinery design. 5. Inspection, installation, operation, maintenance and repair of all kinds of devices, turbocharged machines and equipment.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A -</u> Introduction , Particles Motion, Absolute Motion, Force, Mass and Acceleration. <u>Part B -</u> Relative Motion: Translating and Angular, Rigid Bodies Motion, Work and Energy, Impulse and Momentum, Plaines of Bodies Motion

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	102	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	-	-	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Particles Motion
Week 3	Absolute Motion
Week 4	Absolute Motion
Week 5	Force, Mass and Acceleration
Week 6	Force, Mass and Acceleration
Week 7	Relative Motion: Translating and Angular
Week 8	Relative Motion: Translating and Angular
Week 9	Rigid Bodies Motion

Week 10	Work and Energy
Week 11	Work and Energy
Week 12	Impulse and Momentum
Week 13	Impulse and Momentum
Week 14	Plaines of Bodies Motion
Week 15	Plaines of Bodies Motion
Week 16	

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

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	J. L. Meriam L. G. Kraige	Yes
Recommended Texts	John Wiley & Sons, Inc	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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	اللغة العربية		Module Delivery	
Module Type	Support		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☒ Seminar	
Module Code	AAU14023			
ECTS Credits	2			
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery		2
Administering Department	PME	College	TEC	
Module Leader	Rabab Ali Muhibis		e-mail	rabab.alimuhaibis@alayer.edu.iq
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.Sc
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date			Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. تمكين الطلبة من التكلم باللغة العربية الفصيحة. 2. تمكين الطلبة من القراءة بصورة صحيحة من خلال تشكيل المفردات. 3. تمكين الطلبة من الحصول على المعرفة اللازمة للتراث العربي من النثر والشعر والمدونات الأخرى. 4. تمكين الطلبة من القابلية على النطق السليم. 5. تمكين الطلبة من إستعمال مصطلحات اللغة العربية وفق اختصاصاتهم. 6. تمكين الطلبة من الكتابة بلغة سليمة خالية من الأخطاء الإملائية.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	أ- الأهداف المعرفية: 1. معرفة وفهم القواعد اللغوية والنحوية ومخارج نطق الكلمات في اللغة العربية. 2. معرفة وفهم أساليب التعبير اللغوي والأدبي الشائعة في اللغة العربية وتحليل نصوصها. 3. معرفة أشهر الأدباء والمفكرين وعلماء اللغة القدماء والمعاصرين في تراث اللغة العربية وفهم أهم نتاجهم الأدبي والفكري. 4. معرفة وفهم أهم أساليب وطرق التدريس الحديثة بالإضافة الى اهم وسائل التقييم والتقويم والاختبارات اللغوية المستخدمة في تقييم وتدريس اللغة العربية ب- الأهداف المهارية الخاصة بالبرنامج 1- يتدرب الطلاب على المهارات اللغوية الأساسية . 2- تدريب الطلاب على تطوير مهاراتهم في التحدث والاستماع ليكونوا قادرين على أن يتعاملوا مع المواقف 3 - تقديم مهارات واستراتيجيات القراءة للطلاب تمرينهم عليها كميكانيكية القراءة، وتقنيات القراءة ومهارات استخدام المفردات . 4 - تنمية قدرات الطلاب على مهارات الكتابة في كتابة البحوث والتقارير مثل الاستلال من الحقائق . تدرس اللغة العربية على عدة مستويات : 1- المستوى النحوي: وهو المستوى الذي من خلاله يمكن معرفة المعنى التركيبي للنص. 2- المستوى الصرفي وهو المستوى الذي يمكن من خلاله معرفة المعنى المتفرع على المعنى المعجمي، 3- المستوى الدلالي: وهو المستوى الذي من خلاله يمكن معرفة دلالة الألفاظ (الجزر). 4- المستوى الصوتي: وهو المستوى الذي يدرس الحروف والحركات والمقاطع الصوتية سواء كانت لفظاً أو جزءاً من لفظ.
Indicative Contents المحتويات الإرشادية	تدرس اللغة العربية على عدة مستويات : 1- المستوى النحوي: وهو المستوى الذي من خلاله يمكن معرفة المعنى التركيبي للنص. 2- المستوى الصرفي وهو المستوى الذي يمكن من خلاله معرفة المعنى المتفرع على المعنى المعجمي، 3- المستوى الدلالي: وهو المستوى الذي من خلاله يمكن معرفة دلالة الألفاظ (الجزر). 4- المستوى الصوتي: وهو المستوى الذي يدرس الحروف والحركات والمقاطع الصوتية سواء كانت لفظاً أو جزءاً من لفظ.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- 1- التعليم من خلال تجزئة مفردات اللغة العربية وتصنيفها بلحاظ موضوعاتها؛ لتمكين الطالب من التمييز بينها 2- التعليم من خلال النمط سواء كان النمط المرئي (اللفظي) او النمط الحسي (الحركي، لبيان لبيان الدلالات اللفظية والدلالات السياقية. 3- التعليم باستخدام الدروس المصغرة حيث يتم تقسيم المنهج العلمي الى افكار رئيسية ومن ثم تعليمها الى الطالب بشكل محاضرات متتالية وكل محاضرة تتناول فكرة واحدة فقط. 4- التعلم التعاوني/ حيث يتم اعطاء واجبات تقسم على الطلبة الى مجموعات صغيرة ويتم طرح مسألة معينة لهم واتاحة الفرصة للطلبة من اجل حل هذه المسألة بالتعاون مع بعضهم البعض.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	18	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	32	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

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

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	مقدمة عن الأخطاء اللغوية _ التاء المربوطة والطويلة والتاء المفتوحة
Week 2	قواعد كتابة الالف الممدودة والمقصورة _ الحروف الشمسية والقمرية
Week 3	الضاد والضاء
Week 4	كتابة الهمزة
Week 5	علامات الترقيم
Week 6	الاسم والفعل والتفريق بينهم_المفاعيل
Week 7	الامتحان النصفي
Week 8	العدد
Week 9	تطبيقات الأخطاء اللغوية الشائعة
Week 10	تطبيقات الأخطاء اللغوية الشائعة
Week 11	النون والتتوين _ معاني حروف الجر

Week 12	الجوانب التشكيلية للخطاب الاداري
Week 13	لغة الخطاب الاداري
Week 14	لغة الخطاب الاداري
Week 15	نماذج من المراسلات الادارية
Week 16	امتحان نهاية الفصل

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

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	(اللغة العربية العامة لأقسام غير الاختصاص)، تأليف عبد القادر حسن أمين وآخرين. (العربية الجامعية لغير المتخصصين)، تأليف عبده الراجحي. (النحو الواضح في قواعد اللغة العربية)، تأليف علي الجارم ومصطفى أمين. وكتب أخرى تعنى بتيسير اللغة العربية لغير المختصين ...	Available in the Library?
Required Texts		Yes
Recommended Texts	Skills in writing and Learning English	Yes
Websites	https://www.bbc.co.uk/learningenglish/	

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
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