

MODULE DESCRIPTION FORM

نموذج وصف المواد الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Introduction to Information System		Module Delivery
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	CSTE1102		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	CSTE	College	EETC
Module Leader	Mahmoud Shuker Mahmoud	e-mail	Mahmoud.shukur@mtu.edu.iq
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	PhD
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Assist. Prof. Dr. Dalal Abdulmohsin Hammood	e-mail	Dalal.hammood@mtu.edu.iq
Scientific Committee Approval Date	06/11/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The purpose of this course is to provide computer literacy to the student. The course prepares the student for a successful working relationship with computerized systems. It will present to him/her what the computer is, what it can and cannot do, how it operates, how it is programmed, how it is used as a tool in decision-making, and the social implementations of computer usage. Students should be acquainted with handling and managing data and information in business organizations. They should also understand the meaning of "Information Systems and technology and their effects on organizations, the different business information systems, and the development life cycle. Students must learn about Computer Hardware and Software and various types of computer networks. Students should know how to deal with e-commerce.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	☑As a result of taking this course, the student should be able to: 1. Know and understand various principles and fundamentals of Information Systems and Information Technology. 2. Analyze the types and functions of computers and the components of a computer system. 3. Define and categorize application and system software and use general-purpose application packages. 4. List the various network communication technologies and network components. 5. Understand the basics of network security. 6. Explain the Internet, Intranets, and Extranets systems. 7. Understand the basic concepts of database systems and data warehousing. 8. Explain the importance of E-Commerce. 9. Understand the GIS and MIS systems. 10. Describe the system and program development lifecycles. 11. Demonstrate data privacy and security.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. The Information Age in Which You Live (Types of Information systems, Competitive advantages) Computer Hardware (Input devices, Output devices, Storage devices, Categories of computers) Computer Software (System software, Application software) Network components, Network classification, Network communications media,

	Network security, The client/server software model Database and Data Warehouse (The relational database model, database management system tools, data warehouse, and data mining) E-commerce business models, understand your business & products & services & customers and move money easily and securely. Management Information and Decision Support Systems (MIS, DSS: definitions, inputs, and outputs) System development life cycle, Component-based development, End-user development, prototyping Protecting People and Information (Ethics, Privacy, Security)
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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 student's participation in the exercises while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials, and by considering the type of simple experiments involving some interesting sampling activities for the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
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, 10	LO #1, 2, 3, 7, 8 and 9
	Assignments	2	10% (10)	2, 12	LO # 4, 5, and 7
	Projects / Lab.	5	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 8, 9 and 10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO # 1-6
	Final Exam	4hr	50% (40 + 10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Information Systems: An Overview
Week 2	Computer Hardware
Week 3	Computer Software
Week 4	Network Basics
Week 5	Network Security
Week 6	Internet, Intranet, and Extranet
Week 7	Mid Term Exam + Database Systems
Week 8	Data Warehousing
Week 9	E-Commerce
Week 10	Global Information Systems
Week 11	Management Information System
Week 12	System Development Life Cycle
Week 13	Data privacy, security, and Ethics
Week 14	Emerging Trends, Technologies, Applications
Week 15	Preparing for final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Computer Hardware Components
Week 2	Lab 2: Microsoft Windows
Week 3	Lab 3: Internet, Web, Email
Week 4	Lab 4: Computer Network Components
Week 5	Lab 5: Microsoft Word
Week 6	Lab 6: Microsoft PowerPoint
Week 7	Lab 7: Microsoft Excel

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Shelly B. Gary, Vermaat E. Misty. Discovering Computers: Fundamentals. Shelly Cashman Series, Course Technology, latest edition.	No
Recommended Texts	Using Information Technology 10th Edition. 2013, by Brian K. Williams & Stacey C. Sawyer, McGraw-Hill	No
Websites	Cisco Networking Academy, Get Connected Course, Computer Hardware Basics, Computer Software basics	

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	Fundamental of Electrical Eng.		Module Delivery		
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar		
Module Code	CSTE1102				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		1	Semester of Delivery		1
Administering Department		CSTE	College	EETC	
Module Leader	Doaa Yousif Abdullah		e-mail	doaa.yousif@mtu.edu.iq	
Module Leader's Acad. Title			Module Leader's Qualification		
Module Tutor	Name (if available)		e-mail	E-mail	
Peer Reviewer Name		Inas Jawad Kadhim	e-mail	inasjk@mtu.edu.iq	
Scientific Committee Approval		06/11/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To develop problem solving skills and understanding of circuit theory through the application of techniques. 2. To understand voltage, current and power from a given circuit. 3. This course deals with the basic concept of electrical circuits. 4. This is the basic subject for all electrical and electronic circuits. 5. To understand Kirchhoff's current and voltage Laws problems. 6. To perform Thevenin's Norton's Theorem. 7. Understanding the Alternating Current Network Types of Alternating Waveforms 8. Understanding the basic principle of series and parallel AC Circuit
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	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 DC circuits in an electric circuit. 9. Discuss the various properties of resistors. 10. Explain the two Kirchhoff's laws used in circuit analysis. 11. Describe Thevenin's theorem and Norton's theorem and how they work

	12. Explain the basic concepts o AC Circuits.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Definition:</u> - Symbols And Abbreviations, Units, Electric Circuit & It's Element. The Direct Current Network. Ohms low, Charge, Force, Work, Power. <u>Circuit Theory</u> DC circuits – 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 Revision problem classes <u>Fundamentals</u> Resistive networks, voltage and current sources, Thevenin and Norton equivalent circuits, Conversion Delta To Star Connection, Superposition Method.
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 type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
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, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	8	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO # 1-7
	Final Exam	4hr	50% (40 + 10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Symbols And Abbreviations, Units, Electric Circuit & its Element, Ohms law.
Week 2	Series Circuits (Resistance in Series) Voltage Divider Rule.
Week 3	Parallel Circuits (Resistances in Parallel) Current Divider Rule.
Week 4	Open and Short Circuits, Source Transformation,
Week 5	Series-Parallel Circuits Transformation.
Week 6	Kirchhoff's Laws: Kirchhoff's current law (KCL) and its use in Network Analysis.
Week 7	Kirchhoff's voltage law (KVL) and its use in Network Analysis
Week 8	Conversion Delta to Star Connection and Conversion Star to Delta Connection
Week 9	Mid Term Exam + Superposition Method
Week 10	Thevenin's Theorem
Week 11	Norton's Theorem
Week 12	The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms
Week 13	The Mean and Effective Values of Current and Voltage
Week 14	Series and Parallel AC Circuits (R L C)
Week 15	Preparing for final Exam

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: How to use ammeter, voltmeter and ohmmeter.
Week 2	Lab 2: Apply Ohm's Law
Week 3	Lab 3: Continuous Implementation for Lab1 and Lab2
Week 4	Lab 4: Apply Kirchhoff's law to measure current
Week 5	Lab 5: Continuous Implementation for Lab4
Week 6	Lab 6: Apply Kirchhoff's law to measure voltages
Week 7	Lab 7: Continuous Implementation for Lab6
Week 8	Lab 8: Superposition Method
Week 9	Lab 9: Norton's Theorem.
Week 10	Lab 10: Continuous Implementation for Lab9
Week 11	Lab 11: Thévenin's Theorem.
Week 12	Lab 12: Continuous Implementation for Lab11
Week 13	Lab 13: Delta To Star Connection And Conversion Star To Delta Connection
Week 14	Lab 14: Continuous Implementation for Lab13
Week 15	Lab 15: Preparing for final Exam

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	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
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	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	Programming Essentials		Module Delivery		
Module Type	Core		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	CSTE1104				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		1	Semester of Delivery		1
Administering Department		CSTE	College	EETC	
Module Leader	Dr. Loay Al-Saffar		e-mail	Loay.alsaffar@mtu.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		Dr. Osama Abbas Hussein	e-mail	osama.abbas@mtu.edu.iq	
Scientific Committee Approval Date		06/11/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To develop problem solving skills and understanding of programming principles. 2. To understand the logic behind programming. 3. This course include using C++ as a programming language. 4. This course include algorithm design. 5. To understand how a programmer should prepare his work and think logically. 6. To perform programming project using control statements, functions, and to deal with the data stored in an array or file.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Use of algorithms (Flowchart specifically). 2. Explain how the program is written using C++ Programming language. 3. Define and use of variables (Data types, Declaration of variables). 4. Use of operators and its precedence (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator). 5. Making Decisions (use of: if, if-else, and switch statements) and draw of Flowchart of if-else statement. 6. Use of Loops (for, while, do-while), and use of break and continue statements with loops, and draw of Flowchart of loops. 7. Use of Arrays (one and two dimensional). 8. Use of Functions (Built-in function functions (Library functions), and User-Defined functions). 9. Use of arguments passed by value and by reference, and use of Local and global variables. 10. Use of Character sequences and string handling. 11. Handling and processing text files in C++.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. - Introduction to computers and programming. Types of programs (Applications and Systems). Programming languages (Machine, Assembly, and High-level language). Introduction to Compilers, Interpreters, object file, and executable file. Introduction to C++ with a simple program implementation. Types of programming errors, Program development life cycle, Algorithms - Flowchart - .

	Header files, Standard Input/output instructions, Comments in C++. [15 hrs] - Variables, Data Types, Declaration of variables, Constants, Statements. Operators (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator), Precedence of operators. [8 hrs] - Making Decisions (if, if-else statements), Flowchart of if-else statement. Making Decisions (switch statement), using break statement with switch statement, Flowchart of switch statement. Loops (for, while, do-while), using break and continue statements with loops, Flowchart of loops. [15 hrs] - Arrays (One dimensional and Two Dimensional) [10 hrs] - Functions (Built-in function functions (Library functions), and User-Defined functions), Function prototype (Declaration), Function call, Passing arguments to a function, return statement, Value-Returning vs. Void (Non Value Returning) functions, Function with no argument and no return value, Function with no argument but return value, Function with argument but no return value, Function with argument and return value. Arguments passed by value and by reference, Recursion, Local and global variables. [20 hrs] - Character sequences and string handling, ASCII table. [10 hrs] - Handling and processing text files in C++ [10 hrs]
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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 learning and developing their skills in programming and logic thinking, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of lab experiments involving assignments and project design activities that are interesting to the students.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
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)	6, 11	LO #3 to 6 and #7 to 9
	Assignments	2	10% (10)	5, 10	LO #3 to 6 and #7 to 9
	Projects / Lab.	10	15% (15)	Continuous	
	Report	1	5% (5)	13	LO #10, 11
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO # 1 to 7
	Final Exam	4hr	50% (40 + 10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Introduction. Types of programs (Applications and Systems). Computer Components. How computers store Data.
Week 2	Programming languages (Machine, Assembly, and High-level language). Introduction to Compilers, Interpreters, object file, and executable file. Types of programming errors, program development life cycle.
Week 3	Algorithms (Flowchart).

Week 4	Variables, Data Types, Declaration of variables, Constants, Statements, and Operators.
Week 5	Making Decisions (if, if-else statements), flowchart of if-else statement.
Week 6	Making Decisions (switch statement), using break statement with switch statement, flowchart of switch statement.
Week 7	Mid-term Exam + Loops (for loop)
Week 8	Loops (while, do-while), using break and continue statements with loops, flowchart of loops.
Week 9	Arrays (One dimensional)
Week 10	Arrays (Two Dimensional)
Week 11	Functions: Built-in function functions (Library functions), and User-Defined functions), Function prototype (Declaration), function call, Passing arguments to a function, return statement, Local and global variables.
Week 12	Functions (Value-Returning) vs. Void (Non Value Returning) functions, function with no argument and no return value, function with no argument but return value, function with argument but no return value, function with argument and return value. Arguments passed by value and by reference.
Week 13	Character sequences and string handling.
Week 14	Handling and processing text files in C++
Week 15	Preparing for the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction to C++ with a simple program implementation. Header files, Standard Input/output instructions, Comments in C++.
Week 2	Lab 2: Variables, Arithmetic operators, Increment and decrement
Week 3	Lab 3: Relational and Logical operators, Bitwise Operators
Week 4	Lab 4: Cast operator, Conditional operator, Precedence of operators.
Week 5	Lab 5: Making Decisions (if, if-else).
Week 6	Lab 6: Making Decisions (switch statements).
Week 7	Lab 7: Loops (for)
Week 8	Lab 8: Loops (while, and do-while)
Week 9	Lab 9: Arrays (1D)

Week 10	Lab 10: Arrays (2D)
Week 11	Lab 11: Functions
Week 12	Lab 12: Function types according to whether it take arguments and/or return a value or not.
Week 13	Lab 13: Character sequences and string handling.
Week 14	Lab 14: Text files

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	- Starting Out with Programming Logic and Design (What's New in Computer Science), By Tony Gaddis, 5th Edition 2018. - Programming Essentials: Beginning C++, by Ivor Horton, 4th Edition, 2014.	No
Recommended Texts	C++ How to Program, 6th Edition 2007 By P. J. Deitel - Deitel & Associates, Inc., H. M. Deitel - Deitel & Associates, Inc.	Yes
Websites	https://www.geeksforgeeks.org/c-plus-plus	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
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Fail Group (0 – 49)	FX – Fail	راسب (فيد المعالجة)	(45-49)	More work required but credit awarded
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Module Information			
معلومات المادة الدراسية			
Module Title	Mathematics I		Module Delivery
Module Type	Support or related learning activity		☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	CSTE1104		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	1
Administering Department	CSTE	College	EETC
Module Leader	Hala A. Hashim	e-mail	hala.solomon@gmail.com
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	E-mail
Peer Reviewer Name	Assistant Prof Dr. Dalal Abdulmohsin Hammood	e-mail	dalal.hammood@mtu.edu.iq
Scientific Committee Approval Date	06/11/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. This course deals with differential and integral calculus. 2. To develop problem solving skills and understanding of preliminaries to differential calculus. 3. To understand differentiation, and differentiation methods. 4. To perform applications using the derivative. 5. To get a good grasp of Integrals, and Integration methods. 6. To understand the relationship between differentiation and integration.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize Line and Circle Equation and related evaluating formulas. 2. List the various terms associated with Functions and their Types. 3. Discuss the Limit and Continuity of a Function. 4. Describe the Definition of a derivative as a limit, Differentiation Rules, and various types of Function's Derivatives. 5. Identify when to use different Differentiation Methods. 6. Discuss the Curve Sketching process, and the L'Hospital's Rule. 7. Analyze Taylor and Maclaurin Series. 8. Identify the Indefinite Integrals. 9. Explain the Integration Methods u-substitution, By parts. 10. Explain the Integration Methods Involving Trigonometric Functions, Trigonometric substitution. 11. Explain the Integration Method Rational Functions by Partial Fractions. 12. Explain the Integration Methods Functions Involving Roots, and Functions Involving Quadratics. 13. Recognize the Definite Integral and its Application Area Under a Curve. 14. Discuss e the Definite Integral Applications Arc Length, Average Value of a Function. 15. Discuss the Definite Integral Applications Areas Between Two Curves.
Indicative Contents المحتويات الإرشادية	<u>Part A - Preliminaries to differential calculus.</u> This part includes the Line and Circle Equation and related evaluating formulas and

	parameters. Furthermore, main mathematical Functions characteristics Domain, Range, Odd, Even, and their Types. Finally, The Limit and Continuity of a Function Laws, the behavior At Infinity, followed by important Special Limits, then the Continuity Conditions. [9 hrs] + Revision problem classes in weekly tutorials [3 hrs] <u>Part B – Differential calculus.</u> This part will take in details the first key subject of the semester, the Differentiation process from the prospective of Definition as limit, Differentiation Rules, and Function-Derivative Table. Which will be followed by Differentiation Methods namely the Implicit, Logarithmic, and The Chain Rule. Furthermore, four Applications of differentiation will be discussed the Curve Sketching, L'Hospital's Rule, and Taylor and Maclaurin Series. [12 hrs] + Revision problem classes in weekly tutorials [4 hrs] <u>Part C – Integral calculus.</u> This part discusses the second key subject the Integration of functions. Followed by dissecting the main Integration Methods, u-substitution, By parts, Involving Trigonometric Functions, Trigonometric substitution, Rational Functions by Partial Fractions, Functions Involving Roots, and Functions Involving Quadratics. Furthermore, it will consider six definite Integral applications, namely The Area Under a Curve, Arc Length, Average Value of a Function, and Areas Between two Curves. [22 hrs] + Revision problem classes in weekly tutorials [8 hrs]
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This module will primarily focus on encouraging students to participate in the activities, as well as refining and developing their critical thinking skills. This will be achieved through lectures, tutorials, discussions, and grading activities.

Student Workload (SWL)

الحمل الدراسي للطلاب			
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	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5, 10	LO #1 - 4, 5 - 9
	Assignments	2	15% (15)	7, 14	LO # 1 - 6, 7 and 13
	Projects / Lab.	N/A			
	Report	1	5%(5)	14	LO #13, 14 and 15
Summative assessment	Midterm Exam	2hr	10% (10)	8	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	Line and Circle Equation.
Week 2	Functions (Domain, Range, Odd, Even, Types.)
Week 3	The Limit and Continuity of a Function (Laws, At Infinity, Special Limits, Continuity Conditions.)
Week 4	Differentiation (Definition as limit, Differentiation Rules, Function-Derivative Table.)
Week 5	Differentiation Methods (Implicit, Logarithmic, The Chain Rule.)
Week 6	Applications of Differentiation (Curve Sketching, L'Hospital's Rule.)
Week 7	Applications of Differentiation (Taylor and Maclaurin Series.)
Week 8	Midterm Exam + Introduction to Indefinite Integrals.
Week 9	Integration Methods (u-substitution, By parts.)
Week 10	Integration Methods (Involving Trigonometric Functions, Trigonometric substitution.)
Week 11	Integration Methods (Integration of Rational Functions by Partial Fractions.)
Week 12	Integration Methods (Functions Involving Roots, Functions Involving Quadratics.)
Week 13	Definite Integral and Applications (Definite Integral, Area Under a Curve, Arc Length, Average Value of a Function.)
Week 14	Definite Integral and Applications (Areas Between two Curves)
Week 15	Preparatory week before the final Exam

Delivery Plan (Weekly Tutorial) المنهاج الاسبوعي الاضافي	
	Material Covered
Each week, a question sheet related to the material presented in the theoretical lecture will be solved and debated.	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Joel R. Hass, Christopher E. Heil, Maurice D. Weir, "Thomas' Calculus: Early Transcendentals", Pearson Education, 14th Edition, (January 1, 2017), ISBN-13: 978-0134439020.	Yes
Recommended Texts	Anthony Croft, Robert Davison, "Mathematics for Engineers: A Modern Interactive Approach", Prentice Hall, 3rd edition, (January 1, 2008), ISBN-13: 978-0132051569.	No
Websites	https://www.khanacademy.org/math/differential-calculus	

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	Engineering Drawing		Module Delivery
Module Type	Support or related learning activity		☐ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	EETC102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	EETC
Module Leader	Mustafa Ahmed Saadi	e-mail	mustafa.ahmed.saadi@gmail.com
Module Leader's Acad. Title	Asst. lecturer	Module Leader's Qualification	MSC.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Dr. Osama Abbas Hussein	e-mail	osama.abbas@mtu.edu.iq
Scientific Committee Approval Date	06/11/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To develop spatial visualization skills: Enhance your ability to visualize and mentally manipulate objects in three-dimensional space based on two-dimensional drawings. Strengthen your spatial awareness and improve

	your understanding of complex engineering design - Learn sketching and taking field dimensions. - Take data and transform it into graphic drawings. - Learn basic engineering drawing formats. - Learn basic AutoCAD skills. - Learn how to draw 2D drawings in AutoCAD.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- Identify the basic of AutoCAD - Explain Drawing settings - How to drawing: Point, Line, Multiline, P line, Spline, X line, Rectangle. - How to drawing: Donut, Polygon, Circle, Arc, Ellipse - List Modify Tools Identify: Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, - Identify Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. - Explain Zoom, Pan. - How to assign: Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions. - Dealing with: Text, Style, M text, Scale text, Spell, - Knowing the Hatching Objects. - Drawing 3d modeling. - Drawing the Exercises .
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. AutoCAD Software, drawing settings, Drawing Tools, Line, Circle, Arc, Ellipse, Donut, Polygon, Rectangle, Point, Multiline, P line, Spline, X line. [20 hrs.] Modify Tools Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. [4 hrs.] Display Control Zoom, Pan, Redraw, Clean Screen. [4 hrs.] Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions. [4 hrs.] Hatching Objects [4hrs] Text, Style, M text, Scale text, Spell, [4 hrs.] 3D MODELLING, Convert 2D to 3D, Solid Editing [19 hrs.]

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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Familiarize with the Software: Before diving into engineering drawing concepts, it's important to become familiar with the AutoCAD software. This includes understanding the user interface, basic tools, and commands. with introductory tutorials or online resources that cover the basics of AutoCAD. 2. Step-by-Step Instructions: Break down complex drawing tasks into smaller, manageable steps. Provide step-by-step instructions and demonstrations using AutoCAD, showing students how to execute each step effectively. This approach helps students understand the workflow and build their confidence. 3. Visual Aids and Examples: Utilize visual aids, such as slides, diagrams, and examples, to reinforce concepts. Show real-world engineering drawings and explain how they were created using AutoCAD. Visual representations can enhance understanding and make abstract concepts more tangible. 4. Group Activities and Collaboration: Promote collaboration among students by assigning group activities or projects. This allows them to work together, share knowledge, and learn from one another. Encourage students to discuss their approaches and problem-solving techniques related to engineering drawing in AutoCAD. 5. Provide Feedback: Regularly provide constructive feedback on students' drawings. Highlight areas for improvement, suggest alternative methods, and point out common mistakes. This feedback loop is crucial for students to refine their skills and develop a deeper understanding of engineering drawing principles.

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 أسبوعيا	4
Unstructured SWL (h/sem)	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4

الحمل الدراسي غير المنتظم للطلاب خلال الفصل		
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125	

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #3, 4 and 11
	Assignments	2	20% (20)	Continuous	All
	Projects / Lab.	10	10% (10)	Continuous	All
	Report				
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 Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introducing of Engineering Drawing
Week 2	Drawing settings of AutoCAD
Week 3	Drawing Tools: Point, Line, Multiline, P line, Spline, X line.
Week 4	Rectangle, Donut, Polygon
Week 5	Circle, Arc, Ellipse
Week 6	Modify Tools Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet.
Week 7	Mid Term Exam + Display Control, Zoom, Pan, Redraw, Clean Screen.
Week 8	Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions

Week 9	Annotation Tools Text, Style, M text, Scale text, Spell
Week 10	Hatching Objects
Week 11,12	3D modeling
Week13	Convert 2D To 3D
Week 14	Solid Editing + presenting a final project
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Introduction to AutoCAD 2010 By Alf Yarwood Copyright 2009	Yes
Recommended Texts	An Introduction to Autodesk Inventor 2010 and AutoCAD 2010 Unbnd Edition by Randy Shih	No
Websites	https://www.coursera.org/search?query=autocad&=null&index=prod_all_launched_products_term_optimization	

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	Democracy & Human Rights		Module Delivery		
Module Type	Basic		☑ Theory		
Module Code	MTU1006				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level		1	Semester of Delivery		1
Administering Department		CSTE	College	EETC	
Module Leader	Firad Fawzi Zeidan		e-mail	Hbeeb saleh@mtu.edu.iq	
Module Leader's Acad. Title		Assistant Lecturer	Module Leader's Qualification		Msc
Module Tutor			e-mail		
Peer Reviewer Name		ali nafaa jaafar		ali_nafaa@mtu.edu.iq	
Scientific Committee Approval Date		19/10/2023	Version Number		1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Course objectives: 1- The graduate engineer will be introduced to human rights and basic freedoms 2- He should be an engineer with a general culture through which he can manage work that is subject to the standards of human rights and freedoms 3- Be active in society and be able to participate in national political events, as a candidate, voter, official 4- Get acquainted with the mechanisms of democracy, elections, and how to participate in them 5- Get acquainted with the laws and regulations that protect human rights and basic freedoms 6- Sharing the community's concerns for patriotism
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Explaining human rights and freedoms 2 – Understanding the historical dimension of the development of the concept of human rights 3 – Explaining the religious impact in perpetuating the issue of human rights 4- Teaching students international, regional and local laws and instruments (constitutions) regulating human rights and basic freedoms. 5 -Understanding the International and local guarantees for the enforcement of human rights 6 – Knowing the concept of freedom and its types 7 – Knowing the meaning of Democracy, its concept, types, and applications 8- the goal of Elections, implementation mechanisms, methods of rigging them 9- Knowing Election laws 10- Evaluating the democratic experience in Iraq after 2003

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

By theoretical Lectures and showing examples from around the world

Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1
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	3	15% (15)	5, 10, 12	LO #1, 2, 10 and 11
	Assignments	2	15% (15)	2, 12	LO # 3, 4, 6 and 7
	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 الأسبوعي النظري

	Material Covered
Week 1-15	1- Why human rights, the concept of human rights 2- The history of human rights in ancient civilizations 3- Human rights in monotheistic religions, Islam as a model

	4- Human rights in the Middle Ages 5- The role of revolutions and thinkers in human rights 6- Human rights in the modern era, the League of Nations, the United Nations 7- Mid term Exam + The Universal Declaration and international human rights covenants and instruments 8- Human rights in regional agreements 9- Human rights in international non-governmental organizations 10- International guarantees for human rights and the role of the High Commissioner 11- Financial and administrative corruption and its role in obstructing the enforcement of human rights 12- Terrorism 13- Public freedoms, concept, types 14- Democracy, its types, implementation mechanisms, elections 15- Preparing for the final exam
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Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Binding prepared by Assistant Professor Hbeeb saleh	Yes
Recommended Texts	United Nations Library.	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 المواد الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Digital Logic Design		Module Delivery
Module Type	Core		✓ Theory Lecture ✓ Lab ✓ Tutorial Practical Seminar
Module Code	CSTE1201		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	2
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Doaa Yousif Abdullah		e-mail doaa.yousif@mtu.edu.iq
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	Msc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Ali nafaa gaafar	e-mail	ali_nafaa@mtu.edu.iq
Scientific Committee Approval Date	06/11/2023	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
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أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. To be able to deal with the number systems and codes. 2. To understand the functionality of logic gates. 3. To have the skill to use the logic gates in designing logic circuits. 4. To have the skill to simplify the digital circuits. 5. To learn the simplification process, Boolean expression, Demorgans law, and Karnaugh map. 6. To understand the principles for designing logic circuits. 7. To understand adder, subtractor, decoder, encoder, multiplexer, demultiplexer, and comparator circuits.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize each type of number system. 2. Identify the process of converting between number systems. 3. Summarize the types of logic gates. 4. Discuss the use of each gate. 5. Describe the design of a logic circuit by using logic gates. 6. Explain the simplification processes. 7. Explain Boolean expression and Demorgan's law. 8. Explain the Karnaugh map for different numbers of bits. 9. Discuss the design of the logic circuit before and after simplification. 10. Explain the combinational logic circuit. 11. Identify the adder, subtractor, decoder, encoder, multiplexer, demultiplexer. 12. Identify the basic circuit elements and their applications. 13. Identify the basic concepts of flip flops and its applications in synchronous and asynchronous counters
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Number systems - decimal, binary, octal, hexadecimal number system, conversion, operation. [10 hrs] Codes- excess-3, gray code, conversions, operations, complements [5 hrs] Logic gates-NOT, AND, OR, NOR, NAND, XOR, XNOR. [5 hrs] Logic simplification- Boolean theorem and Demorgans law. [10 hrs] Karnaugh map-SOP, POS, and don't care. [15 hrs] Arithmetic operations Part A- adder, parallel binary adder, subtractor, adder-subtractor. [10 hrs] Arithmetic operations Part B- multiplexer, demultiplexer, decoder, encoder. [10 hrs] Flip Flops types and applications [4] Synchronous and Asynchronous Counters [6]

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 the type of simple experiments involving some interesting sampling activities for the students.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	5
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, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	7	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO # 1-7
	Final Exam	4hr	50% (40+10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

Material Covered

Week 1	Number systems (decimal, binary, octal, conversions, operations)
Week 2	Number systems (hexadecimal, BCD, conversions, operations)
Week 3	Number systems (excess-3, gray code, conversions, operations, complements)
Week 4	Logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR)
Week 5	Logic simplification (Boolean theorem)
Week 6	Logic simplification (Demorgan's theorem)
Week 7	Karnaugh maps (2-variables, 3-variables)
Week 8	Karnaugh maps (4-variables (SOP, POS, don't care))
Week 9	Karnaugh maps (5-variables, (SOP, POS, don't care))
Week 10	Arithmetic operations (adder, parallel binary adder)
Week 11	Arithmetic operations (subtractor, adder-subtractor circuit)
Week 12	Arithmetic operations (decoder, encoder)
Week 13	Arithmetic operations (Multiplexer, Demultiplexer)
Week 14	Flip-flop types and operation
Week 15	Synchronous and Asynchronous Counter
Week 16	Preparatory week before the Final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: logic gates (NOT, AND, OR)
Week 2	Lab 2: Logic gates (NOR.NAND)
Week 3	Lab 3: Logic gates (XOR, XNOR)
Week 4	Lab 4: Boolean theorem
Week 5	Lab 5: Demorgan's law
Week 6	Lab 6: Karnaugh map
Week 7	Lab 7: SOP
Week 8	Lab 8: POS, don't care
Week 9	Combinational circuit (half adder, full adder)
Week 10	Combinational circuit (Half subtractor, full subtractor)
Week 11	Decoder and Encoder circuits
Week 12	Multiplexer and Demultiplexer circuits

Week 13	Flip Flop Latch
Week 14	Counters

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Digital Fundamentals by Floyed	Yes
Recommended Texts	Digital circuit analysis and design with Simulink modeling by Steven T. Karris	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/computer-engineering	

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

Module Information معلومات المادة الدراسية		
Module Title	Ethics for the Information Age	Module Delivery

Module Type	Core		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☒ Seminar		
Module Code	CSTE1202				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level		1	Semester of Delivery		2
Administering Department		CSTE	College	EETC	
Module Leader	Mahmoud Shuker Mahmoud		e-mail	Mahmoud.shukur@mtu.edu.iq	
Module Leader's Acad. Title		lecturer	Module Leader's Qualification		PhD
Module Tutor	Name (if available)		e-mail	E-mail	
Peer Reviewer Name		Assist. Prof. Dr. Dalal Abdulmohsin Hamood	e-mail	dalal.hamood@mtu.edu.iq	
Scientific Committee Approval Date		06/11/2023	Version Number		1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Understanding the history of computer technology - Analyzing a behavior or scenario for ethical aspects - Understanding classical ethical theories. - Applying ethical theories to argue morality or immorality. - Understanding intellectual property and its protections. - Understanding privacy and its protections
Module Learning Outcomes	1- Develop a foundational understanding of ethical theories and principles, including how they apply to technology, information, and digital

مخرجات التعلم للمادة الدراسية	interactions. 2- Learn the ethical considerations and responsibilities of networked communication, including email, messaging, and social networking. 3- Understand the ethical implications of online interactions, including responsible digital communication, respect for diverse viewpoints, and avoiding online harassment or cyberbullying. 4- Examine the ethical issues related to using social media platforms and online advertising, including privacy concerns, data collection, and manipulation of user behavior. 5- Explore the ethical challenges of protecting children from exposure to inappropriate or harmful content online and promoting safe digital environments. 6- Grasp the ethical principles surrounding intellectual property, including respecting copyrights, trademarks, and patents in the digital age. 7- Analyze the ethical considerations involved in the creation, protection, and use of trademarks, patents, and copyrighted material. 8- Learn about the ethical aspects of software development, licensing, and distribution, including open-source and proprietary software models. 9- Understand the ethical values and practices associated with the open-source software movement, including collaboration, transparency, and freedom of use. 10- Understand the ethical implications of information disclosure, including whistleblowing, transparency, and confidentiality. 11- Examine the ethical principles governing information privacy, data protection, and the responsible handling of personal and sensitive information. 12- Recognize the ethical concerns related to cybercrime, including hacking, fraud, and identity theft.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to computing (Mechanical Calculators, Punched card tabulation, first commercial computer, Microprocessors, personal computers). Introduction to Ethics (Definition, Ethical Theories) Networked Communication (Spam, Internet interactions, www, mobile Application) Impact of Social Media (Political Activism, Internet Research Agency) Children's inappropriate Contents (Web Filter, child internet protection act) Intellectual Property (Property rights, benefits, limits) Trademark, Patents, and Copyright

	Protection Software (Software copyright) Open Source Software (Definition, benefits, impact, examples) Information Privacy (Definition, Benefits, privacy, and trust) Information Disclosure (Public Records, information held by private organizations, Facebook Tag, RFID Tags, cookies) Computer and Network Security (Hacking, Malware) Cyber-crime and Cyber-attacks (Fishing, SQL injection, DOS)
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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.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	3
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	3	15% (15)	5, 11, 14	LO #4, 8 and 9, 12
	Assignments	3	15% (15)	3, 7, 12	LO # 2, 6 and 7
	Report	1	10% (10)	13	LO # 10
Summative assessment	Midterm Exam	2hr	10% (10)	8	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 to Computing
Week 2	Introduction to Ethics
Week 3	Networked Communication
Week 4	Internet Interaction
Week 5	Impact of Social Media and Online Advertisement
Week 6	Children and Inappropriate Contents
Week 7	Intellectual Property
Week 8	Mid Term Exam
Week 9	Trademark, Patents, and Copyright
Week 10	Protection for Software
Week 11	Open Source Software
Week 12	Information Privacy
Week 13	Information Disclosures
Week 14	Computer and Network Security
Week 15	Cyber Crime and Cyber Attacks

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Ethics for the Information Age, 8th edition, Michael J. Quinn Seattle University	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 Information					
معلومات المادة الدراسية					
Module Title	General Physics		Module Delivery		
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar		
Module Code	CSTE1203				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level		1	Semester of Delivery		2
Administering Department		CSTE	College	EETC	
Module Leader	Lecturer Dr. Thamir Hassen Ali		e-mail	Thamir.h.ali@mtu.edu.iq	
Module Leader's Acad. Title			Module Leader's Qualification		
Module Tutor			e-mail		

Peer Reviewer Name	Assist. Prof. Dr. Dalal Abdulmohsin Hammood	e-mail	Dalal.hammood@mtu.edu.iq
Scientific Committee Approval Date	06/11/2023	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The aims of this subject are to: 14. Provide, through well-designed studies of experimental and practical physics, a worthwhile educational experience for all students, whether they go on to study science beyond this level and to enable them to acquire sufficient understanding. 15. Develop abilities and skills that are relevant to the study and practice of science and are useful in everyday life. 16. Develop attitudes relevant to science such as concern for accuracy and precision, objectivity, integrity, etc. 17. Stimulate interest in and care for the local and global environment. 18. Promote an awareness that the study and practice of science are cooperative and cumulative activities and are subject to social, economic, technological, ethical, and cultural influences and limitations. 19. The applications of science may be beneficial and detrimental to the individual, the community, and the environment. 20. The use of information technology is important for communications, as an aid to experiments, and as a tool for the interpretation of experimental and theoretical results.
Module Learning Outcomes	The learning outcomes for studying general physics are: 1. Understanding Fundamental Concepts: Students will develop a solid

مخرجات التعلم للمادة الدراسية	understanding of fundamental physics concepts, including physical quantities, units, and measurement, as well as key principles governing motion, forces, and energy. 2. Problem-Solving Skills: By studying kinematics and dynamics, students will acquire the ability to analyze and solve problems related to motion, forces, and the behavior of physical objects. 3. Conceptual Mastery: Students will master key concepts such as mass, weight, density, and the turning effect of forces, enabling them to apply these principles to real-world situations. 4. Pressure, Energy, Work, and Power: Learners will gain a comprehensive understanding of pressure, energy, work, and power and be able to calculate and apply these concepts to various physical systems. 5. Motion in Different Dimensions: Students will be able to analyze and describe the motion of objects in one, two, or three dimensions, allowing them to tackle more complex real-world scenarios. 6. Newton's Laws of Motion: Learners will comprehend and apply Newton's three laws of motion, providing them with the foundation for understanding and predicting the behavior of objects under the influence of forces. 7. Understanding Wave Properties: Students will gain a deep understanding of the general properties of waves, including wave mechanics, wave interference, and wave behavior, which are vital in various areas of physics. 8. Exploration of Light: A thorough understanding of the nature and properties of light, including its behavior, reflection, refraction, and dispersion, will be achieved. 9. Electromagnetic Spectrum: Students will learn about the electromagnetic spectrum, its different regions, and the practical applications of various types of electromagnetic waves. 10. Sound and Hearing: A comprehensive understanding of the physics of sound, including wave characteristics, propagation, and its perception by the human ear, will be attained. 11. Electromagnetism: The course will enable students to understand the relationship between electricity and magnetism, including electromagnetic induction, electromotive force, and the applications of electromagnetism in technology.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: 1- Measurements - Introduction to Physical Quantities - Units and Measurement 2- Newtonian Mechanics - Kinematics - Dynamics, Mass - Weight and Density

	- Turning Effect of Forces - Pressure - Energy, Work and Power
	3- Waves - General Wave Properties - Light - Electromagnetic Spectrum - Sounds
	4- Electricity and Magnetism - Static Electricity & Practical Electricity - Magnetism & Electromagnetism

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 type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	46	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1-4 and 5,6
	Assignments	2	10% (10)	2, 12	LO # 1, 2 and 9
	Projects / Lab.	8	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO # 1-6
	Final Exam	3hr	40% (50)	16	All
	Final Lab Exam	1hr	10% (10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction Physical Quantities, Unites and Measurement • Dimensions and Units • Dimensional Analysis • Conversion of Units
Week 2	Kinematics and Dynamics • Reference Frames and Displacement • Average Velocity • Instantaneous Velocity • Acceleration • Motion at Constant Acceleration • Freely Falling Objects • Force and Motion • Collisions and Impulse • Projectile Motion
Week 3	Mass, weight and Density • Definition of Mass • Units and Law of Mass • Definition of Weight

	• Units and Law of Weight • Definition of Density • Units and Law of Density • Specific gravity
Week 4	Turning Effect of Forces • Moment of a Force • Principle of Momentum • Conditions of Equilibrium
Week 5	Pressure, Energy, Work, and Power • Definition of Pressure • Units and Law of Pressure • Pressure in Liquids • Definition of Energy • Units and Law of Energy • Kinetic energy • Potential Energy • Definition of Work • Units And Law Of Work • Definition of Power • Units and Law of Power
Week 6	Motion Along a Straight Line • Displacement, Time, and Average Velocity • Motion • Position and Displacement • Average Velocity and Average Speed
Week 7	Motion in Two or Three Dimensions • Position and Velocity Vectors • Acceleration Vector • Projectile Motion
Week 8	Newton's Laws of Motion • Newton's First Law • Newton's Second Law • Newton's Third Law

Week 9	Mid Term Exam
Week 10	General Wave Properties • Mechanical Waves • Transverse waves • Longitudinal waves • Surface waves • Measuring a Wave
Week 11	Light • Introduction • Definition of Light • What is of Light • Properties of Light • Application of Light
Week 12	Electromagnetic Spectrum • Definition of Electromagnetic Spectrum • Type of Electromagnetic Spectrum • Detecting Electromagnetic Waves from Space • Energy in Electromagnetic Waves
Week 13	Sounds and Hearing • Definition of Sound and Hearing • Speed of Sound, Frequency and Wavelength • Sound Intensity and Sound Level • Definition of Hearing • The Hearing Mechanism
Week 14	Magnetism • Introduction • The Source of All Magnetism • Universal Characteristics of Magnets and Magnetic Poles • Earth's Magnetic Poles • Types of Magnetism
Week 15	Electromagnetism • Introduction • Faradays Law

	• Emf induced in a moving conductor • Energy stored in a magnetic field
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Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Experiment 1: Dynamics – Force, Newton’s Three Laws, and Friction
Week 2	Experiment 2: Investigating the Laws of Motion with a Simple Pendulum
Week 3	Experiment 3: Tuning Fork
Week 4	Experiment 4: Equilibrium of a Rigid Body
Week 5	Experiment 5: Determining Hooks law
Week 6	Experiment 6: Verifying Newton's Third Law with Colliding Objects
Week 7	Experiment 7: Investigating Wave Properties - Wavelength, Frequency, and Speed
Week 8	Experiment 8: Refraction of Light in Different Media

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Fundamentals of Physics, by David Halliday, Jearl, Walker, and Robert Resnick, Wiley	
Recommended Texts	Seraway, Physics for Scientists and Engineers 6E by Serway and Jewett	
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	Mathematics II		Module Delivery		
Module Type	Basic learning activities		☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar		
Module Code	CSTE1204				
ECTS Credits	5				
SWL (hr/sem)	150				
Module Level		1	Semester of Delivery		2
Administering Department		CSTE	College	EETC	
Module Leader	Hala A. Hashim		e-mail	hala_adnan@mtu.edu.iq	
Module Leader's Acad. Title		Assistant Lecturer	Module Leader's Qualification		M.Sc.
Module Tutor			e-mail	E-mail	
Peer Reviewer Name		Assist. Prof. Dr. Dalal Abdulmohsin Hammood	e-mail	dalal.hammood@mtu.edu.iq	
Scientific Committee Approval Date		06/11/2023	Version Number		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CSTE 1104 - Mathematics I	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. To Understand concepts of vectors and vector operations. 2. To Understand concepts of linear algebra. 3. To get a grasp of various methods to solve systems of linear equations. 4. To Compute linear transformations. 5. To be able to determine Eigenvalues and Eigenvectors. 6. To perform matrix diagonalization.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize Vectors concepts, notation and Operations. 2. Discuss dot product, cross product, Orthogonal and orthonormal vectors. 3. Discuss the terms Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix. 4. Describe the matrix operations {addition, subtraction, scalar multiplication, multiplication}. 5. Identify Determinant and Inverse for Nonsingular matrices. 6. Discuss aspects about System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.). 7. Identify Row operations, row-echelon form "triangular", Rank of a Matrix, reduced row-echelon form, Augmented Matrix. 8. Discuss Gaussian elimination. 9. Explain Gauss–Jordan elimination and Solving Systems with Inverses. 10. Explain Cramer's Rule. 11. Explain Linear Combinations of Vector, span. 12. Explain Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix. 13. Recognize Linear Transformations. 14. Discuss Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem. 15. Discuss Eigenvalues and Eigenvectors, Diagonalizing Matrices.
Indicative Contents المحتويات الإرشادية	<u>Part A - Vectors.</u>

	This part includes Vectors definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}. In addition to Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors. [6 hrs] + Revision problem classes in weekly tutorials [2 hrs]
	<u>Part B – Matrices.</u> This part will take in details Matrices (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.), in addition to operations {addition, subtraction, scalar multiplication, multiplication}. Furthermore, Determinant, Inverse (Nonsingular). [9 hrs] + Revision problem classes in weekly tutorials [3 hrs]
	<u>Part C – System of Linear Equations.</u> This part discusses System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.), in addition to Row operations, row-echelon form “triangular”, Rank of a Matrix, reduced row-echelon form, Augmented Matrix. Furthermore, Gaussian elimination, Gauss–Jordan elimination, Solving Systems with Inverses, Cramer's Rule is described. [13 hrs] + Revision problem classes in weekly tutorials [4 hrs]
	<u>Part D – Vector Spaces and Diagonalization.</u> This part discusses Vector Spaces (Linear Combinations of Vector, span, Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix, Linear Transformations. Furthermore, Diagonalization (Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem, Eigenvalues and Eigenvectors, Diagonalizing Matrices.) [15 hrs] + Revision problem classes in weekly tutorials [5 hrs]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	This module will primarily focus on encouraging students to participate in the activities, as well as refining and developing their critical thinking skills. This will be achieved through lectures, tutorials, discussions, and grading activities.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem)	63	Structured SWL (h/w)	4
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الحمل الدراسي المنتظم للطالب خلال الفصل		الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	5, 10	LO #1 - 4, 5 - 9
	Assignments	2	20% (20)	7, 14	LO # 1 - 6, 7 and 13
	Projects / Lab.	N/A			
	Report	N/A			
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Vectors (Definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}.)
Week 2	Vectors (Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors.)
Week 3	Matrices (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.)
Week 4	Matrices (operations {addition, subtraction, scalar multiplication, multiplication}.)

Week 5	Matrices (Determinant, Inverse (Nonsingular).)
Week 6	System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.)
Week 7	System of Linear Equations (Row operations, row-echelon form “triangular”, Rank of a Matrix, reduced row-echelon form, Augmented Matrix.)
Week 8	Midterm Exam + System of Linear Equations (Gaussian elimination.)
Week 9	System of Linear Equations (Gauss–Jordan elimination, Solving Systems with Inverses.)
Week 10	System of Linear Equations (Cramer's Rule.)
Week 11	Vector Spaces (Linear Combinations of Vector, span.)
Week 12	Vector Spaces (Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix.)
Week 13	Vector Spaces (Linear Transformations.)
Week 14	Diagonalization (Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem.)
Week 15	Diagonalization (Eigenvalues and Eigenvectors, Diagonalizing Matrices.)
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Tutorial)

المنهاج الاسبوعي الاضافي

Material Covered

Each week, a question sheet related to the material presented in the theoretical lecture will be solved and debated.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
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Required Texts	David C. Lay, Judi J. McDonald, Steven R. Lay, "Linear Algebra and Its Applications", Pearson Education, 6th edition (July 10th 2020), ISBN-13: 978- 0136880929.	Yes
Recommended Texts	Gilbert Strang, " Linear Algebra and Its Applications", Cengage Learning, 4th edition, (January 1, 2006), ISBN-13: 978-0030105678.	No
Websites	https://www.udemy.com/course/linear-algebra-with-applications/	

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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	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	Engineering Workshops	Module Delivery
Module Type	Basic	☐ Theory ☐ Lecture ☒ Lab
Module Code	EETC101	
ECTS Credits	6	

SWL (hr/sem)	125		☐ Tutorial ☐ Practical ☐ Seminar	
Module Level	1	Semester of Delivery	2	
Administering Department	CSTE	College	EETC	
Module Leader	Mustafa Ahmed Saadi	e-mail	mustafa.ahmed.saadi@gmail.com	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	MSc	
Module Tutor		e-mail		
Peer Reviewer Name	Dr. Inas Jawad Kadhim	e-mail	inasjk@mtu.edu.iq	
Scientific Committee Approval Date	06/11/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	The objective of studying Electrical, Electronic, and Mechanical workshops is to enable students to acquire the necessary skills and knowledge to deal with electrical, electronic, and mechanical systems and devices. This subject aims to teach students how to diagnose faults, repair systems, and perform maintenance on these systems and devices. By studying Electrical, Electronic, and Mechanical workshops, students can understand the principles of electricity, electronics, and mechanics, as well as how to read engineering diagrams and use various tools and equipment to work on them. They also learn how to diagnose faults, repair them, and properly maintain different devices in a safe manner. In general, studying this subject aims to prepare students to become skilled technicians in the field of electrical, electronic, and mechanical engineering. They can work in areas such as industrial maintenance and repair, electrical and electronic installations, automation and robotics, medical devices, and other modern technologies
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The learning outcomes of studying Electrical, Electronic, and Mechanical workshops include: 1. Acquisition of diagnostic and repair skills: Students learn how to analyze problems, identify faults in electrical, electronic, and mechanical systems, and implement appropriate repair procedures. 2. Understanding of electrical, electronic, and mechanical principles: Students gain knowledge of engineering and technical fundamentals related to electricity, electronics, and mechanics, including reading engineering diagrams and practical understanding of circuits, electronic devices, and mechanical components. 3. Development of practical work skills: Students have the opportunity to learn hands-on and practice using various tools and equipment used in electrical, electronic, and mechanical workshops. 4. Ability to perform preventive maintenance: Students learn how to maintain systems and devices and carry out preventive maintenance to ensure proper and sustainable performance. 5. Enhancement of teamwork and communication skills: Studying Electrical, Electronic, and Mechanical workshops promotes collaboration among students and the ability to work as a team in problem-solving and executing practical projects.

	Overall, studying this subject prepares students to enter the job market in various technical and engineering fields, such as industrial maintenance, electrical and electronic installations, automation and robotics, medical devices, and other modern technologies.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – Electronic workshop</u> In this part, we will learn how to check the elements in the electrical circuits, what is the way each element works, how to check it, and find out what is damaged and replace it. [15 hrs] We will also talk about conductors and semiconductors [10 hrs] <u>Part B – Elctrical workshop</u> 1. Principles of Industrial Safety in Electrical Workshops[6 hrs.] 2. Tools Used in Electrical Workshops[6 hrs.]. 3. Power Sources and Characteristics[6 hrs.] 4. Multimeter and Wire Size Measurement[6hrs.] <u>Part C – Mechanical workshop</u> 1. Different Types of Welding Irons and Spot Welding[6hrs.] 2. Electric Transformers[6 hrs.] 3. Electric Circuits and Transformer Operation[6 hrs.]. 4. Types of Electric Motors[6 hrs.]

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 labs, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	86	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	3	10% (10)	5, 8, 11	LO #1, 2, 5
	Projects / Lab.	1	20% (20)	Continuous	ALL
	Report	2	10% (10)	13	ALL
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1,2	❖ Use different measuring devices in the workshop ❖ 1- Principles of Industrial Safety in Electrical Workshops. 2- Different Types of Welding Irons (with different capacities) and Spot Welding
Week 3,4	❖ How to use irons, types of soldering used, and how to use absorbent soldering irons ❖ 1- Electric Circuits and Transformer Operation. 2- Electrical Installations and Types of Wiring (Surface and Concealed)
Week 5,6,7	❖ Electronic components (resistor , inductors , capacitors) ❖ 1- ONE LAMP CONTROLLED BY ONE SWITCH 2- Parallel Wiring of Two Lamps with a Switch and Socket 3- Drawing a Staircase Lamp (Two-Way Switch) Circuit
Week 8	Mid-term Exam
Week 9 ,10	❖ Electronic components (Battery , jumper, fuse, push button, switch, rotary switch) ❖ 1- Introduction to Workshop Safety 2- Turning Process and Instrumentation Measures
Week 11,12	❖ Electronic components (Diode , Transistor, Transformer) ❖ 1- Cutting Tools 2- Practical Exercise - Horizontal Turning
Week 13,14	❖ using bread board and Vero board, Building a Circuit on Breadboard, Building a Circuit on Vero board ❖ 1- Turning Different Shapes 2- Introduction to Filing Process (practical Exercise)
Week 15	Preparatory week before the final Exam
Week 16	Final Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Encyclopedia of Electronic Components Volume 1 (Charles Platt). 2- J. Smith and E. Johnson, "Electrical Engineering Workshop: Theory and Practice"	Yes / online
Recommended Texts		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 (لا يند 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	Arabic Language	Module Delivery
Module Type	Support or related learning activity	☒ Theory ☐ Lecture ☐ Lab
Module Code	MTU1001	

ECTS Credits	2		☐ Tutorial ☐ Practical ☐ Seminar	
SWL (hr/sem)	50			
Module Level	1	Semester of Delivery	2	
Administering Department	CSTE	College	EETC	
Module Leader	Firad Fawzi Zeidan	e-mail	firadfawzizeidan@gmail.com	
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Msc	
Module Tutor		e-mail		
Peer Reviewer Name		e-mail		
Scientific Committee Approval Date	06/11/2023	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	أهداف المادة الدراسية هي اني يكون الطالب قادراً على أن : 1. يتعرف على أنواع الأخطاء اللغوية المشتركة وتوضيح أسبابها وكيفية تجنبها. 2. يتعلم القواعد المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة وكيفية كتابتها بشكل صحيح. 3. يتعلم قواعد كتابة الألف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح. 4. التعرف على الضاد والظاء ومعرفة كيفية التمييز بينهما في الكتابة. 5. يتعلم طرق كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. التعرف على علامات الترقيم واستخدامها بشكل صحيح في النصوص. 7. يفهم الفروق بين الاسم والفعل والتمييز بينهما في الجمل. 8. يفهم المفاعيل وكيفية استخدامها بشكل صحيح في النصوص. 9. يتعلم الأرقام والعدد واستخدامها في التعبير عن الكميات. 10. يتجنب الأخطاء اللغوية الشائعة في سياقات عملية لتعزيز فهم القواعد وتحسين المهارات اللغوية. 11. يدرس النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. 12. يركز على الجوانب الشكلية للخطاب الإداري وكيفية كتابته بأسلوب صحيح ومناسب. 13. التعرف على لغة الخطاب الإداري وفهم استخدامها في التواصل الإداري. 14. يفهم نماذج من المراسلات الإدارية لتطبيق المفاهيم والمهارات المكتسبة في الخطاب الإداري.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	مخرجات التعلم للمادة الدراسية هي: 1. قدرة الطلاب على تحليل وتعريف الأخطاء اللغوية المشتركة وتطبيق القواعد الصحيحة لتجنبها. 2. القدرة على استخدام القواعد اللغوية المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة بشكل صحيح. 3. قدرة الطلاب على استخدام الألف الممدودة والمقصورة بشكل صحيح واستخدام الحروف الشمسية والقمرية بطريقة صحيحة. 4. تمكين الطلاب من التمييز بين الضاد والظاء وتطبيق القواعد الصحيحة في الكتابة. 5. القدرة على كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. استخدام علامات الترقيم بشكل صحيح في النصوص المكتوبة. 7. فهم الطلاب للفروق بين الاسم والفعل وتمكينهم من استخدامها بشكل صحيح في الجمل. 8. القدرة على استخدام المفاعيل بشكل صحيح في النصوص المكتوبة. 9. استخدام الأرقام والعدد بطريقة صحيحة للتعبير عن الكميات. 10. التمكن من تطبيق الأخطاء اللغوية الشائعة في سياقات عملية وتصحيحها بشكل مناسب. 11. فهم استخدام النون والتنوين ومعاني حروف الجر واستخدامها بشكل صحيح في الجمل. 12. القدرة على كتابة الخطاب الإداري بأسلوب صحيح ومناسب وفهم لغة الخطاب الإداري. 13. تطبيق المفاهيم والمهارات المكتسبة في كتابة المراسلات الإدارية بشكل صحيح وفعال.
Indicative Contents المحتويات الإرشادية	المحتويات الإرشادية في مادة اللغة تشمل مجموعة من المفاهيم والمواضيع التي يتم تغطيتها خلال عملية التعلم. ومن بين المحتويات الإرشادية المهمة: 1. مقدمة عن الأخطاء اللغوية والتعريف بالتاء المربوطة والتاء المطولة والتاء المفتوحة. (4 ساعات) 2. قواعد كتابة الألف الممدودة والمقصورة والتعرف على الحروف الشمسية والقمرية. (4 ساعات) 3. دراسة الضاد والظاء وتعلم طرق كتابتهما بشكل صحيح. (4 ساعات) 4. تعلم كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. (4 ساعات) 5. دراسة علامات الترقيم وتعلم استخدامها بشكل صحيح في النصوص اللغوية. (4 ساعات) 6. التعرف على الاسم والفعل والتفريق بينهما وفهم القواعد المتعلقة بهما. (4 ساعات) 7. دراسة المفاعيل وتعلم استخدامها في الجمل اللغوية. (4 ساعات) 8. التعرف على الأعداد واستخدامها بشكل صحيح في العبارات والجمل. (4 ساعات) 9. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها في النصوص اللغوية. (4 ساعات) 10. تعلم استخدام النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. (3 ساعات) 11. التعرف على الجوانب الشكلية للخطاب الإداري وفهم لغته وقواعده. (3 ساعات) 12. دراسة نماذج من المراسلات الإدارية وتطبيقها في الكتابة. (3 ساعات)

	توفر هذه المحتويات الإرشادية للطلاب فهمًا شاملاً للمفاهيم اللغوية وتعلم القواعد والتطبيقات العملية التي تساعدهم في تطوير مهاراتهم اللغوية.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	استراتيجيات التعلم والتعليم المستخدمة في مادة اللغة تشمل مجموعة متنوعة من النهج والتقنيات التي تعزز عملية التعلم للطلاب. من بين هذه الاستراتيجيات: 1. التفاعل النشط: يتم تشجيع الطلاب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية. 2. التعلم التعاوني: يشجع التعاون والتعاون بين الطلاب من خلال العمل الجماعي والمشاريع الجماعية، حيث يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. 3. التطبيق العملي: يتم توفير فرص للطلاب لتطبيق المفاهيم والمهارات المكتسبة في سياقات عملية وواقعية، مما يعزز التفاعل الفعال مع المادة. 4. استخدام التقنيات الحديثة: يستفيد الطلاب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم الذاتي. 5. توفير ردود فعل فورية: يتم توفير ردود فعل فورية وتقييم مستمر للطلاب، سواء عن طريق التقييمات الشفهية أو الكتابية، مما يساعدهم على تحسين أدائهم وتطوير مهاراتهم. 6. التنوع في وسائل التواصل: يتم استخدام مجموعة متنوعة من وسائل التواصل والتعليم، مثل المحاضرات التوضيحية، والمناقشات الجماعية، والأنشطة العملية، والعروض التقديمية، لتلبية احتياجات وأساليب التعلم المختلفة للطلاب. 7. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطلاب، و 8. تحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية				
	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome

Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1, 2, 8 and 9
	Assignments	2	15% (15)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-14
Summative assessment	Midterm Exam	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)		
المنهاج الاسبوعي النظري		
8-1	مقدمة عن الأخطاء اللغوية – التاء المربوطة والطويلة والتاء المفتوحة	الأسبوع الأول
14-9	قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية	الأسبوع الثاني
19-15	الضاد والظاء	الأسبوع الثالث
30-20	كتابة الهمزة	الأسبوع الرابع
36-31	علامات الترقيم	الأسبوع الخامس
44-37	الاسم والفعل والتفريق بينهما	الأسبوع السادس
50-45	المفاعيل	الأسبوع السابع
61-51	العدد	الأسبوع الثامن
69-62	تطبيقات الأخطاء اللغوية الشائعة	الأسبوع التاسع والعاشر
75-70	النون والتنوين - معاني حروف الجر	الاسبوع الحادي عشر
80-76	الجوانب الشكلية للخطاب الإداري	الاسبوع الثاني عشر
86-81	لغة الخطاب الإداري	الأسبوع الثالث عشر والرابع عشر
	نماذج من المراسلات الإدارية	الأسبوع الخامس عشر
	الاستعداد لامتحان النهائي	الأسبوع السادس عشر

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	• ملزمة اللغة العربية (المعجمة من وزارة التعليم العالي والبحث العلمي)	Yes
Recommended Texts		No
Websites	The Collage E-Library	

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	English Language (1)		Module Delivery		
Module Type	Support or related learning activity		☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar		
Module Code	MTU1002				
ECTS Credits	3				
SWL (hr/sem)	50				
Module Level		1	Semester of Delivery		2
Administering Department		CSTE	College	EETC	
Module Leader	Dr. Loay Al-Saffar		e-mail	Loay.alsaffar@mtu.edu.iq	
Module Leader’s Acad. Title		Lecturer	Module Leader’s Qualification		Ph.D
Module Tutor			e-mail		
Peer Reviewer Name		Asst. Prof. Dr. Dalal Abdulmohsin Hammood	e-mail	Dalal.hammood@mtu.edu.iq	

Scientific Committee Approval Date	06/11/2023	Version Number	1.0
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Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The module aims of English Language (Beginner) are designed to help learners at the beginner level develop their English language skills and achieve specific learning objectives. While I don't have access to the specific module aims of this coursebook, I can provide you with a general outline of the typical aims for a beginner-level English course: 1. To introduce beginner-level learners to the English language, focusing on building vocabulary and acquiring essential language structures. 2. To develop listening and speaking skills through interactive activities and engaging in basic conversational practice. 3. To enhance reading comprehension abilities by introducing simple texts and emphasizing vocabulary and sentence structures. 4. To provide foundational writing skills, including sentence formation, paragraph writing, and completing basic forms. 5. To cultivate cultural awareness and equip learners with practical language skills for everyday situations, such as ordering food, shopping, and asking for directions.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The module learning outcomes for the English Language (Beginner) module are as follows: 1. Develop basic proficiency in listening and understanding spoken English at a beginner level. 2. Demonstrate improved speaking skills by participating in simple conversations and expressing basic ideas and opinions. 3. Comprehend and interpret basic written texts, including short passages and simple dialogues. 4. Produce written texts using basic grammatical structures and vocabulary appropriate for beginner-level communication. 5. Increase vocabulary knowledge and usage to communicate in everyday situations effectively. 6. Develop an awareness of cultural aspects related to English-speaking countries and demonstrate cross-cultural understanding in language use. 7. Apply basic language skills in practical situations, such as greetings, introductions, making requests, and asking for and giving simple directions.
Indicative Contents المحتويات الإرشادية	Unit 1: Hello! [3 hrs.] Unit 2: Your world. [3 hrs.] Unit 3: All about you. [3 hrs.] Unit 4: Family and friends. [3 hrs.] Unit 5: The way I live. [3 hrs.] Unit 6: Every day[3 hrs.] Unit 7: My favorites. [3 hrs.] Unit 8: Where I live, Times past. [3 hrs.]

	Unit 9: We had a great time!, I can do that! [3 hrs.] Unit 10: Please and thank you, Here and now. [3 hrs.] Unit 11: It's time to go!, Getting to know you. [3 hrs.] Unit 12: The way we live, It all went wrong. [3 hrs.] Unit 13: Let's go shopping! [3 hrs.] Unit 14: What do you want to do? [3 hrs.] Unit 15: Tell me! What's it like? [3 hrs.]
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The learning and teaching strategies for the English Language (Beginner) module may include: 1. Interactive Language Practice: Engage learners in communicative activities that promote active participation and language practice. This can include pair work, group discussions, role-plays, and language games. 2. Authentic Materials: Incorporate authentic materials such as videos, audio recordings, and reading texts that reflect real-life language use. This helps learners develop their listening, speaking, reading, and writing skills in authentic contexts. 3. Task-Based Learning: Design tasks and projects that require learners to use the target language to accomplish specific goals or solve problems. This promotes meaningful language use and encourages critical thinking and problem-solving skills. 4. Visual Aids and Multimedia: Utilize visual aids, charts, diagrams, and multimedia resources to support language learning and comprehension. Visuals can enhance understanding, aid in vocabulary acquisition, and provide context for language use. 5. Error Correction and Feedback: Provide timely and constructive feedback on learners' language production to help them identify and correct errors. Encourage self-correction and peer correction to foster a supportive learning environment.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem)	50		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1, 2, 8 and 9
	Assignments	2	15% (15)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-14
Summative assessment	Midterm Exam	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	• Hello!
Week 2	• Your world.
Week 3	• All about you.
Week 4	• Family and friends.
Week 5	• The way I live.
Week 6	• Every day
Week 7	• My favorites.
Week 8	• Where I live. • Times past.
Week 9	• We had a great time! • I can do that!
Week 10	• Please and thank you. • Here and now.
Week 11	• It's time to go! • Getting to know you.
Week 12	• The way we live. • It all went wrong.
Week 13	• Let's go shopping!
Week 14	• What do you want to do?
Week 15	• Tell me! What's it like?
Week 16	• Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	• Soars, J., Soars, L. (2014). New Headway Plus: Beginner Student's Book. United Kingdom: Oxford University Press. • Soars, J., Soars, L. (2006). New Headway Plus: Pre-intermediate. United Kingdom: Oxford University Press.	Yes
Recommended Texts	Audio CDs or Online Audio: Recordings of listening exercises, dialogues, and pronunciation practice.	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.