

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Mathematics		Module Delivery	
Module Type	Basic learning activities		☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	CSTE2101			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	2	Semester of Delivery		1
Administering Department	CSTE	College	EECT	
Module Leader	Sattar Jabbary Dhedan		e-mail	sattaralfartosi@gmail.com
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name	Dr. Ibrahim T.Nather Khasro		e-mail	ibrahim.talat@alayen.edu.iq
Scientific Committee Approval Date	01/10/2026		Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		Semester	2
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 complex analysis. 2. To understand power series. 3. To the way around the Fourier series. 4. To get a grip on using Laplace transform. 5. To develop a good understanding of ODEs. 6. This course deals with Advanced Engineering Mathematics.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Describe the Complex environment. 2. Discuss the derivative of the Analytic Function. 3. Describe Exponential, Trigonometric, and Hyperbolic Functions. 4. Explain Line Integral in the Complex Plane and Cauchy's Integral Formula. 5. Using power Series and how to expand a function. 6. Identify elements of the Fourier Series. 7. Identify elements of Laplace Transform. 8. Discuss different aspects of First-Order ODEs. 9. Identify the Bernoulli Equation and Population Dynamics. 10. Discuss different aspects of Second-Order Linear ODEs. 11. Using Variation of Parameters. 12. Discuss different aspects of higher-order linear ODEs. 13. Using Power Series to solve ODE. 14. Explain the Fourier Series solution of ODE. 15. Discuss Laplace Transform solution of ODE.
Indicative Contents المحتويات الإرشادية	<u>Part A – Complex Analysis.</u> This part includes Complex Numbers. Polar Form of Complex Numbers. Powers and Roots. Complex variables. Complex Function. Derivative. Analytic Function. Cauchy–Riemann and Laplace's Equation. Exponential, Trigonometric and Hyperbolic Functions. Euler's Formula. Logarithm. Line Integral in the Complex Plane. Cauchy's Integral Formula. Derivatives of Analytic Functions. [12 hrs] + Revision problem classes in weekly tutorials [4 hrs]

	<u>Part B – Preliminaries to Methods of solving ODE.</u> This part includes Power Series. Functions Given by Power Series. Fourier Series. Arbitrary Period. Even and Odd Functions. Fourier Analysis for Periodic Functions. Fourier series Formula of a function. Differentiation and Integration of Fourier Series Laplace Transform. Transforms of Derivatives and Integrals. Table of Laplace Transforms. inverse Laplace transform [9 hrs] + Revision problem classes in weekly tutorials [3 hrs]
	<u>Part C – ODE.</u> This part includes First-Order ODEs. Separable ODEs. Exact ODEs. Integrating Factors. Linear ODEs. Bernoulli Equation. Population Dynamics. Second-Order Linear ODEs. Homogeneous. Homogeneous with Constant Coefficients. Nonhomogeneous ODEs. Solution by Variation of Parameters. Higher Order Linear ODEs. Homogeneous Linear ODEs. Homogeneous Linear ODEs with Constant Coefficients. Nonhomogeneous Linear ODEs. Power Series solution of ODE. Fourier Series solution of ODE. Laplace Transform solution of ODE. [24 hrs] + Revision problem classes in weekly tutorials [8 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.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	6
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, 2, 10 and 11
	Assignments	2	20% (20)	3, 11	LO # 3, 4, 6 and 7
	Projects / Lab.	N/A			
	Report	N/A			
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Complex Numbers. Complex Conjugate. Complex Numbers Algebra.
Week 2	Polar Form of Complex Numbers. De Moivre's Theorem (Powers and Roots). Complex Plane Regions.
Week 3	Complex variables. Complex Function. Exponential, Logarithmic, Trigonometric and Hyperbolic Functions.
Week 4	Limit of a Complex Functions. Continuity of a Complex Functions.
Week 5	Derivative of a Complex Function. The Cauchy-Riemann equations.
Week 6	Analytic Function. Laplace's equations and harmonic functions.
Week 7	Line Integral in the Complex Plane. Cauchy's Integral Formula.
Week 8	Midterm
Week 9	First-Order ODEs. Separable ODEs. Exact ODEs. Integrating Factors. Linear ODEs. Bernoulli Equation.
Week 10	Second-order Linear ODEs. Homogeneous. Homogeneous with Constant Coefficients.
Week 11	Nonhomogeneous ODEs. Solution by Variation of Parameters.
Week 12	Fourier Series. Arbitrary Period. Even and Odd Functions. Fourier Analysis for Periodic Functions. Fourier series Formula of a function.
Week 13	Differentiation and Integration of Fourier Series. Fourier Series solution of ODE.
Week 14	Laplace Transform. Transforms of Derivatives and Integrals. Table of Laplace Transforms. inverse Laplace transform. Laplace Transform solution of ODE.
Week 15	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	"Advanced Engineering Mathematics ", Erwin Kreyszig, Wiley, 10th edition (August 16, 2011), ISBN-13: 978-0470458365.	Yes
Recommended Texts	"Differential Equations for Engineers and Scientists", Yunus Cengel, William Palm, McGraw Hill, 1st edition (January 31, 2012), ISBN-13: 978-0073385907.	No
Websites	https://www.coursera.org/learn/differential-equations-engineers	

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Electronic Fundamentals		Module Delivery
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar
Module Code	CET2102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	2	Semester of Delivery	
Administering Department	CSTE	College	EETC
Module Leader	Nooralhuda salam	e-mail	nooralhudasalam849@gmail.com
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	E-mail
Peer Reviewer Name	Dr. Ibrahim T.Nather Khasro	e-mail	ibrahim.talat@alayen.edu.iq
Scientific Committee Approval Date	2025-9-29	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1.To understand materials conductivity, semiconductor materials, and types 2.This is the basic subject for all electronic circuits and devices. 3.This course deals with the first and the simplest semiconductor device, diode, diode physical construction, biasing, characteristics, application circuits, and Zener

	4.Mathematical derivation and implementation of the load line analysis and Q point within the diode characteristics curve to develop problem-solving skills and understanding of diode circuits. 5.This course deals with the second semiconductor device, BJT. This course deals with BJT physical construction, biasing, configuration methods, input, and output characteristics 6.To understand the D.C biasing of BJT and circuit types, analysis, and calculations of BJT parameters 7.To understand and construct re model for BJT circuits 8.To deal with the small signal analysis of BJT
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize classifications of materials according to their conductivity. 2. Identify the semiconductor material characteristics and classifications 3. Recognize the physical structure and properties of P and N layers 4. Identify the diode as the first example of the semiconductor device. 5. Discuss diode physical construction, biasing, and characteristics. 6. Identify the variable parameters of diodes and V threshold. 7. Summarize what is meant by Load line analysis and Q point 8. Identify the applications of diodes in electrical circuits using AC. And DC. Power supplies 9. To understand the concept of Zener region and the differences between Zener and original diodes 10. To solve Zener circuits and calculate its voltage current with different cases. 11. To understand and discuss the second semiconductor device which is Transistor (Bipolar Junction Transistor) (BJT) 12.To discuss BJT physical construction, Operation, and configuration methods 13.To understand and implement input and output Characteristics of each configuration method and load line and Q point implementations 14. To implement and solve BJT biasing circuit types and calculations of important parameters of BJT in DC. Biasing state 15. Design BJT circuit types by using Quesent point parameters 16. Understand and construct re model for BJT circuits 17. Derive and calculate Z_i, Z_o A_v, and A_i from the model of BJT circuits 18. Understand and calculate small signal analysis of BJT
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Semiconductor Materials Energy Levels, n- and p-Type, Semiconductor Diode Construction, biasing, Characteristics and Zener Diodes, Load-Line Analysis [8 hrs] . Series Diode Configurations with DC Inputs, Parallel and Series-Parallel Configurations Sinusoidal Inputs Half-Wave Rectification, Full-Wave Rectification Clippers, Clampers, Zener Diodes Voltage-Multiplier Circuit [10hrs] Transistor Construction, Transistor Operation, Common-Base Configuration Transistor Amplifying Action, Common-Emitter Configuration, Common-Collector Configuration, Limits of Operation [8hrs] Operating Point, Fixed-Bias Circuit, Emitter-Stabilized Bias Circuit, Voltage-Divider Bias, DC Bias with Voltage Feedback, Miscellaneous Bias Configurations, Design Operations Transistor Switching Networks, [[15 hrs.] Revision problem classes [12 hrs.] BJT Transistor Modeling the Important Parameters: Z_i, Z_o, A_v, A_i the re Transistor Model The Hybrid Equivalent, small signal analysis Common-Emitter Fixed-Bias Configuration, Voltage-Divider Bias CE Emitter-Bias Configuration Emitter-Follower Configuration Common-Base Configuration [11 hr]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.
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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 أسبوعياً	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	5
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	3	10% (10)	5, 10, 13	LO 10, 15, 18
	Assignments	3	10% (10)	5, 10, 13	LO # 8, 14, 18
	Projects / Lab.	5	15% (15)	Continuous	
	Report	1	5% (5)	13	LO #
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #
	Final Exam	2hr	50% (40+10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الأسبوعي النظري

	Material Covered
Week 1	Introduction, Semiconductor Materials, Energy Levels, Extrinsic Materials—n- and p-Type
Week 2	Semiconductor Diode construction, biasing, characteristics, Zener region
Week 3	load-Line Analysis, RESISTANCE LEVELS, DIODE EQUIVALENT CIRCUITS
Week 4	Series Diode Configurations with DC Inputs, Parallel and Series-Parallel Configurations

Week 5	Sinusoidal Inputs; Half-Wave Rectification, Full-Wave Rectification
Week 6	Clippers series and parallel
Week 7	Clampers, Zener Diodes, Introduction, Transistor Construction
Week 8	Transistor Operation, Common-Base Configuration Transistor, Amplifying Action, Common-Emitter Configuration, Limits of Operation
Week 9	Operating Point, Fixed-Bias Circuit, Emitter-Stabilized Bias Circuit,
Week 10	Voltage-Divider Bias, DC Bias with Voltage Feedback, Miscellaneous Bias Configurations
Week 11	Design Operations, Transistor Switching Networks
Week 12	Amplification in the AC Domain, BJT Transistor Modeling, The Important Parameters: Z_i , Z_o , A_v , A_{re} Transistor Model
Week 13	Small signal analysis
Week 14	Common-Emitter Fixed-Bias Configuration Voltage-Divider Bias
Week 15	CE Emitter-Bias Configuration Emitter-Follower Configuration Common-Base Configuration
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Introduction
Week 2	Lab 2: Diode characteristics
Week 3	Lab 3 Zener diode characteristics
Week 4	Lab 4 Half wave rectifier
Week 5	Lab 5: full wave rectifier
Week 6	Lab 6: Half and full wave rectifier with filter
Week 7	Lab 7: clippers

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Electronic devices and circuit theory Boylested	
Recommended Texts		
Websites		

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Linux Essentials		Module Delivery	
Module Type	Basic Learning Activities		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	CSTE2106			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		1
Administering Department	Type Dept. Code	College	EETC	
Module Leader	Mohammed Diykh		e-mail	Mohammed.diykh@alayen.edu.au
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor			e-mail	E-mail
Peer Reviewer Name	Dr. Ibrahim T.Nather Khasro		e-mail	ibrahim.talat@alayen.edu.iq
Scientific Committee Approval Date	2025-9-29		Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. install, configure and manage Linux-systems, 2. explain the file system structure and the underlying security model, 3. account for and manage the most common commands in a Linux system, 4. write simpler programs in command languages (scripts) and 5. give examples of different techniques used to work with remote computers.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1.Demonstrate Basic Knowledge of Linux: Students will be able to articulate the history, purpose, and philosophy behind Linux and identify the differences between various distributions. 2.Install and Configure Linux Systems: Students will demonstrate the ability to install Linux, manage hardware peripherals, and configure the system settings to meet personal or professional needs. 3.Navigate and manipulate the Linux Filesystem: Students will become proficient in navigating the Linux filesystem hierarchy and perform various file operations including creating, deleting, moving, and copying files. 4.Execute Command Line Operations: Students will demonstrate the ability to use the command line interface (CLI) efficiently, including data manipulation, system information querying, and process management. 5.Implement System Administration Tasks: Students will understand and carry out basic system administration duties, including user management, system maintenance, and task scheduling. 6.Manage Software and Packages: Students will be proficient in using package management tools to install, update, and remove software. 7.Create and Run Shell Scripts: Students will demonstrate the ability to write, debug, and execute shell scripts to automate routine tasks. 8.Employ Data Management and Processing Tools: Students will utilize various command-line tools to process and manipulate data. 9.Configure and Troubleshoot Network Settings: Students will understand fundamental networking concepts and demonstrate the ability to configure and troubleshoot network connections on Linux systems. 10.Monitor System Resources and Performance: Students will use system monitoring tools to analyze and report on system performance, resource usage, and system logs. 11.Apply Security Principles: Students will understand basic security concepts, manage user permissions, and file security, and implement security measures like firewalls. 12.Utilize Linux Containers: Students will gain introductory experience with containerization in Linux, demonstrating basic usage of tools like Docker to manage and deploy containers.technical concepts and proposals to both technical and non-technical stakeholders.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A: introduction to software engineering and its techniques (Estimated time: 10 hours) Part B: Cost Estimation, project requirements (Estimated time: 15 hours) Part C: Scheduling and Delivery (Estimated time: 15 hours) Part D: software Architecture (Estimated time: 15 hours) Part E: Testing and Integration (Estimated time: 15 hours)

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Effective learning and teaching strategies involve creating an engaging and interactive learning environment. This can be achieved through a combination of various approaches, such as incorporating active learning techniques like group discussions, problem-solving activities, and hands-on experiments. Additionally, employing visual aids, multimedia resources, and real-world examples can enhance comprehension and retention. Encouraging student participation and providing timely feedback also play vital roles in fostering student engagement and understanding. It is important to promote a growth mindset, encourage critical thinking, and create opportunities for collaboration and peer learning. By employing these strategies, educators can facilitate meaningful learning experiences and empower students to become active participants in their own learning journey.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	56	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5 and 10	LO # [1 to 5], LO # [5 to 8]
	Assignments	2	10% (10)	6 and 13	LO# [1 to 12]
	Projects / Lab.	5	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 1 to 12
Summative assessment	Midterm Exam	2hr	10% (10)	8	LO # 1 to 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	Introduction to Linux
Week 2	Exploring Linux Distributions
Week 3	Navigating the Filesystem
Week 4	Command Line Proficiency
Week 5	File Management and Manipulation
Week 6	System Administration Basics
Week 7	Software Management
Week 8	Midterm Exam
Week 9	Data Processing
Week 10	Shell Scripting Basics
Week 11	Networking Fundamentals in Linux
Week 12	Introduction to Linux Containers
Week 13	System Monitoring and Performance
Week 14	Linux Security Basics
Week 15	Comprehensive Review

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Linux distros
Week 2	Linux layout
Week 3	Navigating the Filesystem
Week 4	File Management and Manipulation
Week 5	System Administration Basics
Week 6	Midterm Exam (No lab session).
Week 7	Software Management
Week 8	Software Management
Week 9	Data Processing
Week 10	Shell Scripting Basics
Week 11	
Week 12	Networking Fundamentals in Linux
Week 13	Introduction to Linux Containers

Week 14	System Monitoring and Performance
Week 15	Linux Security Basics
Week 16	Final Exam (No lab session).

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Title: "UNIX and Linux System Administration Handbook" (5th Edition) Author: Evi Nemeth, Garth Snyder, Trent R. Hein, and Ben Whaley	
Recommended Texts	Title: "The Linux Command Line" Author: William E. Shotts, Jr.	
Websites	URL: https://www.coursera.org/learn/linux-fundamentals	

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Computer Organization & Architecture		Module Delivery	
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	CSTE2104			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		3
Administering Department	CSTE	College	EETC	
Module Leader	Abbas Kamil Ghadban		e-mail	Abbas. Kamel@ al-ayen. Edu. iq
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name	Dr. Akram Mohamad hatem		e-mail	akram.mohamad@alayen.edu.iq
Scientific Committee Approval Date	2025-9-29	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. To understand the basic operating concept of specific microprocessors. 2. To study the hardware architecture of a specific microprocessor. 3. To encode programs based on the specific processor language. 4. To solve problems encountered in the architecture of a specific microprocessor
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the basic characteristics of a specific processor. 2. Define the processor signals and their functions. 3. Explain the architecture from the hardware point of view. 4. Identify various machine cycles. 5. Explain the different memory interfacing techniques with the microprocessor. 6. Explain the input-output different interfacing techniques with the microprocessor. 7. Explain the concept of Stack memory. 8. List the addressing mode of the processor instruction. 9. Encode different programs based on assembly. 10. Perform different arithmetic and logical operations using the processor instruction set. 11. Encode different problems associated with branching instructions. 12. Solve problems encountered with delay and counter. 13. Identify different interrupt procedures. 14. Design different interfacing systems due to the problem requirements.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Microprocessor H/W architecture MP signals, MP operations, Machine cycle, memory interfacing, input-output devices interfaces [25hrs] Part b – Microprocessor S/W architecture Instruction set, data transfer, arithmetic, logical. [16 hrs] Stack register and stack area [8 hrs] Branching instructions and applications [16 hrs]

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.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	56	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150
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Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 10	LO #1- 6, 8-11
	Assignments	2	10% (10)	6, 13	
	Projects / Lab.	1	15% (15)	Continuous	
	Report	1	5% (5)	7,10	LO #1- 6, 8-11
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	Introduction - microprocessor evolution
Week 2	Basics specific microprocessor architecture and its specifications
Week 3	Microprocessor signals and machine cycle
Week 4	Memory organization, interfacing, and memory map
Week 5	Input devices interfacing
Week 6	Output devices interfacing
Week 7	Mid Term Exam
Week 8	Introduction to microprocessor assembly language and addressing mode
Week 9	Data transfer instruction
Week 10	Arithmetic instructions
Week 11	logical instruction
Week 12	Stack register, stack area, and related instructions
Week 13	Branching instruction
Week 14	Delay and counters
Week 15	Interrupt concepts and types, Subroutine
Week 16	Preparatory week before the Final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Introduction to microprocessor kit
Week 2	Lab 2: key function definition, read/write memory location, read/write registers
Week 3	Lab 3: Data transfer instructions
Week 4	Lab 4: Arithmetic instructions
Week 5	Lab 5: logical instruction
Week 6	Lab 6: Stack instructions
Week 7	Lab 7: Branching instruction

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	8085 μ p architecture and programming_Gonkar	
Recommended Texts	UNDERSTANDING 8085/8086 MICROPROCESSORS and PERIPHERAL ICs	
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electricalengineering	

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Data Structure & Algorithms		Module Delivery	
Module Type	Core		☒ Theory ☐ Lecture ☒ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	CSTE2102			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	2	Semester of Delivery		3
Administering Department	CSTE	College	EETC	
Module Leader	Zahraa Rasim Nada		e-mail	zahraa.rasim@alayen.edu.iq
Module Leader's Acad. Title	Assistant Lecturer		Module Leader's Qualification	M.Sc.
Module Tutor			e-mail	
Peer Reviewer Name	Dr. Akram Mohamad hatem		e-mail	akram.mohamad@alayen.edu.iq
Scientific Committee Approval Date	2025-9-29	Version Number	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The purpose of this course is to provide the basic foundations of data structure and algorithms. A data structure is defined as a particular way of storing and organizing data in our devices to use the data efficiently and effectively. The goal of using data structures is to minimize the time and space complexities. An

	efficient data structure takes minimum memory space and requires minimum time to execute the data. Having a strong understanding of data structures and algorithms can improve students programming skills and coding abilities. It is important that students taking this Module have prior knowledge in programming.
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 data structures and algorithms. 2. Understand Algorithmics. 3. Relationship among data, data structures, and algorithms. 4. Analysis of algorithms. 5. Use of Array. 6. Use of Matrix. 7. Use of Stack. 8. Use of Queue. 9. Use of Linked Lists. 10. Use of Linear Search. 11. Use of Binary Search. 12. Use of Ternary Search. 13. Use of Jump Search. 14. Use of Bubble Sort. 15. Use of Selection Sort. 16. Use of Insertion Sort. 17. Use of Quick Sort. 18. Use of Merge Sort. 19. Demonstrate Nonlinear data structures: Tree, Graph. 20. Know to difference between Linear and Non-linear Data Structures. 21. Know and understand recursion and it's use with algorithms and dynamic programming.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to fundamentals of data structures and algorithms. Examples on Data structures (Array, Matrix, Linked lists, Stack, Queues) Using of programming language to demonstrate and implement those data structures Understanding and Implementing some program searching algorithms 3 (Linear search, Binary search, Ternary search, Jump search) Understanding and implementing some program sorting algorithms (Bubble Sort, Selection Sort, Insertion Sort, Quick Sort, Merge Sort.) Demonstrating Nonlinear data structures such as Tree and Graph. And the difference between Linear and Non-linear Data Structures. Understanding of recursion and it's use with algorithms and dynamic programming.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage student's participation in learning and developing their skills in programming, while at the same time using the best data structures in representing their data.
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	And learning about various Searching and Sorting algorithms. This will be achieved through classes, interactive tutorials and by considering type of lab experiments involving assignments and programming activities.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	56	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
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	15% (10)	5, 7, 13	LO # (1 to 4), (5, 6, 7), (14 to 18)
	Assignments	1	5% (10)	8	LO # 10 to 13
	Projects / Lab.	5	15% (15)	Continuous	
	Report	1	5% (5)	14	LO # 19, 20 and 21
Summative assessment	Midterm Exam	2hr	10% (10)	8	LO # 1-13
	Final Exam	4hr	50% (40+10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Data structures and Algorithms.: An Overview
Week 2	Algorithmics.
Week 3	Relationship among data, data structures, and algorithms.
Week 4	Analysis of algorithms.
Week 5	Array (including String) and Matrix.
Week 6	Stack.

Week 7	Queue and Linked Lists.
Week 8	Linear Search and Binary Search.
Week 9	Ternary Search and Jump Search.
Week 10	Bubble Sort.
Week 11	Selection Sort and Insertion Sort.
Week 12	Quick Sort and Merge Sort.
Week 13	Tree, Graph: As Nonlinear data structures.
Week 14	The difference between Linear and Non-linear Data Structures.
Week 15	Recursion and it's use with algorithms and dynamic programming.

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab1: Introduction to Object-Oriented Programming.
Week 2	Lab 2: Classes and Objects.
Week 3	Lab 3: Array
Week 4	Lab 4: Matrix
Week 5	Lab 5: Stack
Week 6	Lab 6: Queue
Week 7	Lab 7: Linked Lists
Week 8	Lab 8: Linear Search
Week 9	Lab 9: Binary Search
Week 10	Lab 10: Bubble Sort
Week 11	Lab 11: Selection Sort
Week 12	Lab 12: Quick Sort

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	- Data Structures Using C++, VARSHA H. PATIL, Oxford University Press 2012. - Other related reference in case the Programming Language selected for the module is different.	
Recommended Texts	- C++ PROGRAMMING: PROGRAM DESIGN INCLUDING DATA STRUCTURES, D.S. MALIK, SEVENTH EDITION, Cengage Learning 2015.	

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	جرائم نظام البعث البائد في العراق		Module Delivery
Module Type	Support or related learning activity		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	MTU1007		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	2	Semester of Delivery	
Administering Department	CSTE	College	EETC
Module Leader	nada nadhim naji	e-mail	E-mail : nadhimnada2@gmail.com
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Dr. Ibrahim T.Nather Khasro	e-mail	ibrahim.talat@alayen.edu.iq
Scientific Committee Approval Date	2025-9-29	Version Number	1.0

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	يهدف هذا المقرر الدراسي إلى تعزيز فهم الطلاب للجرائم والانتهاكات التي وقعت خلال فترة نظام البعث في العراق وتأثيرها على الأفراد والمجتمع، وتشجيع التحليل والنقاش حول هذه القضايا المهمة. ومن أبرز الأهداف : 1. فهم مفهوم الجرائم وأقسامها . 2. دراسة جرائم نظام البعث والقوانين المتعلقة بها 3. التعرف على الجرائم النفسية والاجتماعية وآثارها على الفرد والمجتمع 4. تحليل الانتهاكات القانونية في العراق، بما في ذلك الانتهاكات لحقوق الإنسان والجرائم ذات الصلة

	5. فهم الجرائم البيئية وأثارها، بما في ذلك التلوث وتدمير المدن والقرى وتجفيف الأهوار. 6. دراسة جرائم المقابر الجماعية وفهم أحداث المقابر والتصنيف الزمني لها في العراق.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	مخرجات التعلم للمادة الدراسية هي: 1. فهم مفهوم الجرائم وقدرة الطلاب على تصنيف الجرائم وفقاً لأقسامها . 2. تحليل جرائم نظام البعث وفهم القوانين المتعلقة بها، بما في ذلك الجرائم الدولية 3. القدرة على التعرف على الجرائم النفسية لنظام البعث وفهم الآثار النفسية لجرائم نظام البعث على الأفراد والمجتمع . 4. القدرة على التعرف على الجرائم الاجتماعية لنظام البعث الآثار الاجتماعية لجرائم نظام البعث على الأفراد والمجتمع. 5. التعرف على الانتهاكات القانونية لنظام البعث في العراق وفهم أنواع الانتهاكات ومكان احتجاز الأفراد 6. التعرف على صور انتهاكات حقوق الإنسان وجرائم السلطة التي وقعت خلال فترة نظام البعث 7. التعرف على الانتهاكات السياسية والعسكرية لنظام البعث 8. فهم الجرائم البيئية لنظام البعث والقدرة على تحليل تأثيرها على البيئة والمجتمع. 9. دراسة جرائم المقابر الجماعية لنظام البعث 10. فهم الأحداث المرتبطة بجرائم المقابر الجماعية وتصنيفها زمنياً المحتويات الإرشادية في مادة اللغة تشمل مجموعة من المفاهيم والمواضيع التي يتم تغطيتها خلال عملية التعلم. ومن بين المحتويات الإرشادية المهمة 1_ تعريف الجريمة لغة واصطلاحاً، مفهوم الجريمة اقسام الجريمة 2_ جرائم نظام البعث وفق توثيق قانون المحكمة الجنائية العراقية العليا عام 2005 3_ الجرائم النفسية والاجتماعية وأثارها . 4_ عسكرة المجتمع، موقف النظام البعثي من الدين . 5_ انتهاكات القوانين العراقية صور انتهاكات حقوق الإنسان وجرائم السلطة . 6_ بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث 7_ أماكن السجون والاحتجاز لنظام البعث . 8_ الجرائم البيئية لنظام البعث في العراق . 9_ جرائم المقابر الجماعية 10_ أحداث مقابر الإبادة الجماعية المرتكبة من النظام البعثي في العراق . 11_ التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة 1963م - 2003م .
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	استراتيجيات التعلم والتعليم المستخدمة في مادة جرائم حزب البعث البائد 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 . 3_ يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. 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
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Student Workload (SWL)			
الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	32	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	18	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	2
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	3	15% (10)	3, 7, 11	LO #1, 5, 8
	Assignments	3	15% (10)	2, 6, 13	LO # 2, 4, 9
	Projects / Lab.				
	Report	1	10% (5)	14	LO # 1-10
Summative assessment	Midterm Exam	2hr	10% (20)	7	LO # 1 to 5
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	تعريف الجريمة لغة واصطلاحاً، مفهوم الجريمة، اقسام الجريمة
Week 2	جرائم نظام البعث وفق توثيق قانون المحكمة الجنائية العراقية العليا عام 2005
Week 3	الجرائم النفسية لنظام البعث وفهم الآثار النفسية لجرائم نظام البعث على الافراد والمجتمع
Week 4	الجرائم الاجتماعية لنظام البعث وفهم الآثار الاجتماعية لجرائم نظام البعث على الافراد والمجتمع
Week 5	انتهاكات القوانين العراقية

Week 6	بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث
Week 7	امتحان نصف الفصل
Week 8	الجرائم البيئية لنظام البعث في العراق (التلوث الحربي وسياسة الارض المحروقة)
Week 9 ,10	تجفيف الاهوار وتجريف بساتين النخيل والاشجار والمزروعات
Week 11, 12	جرائم المقابر الجماعية وأحداث مقابر الابادة الجماعية المرتكبة من النظام البعث في العراق
Week 13 ,14 ,15	التصنيف الزمني لمقابر الابادة الجماعية في العراق للمدة من (1963 _ 2003) م
Week 16	التهيئة لامتحان النهائي

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	منهاج وزارة التعليم العالي والبحث العلمي العراقية _ جرائم نظام البعث في العراق 2023	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.				