

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

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	Intisar Neamah Manea		e-mail	Intisar.neamah@stu.edu.iq
Module Leader's Acad. Title	lecturer		Module Leader's Qualification	Master's
Module Tutor	SABAH MOHAMMED FAYADH		e-mail	Sabah.fayadh@stu.edu.iq
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/9/2026	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

A- Cognitive Objectives:

1. Familiarize the student with the of computer technology history to the student.
2. Familiarize the student with the analysis of behavior or situations from an ethical perspective to the student.
3. Familiarize the student with the concept of classical ethical theories to the student.
4. Familiarize the student with the application of ethical theories
5. Familiarize the student with the concept of intellectual property and its protection to the student.
6. Knowledge of the student with the concept of privacy and its protection to the stud
7. Familiarize the student to the fundamentals of software and its applications.
8. Familiarize the student to computer and network security.
9. .Knowledge of the student to the most common cybercrimes and attacks.

B- Objectives and Skills:

1. Improving academic and intellectual skills.
2. Improving students' computer skills
3. Enhancing skills for ethical online behavior
4. Developing students' networking skills
5. Strengthening skills for maintaining information security and privacy
6. Improving the cultural level and its impact on social communication
7. Developing work on software protection
8. Strengthening capabilities to maintain data and information privacy
9. Developing capabilities to repel cyberattacks

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Develop a foundational understanding of ethical theories and principles, including how they apply to technology, information, and digital 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	<u>Part A – Introduction to computing, Introduction to Ethics, Networked Communication, and Impact of Social Media:</u> - Introduction to computing (Mechanical Calculators, Punched card tabulation, first commercial computer, Microprocessors, personal computers). - Introduction to Ethics (Definition, Ethical Theories, components of ethics , Ethics of the Information Age, Emerging Challenges, Applied Ethical Theories - Networked Communication (Spam, Internet interactions, www, mobile Application) . (10 hors) - Internet of things(Definition, The importance(IOT), applications(IOT), The impact, Characteristic, security, the threats and security solutions). Cloud Computing(Definition, Service Models, Cloud Service Models, Characteristics, Advantages and disadvantages, Cloud Deployment Models, cloud computing and cloud storage). (5 hors) -Part review (1 hors)

	<u>Part B- Children and Inappropriate Contents, Intellectual Property, Trademark, Patents, Copyright and Protection for Software :</u> - Children's inappropriate Contents (Web Filter, child internet protection act) - -Intellectual Property (Property rights, benefits, limites) (10 hors) - -Trademark, Patents, and Copyright - Protection Software (Software copyright) (5 hors) -Part review (1 hors) <u>Part C- Information Privacy, Information Disclosures, Computer and Network Security and Cyber Crime and Cyber Attacks:</u> - 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) . (10 hors) -Computer and Network Security (Hacking, Malware) -Cyber-crime and Cyber-attacks (Fishing, SQL injection, DOS) . (5 hors) -Part review (1 hors)
--	--

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1-Scientific Foundations: Begin by introducing students to the concept of the information age, including the tremendous advancements in information dissemination. Use simple, easy-to-understand language, and provide visual aids, such as diagrams and images, to help learners grasp the concepts. 2- Providing instructions and advice: working to facilitate the delivery of scientific material in an easy and clear manner, and dividing complex tasks into axes for the purpose of communicating them in an easier way to the student's mind. 3- Computer development and the emergence of the Internet: The Internet has become a means available to everyone and has an important role in many fields, including education, scientific and commercial research, and shopping through electronic correspondence and web pages. 4- Use real-world examples: Use social media and online advertising. 5- Providing instructions and advice on data privacy, protecting information and data from violations, and how to maintain privacy in data transfer, intellectual property, and copyright. 6- Understanding the protection and security of data, trademarks, and open-source software, as well as the importance of information privacy. 7- Understanding computer and network security and protection from hacking, and how to protect against cybercrime, phishing, and fraud.

Student Workload (SWL)			
الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدرا يس المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدرا يس المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدرا يس غ ري المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدرا يس غ ري المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدرا يس الك يل للطالب خلال الفصل	100		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	15% (15)	3, 7, 10	LO #3, 7 and 10
	Assignments	3	15% (15)	4, 8, 12	LO # 4, 8 and 12
	Report	1	10% (10)	14	LO # 14
Summative assessment	Midterm Exam	2hr	10% (10)	10	LO # 1-10
	Final Exam	3hr	50% (50)	14	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to computing (Mechanical Calculators, Punched card tabulation, first commercial computer, Microprocessors, personal computers).
Week 2	Introduction to Ethics (Definition, Ethical Theories, components of ethics , Ethics of the Information Age, Emerging Challenges, Applied Ethical Theories)
Week 3	Networked Communication (Spam, Internet interactions, www, mobile Application)
Week 4	Internet of things(Definition, The importance(IOT), applications(IOT), The impact, Characteristic, security, the threats and security solutions). Cloud Computing(Definition, Service Models, Cloud Service Models, Characteristics, Advantages and disadvantages, Cloud Deployment Models, cloud computing and cloud storage).
Week 5	Impact of Social Media(Positive Impacts , Negative Impacts , Key Dangers of Social Media,Key Aspects of Social Media), and Online Advertisement(Key details regarding online advertising, Common Types, online advertising advantages, skills needed for advertising)

Week 6	Children's inappropriate Contents (Reasons for inappropriate content for children and how to deal with it, Types of content inappropriate for children, Web Filter, Key Features and Benefits Web Filter, Types of Web Filtering Technology , child internet protection act)
Week 7	Intellectual Property (Property rights, The main aspects of protection, Conflicts in the world of technology, benefits, limites)
Week 8	Trademark, Patents, and Copyright (differences)
Week 9	Protection Software (Software copyright)
Week 10	Open Source Software (Definition, benefits, impact, examples)
Week 11	Information Privacy (Definition, Benefits, privacy, and trust)
Week 12	Information Disclosure (PublicRecords, information held by private organizations, Facebook Tag, RFID Tags, cookies)
Week 13	Computer and Network Security (Hacking, Malware)
Week 14	Cyber-crime and Cyber-attacks (Fishing, SQL injection, DOS)
Week 15	Review the material before the exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1-Ethics for the Information Age, 8th edition, Michael J. Quinn Seattle University. 2- Tuffley, David, and Amy Antonio. "Ethics in the information age." <i>AQ-Australian Quarterly</i> 87.1 (2016): 19-24. 3-Mechanical Calculators, Instructor :- Yahiea Al-naiemy 4-Introduction to Computers , Dr. Mustafa Ayad Anwer	No
Recommended Texts		
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	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	
Administering Department	CSTE	College	TTC
Module Leader	Lecturer Dr. Raied Abass Saleh	e-mail	raidabass.eps@utq.edu.iq
Module Leader's Acad. Title	Ass. Professor.	Module Leader's Qualification	Ph.D.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	23/9/2026	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: 1. 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. 2. Develop abilities and skills that are relevant to the study and practice of science and are useful in everyday life. 3. Develop attitudes relevant to science such as concern for accuracy and precision, objectivity, integrity, etc. 4. Stimulate interest in and care for the local and global environment. 5. 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. 6. The applications of science may be beneficial and detrimental to the individual, the community, and the environment. 7. 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 مخرجات التعلم للمادة الدراسية	The learning outcomes for studying general physics are: 1. Understanding Fundamental Concepts: Students will develop a solid 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

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي 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	Serway, 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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Introduction to Information System		Module Delivery
Module Type	Core		Theory Lab
Module Code	CSTED1102		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	ESTE	College	TTC
Module Leader	Intisar Neamah Manea	e-mail	Intisar.neamah@stu.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Master's
Module Tutor	SABAH MOHAMMED FAYADH	e-mail	Sabah.fayadh@stu.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/09/2026	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	A- Cognitive Objectives: 1. Familiarize the student with the basic concepts of computers 2. Familiarize the student with the types of computers and their development methods 3. Familiarize themselves with the types of networks and how to connect and interact with them 4. Knowledge of the hardware and software components of a computer 5. Knowledge of dealing with databases and database systems 6. Knowledge of dealing with network security and network security threats 7. Knowledge of information systems and management information systems 8. Knowledge of data privacy, ethics, and security B- Objectives and Skills: 1. Improving academic and intellectual skills 2. Improving students' ability to print graduation projects and make all necessary adjustments and formats 3. Developing skills in using the application programs 4. Developing the student's ability to deal with the computer and its components 5. Improving the scientific level of dealing with networks and their types 6. Developing capabilities and working on network security. 7. Improved capabilities for the purpose of maintaining data privacy 8. Strengthening capabilities to maintain privacy and ethics
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Knowing the concept of information and data systems 2. Knowledge of the basic components of a computer system: hardware, software, and peripherals. 3. Understand the basic concepts of computer components, input and output devices, CPU, and computer ports 4. Define and categorize application and system software and use general 5. Understand the basics of network security. 6. Understand the basic concepts of database systems and data warehousing. 7. 11. Knowing the importance of e-commerce. 8. Understand the MIS systems. 9. Describe the system and program development lifecycles. 10. Demonstrate data privacy and security.

**Indicative
Contents**
المحتويات الإرشادية

Part A - Information Systems, Computer Fundamentals and Network Security

-Information systems, the concept of information and data, computer basics, including hardware, software, and components - data and information - and input and output devices - computer components. **(8 hours)**

- Components and procedures of the computer - types of memory - components of the central processing unit - and the features and types of personal computers. **(7 hours)**

-Network basics, types of networks, methods of connecting them, network features, network security, data storage, threats. **(8 hours)**

-Part review **(2 hours)**

Part B- Databases, e-commerce, and management information systems

-Definition of databases, types of databases, hierarchy, database systems, database environment, database design. **(8 hours)**

-The concept of e-commerce, types of e-commerce, banking services, advantages of e-commerce, The concept of management information systems, the life cycle of information systems development. **(8 hours)**

-Part review **(2 hours)**

Part C- Data privacy, ethics, and key applications

-Data privacy, data security, Internet ethics, types of cyber-attacks, information security and the Internet**(8 hours)**

- System development life cycle, Component-based development, End-user Development**(8 hours)**

-Part review **(2 hours)**

Part D- Microsoft programs:

- Definition and explanation of the basics of the word processor program, opening, creating and closing a document, formatting the document, dealing with tables within the document, checking spelling, preparing a page and printing.**(5hours)**

Part review **(1hours)**

-Definition and explanation of the basics of Excel, opening, creating and closing the sheet, formatting cells, formulas and functions, editing tables, printing the spreadsheet.**(5hours)**

-Part review **(1hours)**

Introduction and explanation of PowerPoint basics) opening, creating, and closing slides(, all slide formats, slide design, transitions and animations, slide presentation**(5hours)**

-Part review **(1hours)**

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	1- Scientific basics: Begin by introducing students to the basic components of a computer system, including hardware, software, and peripherals. Use simple, easy-to-understand language and provide visual aids, such as diagrams and pictures, to help learners understand concepts. 2-. Practical curriculum: Providing the opportunity for trained students to use computers and software applications. Use interactive activities, such as tutorials and quizzes, to enhance brainpower 3. Providing instructions and advice: working to facilitate the delivery of scientific material in an easy and clear manner, and dividing complex tasks into axes for the purpose of communicating them in an easier way to the student's mind. 4. Computer development and the emergence of the Internet: The Internet has become a means available to everyone and has an important role in many fields, including education, scientific and commercial research, and shopping through electronic correspondence and web pages. 5- Use real-life examples: Use real-life examples to illustrate the importance of computer technology and its practical applications. For example, show learners how to create a resume using word processing software, prepare statistical reports using Excel, and present learning portfolios on PowerPoint slides. 6. Providing instructions and advice: data privacy and protecting information and data from violations, how to use databases and administrative information systems, Internet ethics and laws, and how to deal with e-commerce.
-------------------	---

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SSWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SSWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.5
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)	3 and 8	LO #2, #3 and #7, #8
	Assignments	1	5% (5)	4 and 9	LO #1, #4 and #5, #6, #9
	Project				
	Report	1	10% (10)	1# 14	LO #10, #11 and #12
	Lab Reports and Lap Exam	1	5 % (10)	1-14 #8	LO #1#14, LO #1 #8
Summative assessment	Midterm Exam	2hr	20% (10)	7	LO #1 #7
	Final Exam	2 hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المناهج الاسبوعي النظري	
	Material Covered
Week 1	Information Systems: An Overview, Information systems development life cycle, life cycle stages, information systems problems
Week 2	Computer Hardware, Computer components: computer portions, hardware parts , I/O Units , memory Types .
Week 3	Computer Software, , parts basic CPU components, computer ports , personal computer , personal computer(Features and Types)
Week 4	Network Basics, Definition of networks, benefits of computer networks, types of computer networks, components of computer networks, classification of computer networks, IP protocol address, DNS domain name system
Week 5	Network security, network concept, network security basics, information security, security threats, protection methods and techniques
Week 6	Internet, Intranet, Extranet, Search, Advanced Search
Week 7	Database , Types of databases, database management system,
Week 8	database systems environment, steps for designing databases
Week 9	E-Commerce, The concept of e-commerce, types of e-commerce, advantages and challenges of e-commerce, banking services
Week 10	Global Information Systems, Geographic Information System (GIS)
Week 11	Management Information System, System objectives, system importance, system basic elements, system features

Week 12	System Development Life Cycle
Week 13	Data privacy, security, and Ethics Data privacy, information security, security issues, computer and information protection, and ethics
Week 14	Emerging Trends, Technologies, Applications
Week 15	Review the material before the exam

Delivery Plan (Weekly Lab. Syllabus) المناهج الاسبوعي للمختبر	
	Material Covered
Week 1	Run Microsoft Word 2010 - Understand the Word interface - Create a new document - Save and open documents - Edit and format basic text
Week 2	Formatting Text- Font type, size, and color- Bold, italic, and underline- Alignment and indentation- Bullets and numbering
Week 3	Page Layout- Margins and orientation- Page size and breaks- Headers and footers - Page numbering
Week 4	Quick Access Toolbar - Add tools - Delete tools - Move the bar up and down the tab - Close the Word program and open it in several ways- Tables- Creating tables- Formatting tables- Merging and splitting cells
Week 5	- Calculating in tables- Comments - Adding and deleting comments - Automatic proofreading - Dictionary - Language and translation- Printing - Information provided - Saving and sending - Finish
Week 6	Run the Excel program, the program interface, the worksheet, save, open the worksheet
Week 7	Formatting the worksheet (font, size, alignment, fill) Copy, cut, paste the worksheet, Increase column and row widths, show and hide (row, column, cell, sheet), add borders to cells, merge cells, and wrap text
Week 8	Increase column and row widths, show and hide (row, column, cell, sheet), add borders to cells, merge cells, and wrap text
Week 9	Insert (row, column, cell, sheet), Delete (row, column, cell, sheet), Protect sheet, Arithmetic operations (addition, subtraction, multiplication, division)
Week 10	Formulas: automatic sum, arithmetic average, calculation numbers, maximum, upper limit,
Week 11	Introduction to Microsoft PowerPoint and how to operate the program, explanation of the program interface and the functions of each bar, creating and designing different slides
Week 12	File (create, open, delete, move, copy, layout, new slide) for slides, print slides

Week 13	Home, Font Style, Size, Color, Fill, Numbering and Bullet Counter. Editing Group (Select, Find, Replace), Auto (Move, Copy, Delete, Effects, Image Effects)
Week 14	Slide design (page layout, page orientation, formatting, color, fonts, effects, background styles). Transitions (effect options, sound, timeline, preview)
Week 15	Review the material before the exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	(1) كتاب أساسيات الحاسوب 1 (د. حيدر يعقوب يوسف, م.م. رهام عبد الوهاب احمد, ولاء عامر شاوي, سارة عبد الكريم احمد, حسام فلاح حسين) (2) كتاب أساسيات الحاسوب 11 (د.حيدر يعقوب يوسف, م.م. رهام عبد الوهاب احمد, م.م. سناء جعفر حسن, ولاء عامر شاوي) (3) كتاب أساسيات الحاسوب وتطبيقاته المكتبية الجزء 4 (أ.د. زياد محمد عيود, أ.م.د. محمد ناصر, أ.د. غسان حميد عبد المجيد, أ.م.د. صفاء عبيس)	Yes
Recommended Texts		Yes
Websites	- http://noor-book.com/u6khp - http://noor-book.com/u5khp https://uomustansiriyah.edu.iq/media/lectures/12/12_20	

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Democracy & Human Rights		Module Delivery
Module Type	Basic		☒ Theory
Module Code			
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	TTC
Module Leader	Haneen hasan	e-mail	Haneen.h.Laith@stu.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Msc
Module Tutor		e-mail	
Peer Reviewer Name			
Scientific Committee Approval Date	07/10/2026	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 الدراي س المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراي س المنتظم للطالب أسبوعي	2
Unstructured SWL (h/sem) الحمل الدراي س غري المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراي س غري المنتظم للطالب أسبوعي	1
Total SWL (h/sem) الحمل الدراي س الكلي للطالب خلال الفصل	50		

Module

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)

المنهاج الاسبوعي 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

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	جي د	70 - 79	Sound work with notable errors
	D - Satisfactory	متوس ط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	Support or related learning activity		☒ Theory
Module Code	EETC102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	TTC
Module Leader	Asal kareem	e-mail	asal.k.hasan@stu.edu.iq
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	18/09/2026	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 manual drafting and dimensioning of views 2. To perform lines drawing, simple sketches and modify dimensions. 3. This course deals with the basic concept of electrical drawing. 4. To understand sections and isometrics. 5. Explains the principles of orthographic views 6. To understand multi view projection. 7. To understand sectional view drawing
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Recognize drawing paper Specification and Kinds of Lines 2- Understand the first angle projection and third angle projection 3- Explain multi view projection and views Distributions. 4- Drawing of side view and drawing of top view . 5- Dimensioning of Drawing and Full Section 6- Understand half Section and offset Section 7- Explain partial section 8- To understand electrical drawing
Indicative Contents المحتويات الإرشادية	Drawing Paper Specification, Kinds of Lines, First Angle Projection [21 hrs] Third Angle Projection, Multi View Projection, Views Distributions [21 hrs] Drawing of Side View, Drawing of Top View, Dimensioning of Drawing, Full Section, Half Section, Offset Section [21 hrs] Partial Section, Pictorial Drawing, Isometric Drawing [21 hrs] Electrical Drawing , Electrical Symbols, Electronic Symbols [21 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 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 محسوب لـ ١٥ اسبوعا			
Structured SSWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SSWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
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	5% (10)	5 and 8	LO #1, #2 and #5, #6
	seminar	1	10% (10)	14	LO #6 and #8
	project	1	10% (10)	13	LO #4
	Assignments	2	5% (10)	4 and 14	LO #3 and #8
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي

	Material Covered
Week 1	Drawing Paper Specification
Week 2	Kinds of Lines
Week 3	First Angle Projection
Week 4	Third Angle Projection
Week 5	Multi View Projection
Week 6	Views Distributions
Week 7	Drawing of Side View, Drawing of Top View
Week 8	Dimensioning of Drawing, Full Section
Week 9	Half Section, Offset Section
Week 10	Partial Section
Week 11	Pictorial Drawing
Week 12	Isometric Drawing
Week 13	Electrical Drawing
Week 14	Electrical Symbols
Week 15	Electronic Symbols

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Engineering Drawing . assistant professor Abed Alrassol AL-Khfaf , UOT , 1990 Electrical Drawing, J. C. Cluley , 1979	No

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	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	UGx11	1	Semester of Delivery	1
Administering Department	CSTE		College	TTC
Module Leader	Salah Mahdi Thajeel		e-mail	eng.salahalmousoy@gmail.com
Module Leader's Acad. Title			Module Leader's Qualification	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	06/10/2026		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 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 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						
As			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

Week

	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

Week

	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
	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	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	UGx11	1	
Semester of Delivery		1	
Administering Department	CSTE	College	EETC
Module Leader	Najlaa Nsrulaah Faris		e-mail
e-mail		najlaa.m.faris@stu.edu.iq	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/09/2026	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]
--	--

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					
As		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	
Week	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

Week

	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
	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	Democracy & Human Rights		Module Delivery
Module Type	Basic		☒ Theory
Module Code			
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	TTC
Module Leader	Haneen hasan	e-mail	Haneen.h.Laith@stu.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Msc
Module Tutor		e-mail	
Peer Reviewer Name			
Scientific Committee Approval Date	07/10/2026	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 الدرا ي س المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدرا ي س المنتظم للطالب أسبوعي ا	2
Unstructured SWL (h/sem) الحمل الدرا ي س غري المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدرا ي س غري المنتظم للطالب أسبوعي ا	1
Total SWL (h/sem) الحمل الدرا ي س الك ي ل للطالب خلال الفصل	50		

Module

تقييم Evaluation

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)

المنهاج الاسبوعي 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

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	جي د	70 - 79	Sound work with notable errors
	D - Satisfactory	متوس ط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	Support or related learning activity		☒ Theory
Module Code	EETC102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	TTC
Module Leader	Asal kareem	e-mail	asal.k.hasan@stu.edu.iq
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	18/09/2026	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 manual drafting and dimensioning of views 2. To perform lines drawing, simple sketches and modify dimensions. 3. This course deals with the basic concept of electrical drawing. 4. To understand sections and isometrics. 5. Explains the principles of orthographic views 6. To understand multi view projection. 7. To understand sectional view drawing
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Recognize drawing paper Specification and Kinds of Lines 2- Understand the first angle projection and third angle projection 3- Explain multi view projection and views Distributions. 4- Drawing of side view and drawing of top view . 5- Dimensioning of Drawing and Full Section 6- Understand half Section and offset Section 7- Explain partial section 8- To understand electrical drawing
Indicative Contents المحتويات الإرشادية	Drawing Paper Specification, Kinds of Lines, First Angle Projection [21 hrs] Third Angle Projection, Multi View Projection, Views Distributions [21 hrs] Drawing of Side View, Drawing of Top View, Dimensioning of Drawing, Full Section, Half Section, Offset Section [21 hrs] Partial Section, Pictorial Drawing, Isometric Drawing [21 hrs] Electrical Drawing , Electrical Symbols, Electronic Symbols [21 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 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 محسوب لـ ١٥ اسبوعا			
Structured SSWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SSWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
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	5% (10)	5 and 8	LO #1, #2 and #5, #6
	seminar	1	10% (10)	14	LO #6 and #8
	project	1	10% (10)	13	LO #4
	Assignments	2	5% (10)	4 and 14	LO #3 and #8
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي

	Material Covered
Week 1	Drawing Paper Specification
Week 2	Kinds of Lines
Week 3	First Angle Projection
Week 4	Third Angle Projection
Week 5	Multi View Projection
Week 6	Views Distributions
Week 7	Drawing of Side View, Drawing of Top View
Week 8	Dimensioning of Drawing, Full Section
Week 9	Half Section, Offset Section
Week 10	Partial Section
Week 11	Pictorial Drawing
Week 12	Isometric Drawing
Week 13	Electrical Drawing
Week 14	Electrical Symbols
Week 15	Electronic Symbols

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Engineering Drawing . assistant professor Abed Alrassol AL-Khfaf , UOT , 1990 Electrical Drawing, J. C. Cluley , 1979	No

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	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	UGx11	1	Semester of Delivery	1
Administering Department	CSTE		College	TTC
Module Leader	Salah Mahdi Thajeel		e-mail	eng.salahalmousoy@gmail.com
Module Leader's Acad. Title			Module Leader's Qualification	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	06/10/2026		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 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 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						
As			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

Week

	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

Week

	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
	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	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	TTC
Module Leader	Sabah Mohammed Fayadh		e-mail sabah.fayadh@stu.edu.iq
Module Leader's Acad. Title	Ass. Professor.	Module Leader's Qualification	Ph.D.
Module Tutor			e-mail
Peer Reviewer Name	M.Sc : Najlaa nsralla faris	e-mail	najlaa.m.faris@stu.edu.iq
Scientific Committee Approval Date	07/10/2026	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 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. <u>Part A – Microprocessor H/W architecture</u> MP signals, MP operations, Machine cycle, memory interfacing, input-output devices interfaces [25hrs] <u>Part b – Microprocessor S/W architecture</u> Instruction set, data transfer, arithmetic, logical. [16 hrs] Stack register and stack area [8 hrs] Branching instructions and applications [16 hrs]

	Revision problem classes [6 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.
-------------------	---

Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	56	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	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	2 hr	10% (10)	7	LO # 1-7
	Final Exam	4 hr	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	Yes
Recommended Texts	UNDERSTANDING 8085/8086 MICROPROCESSORS and PERIPHERAL ICs	no
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Data Structures & 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	Najlaa Nsrulaah Faris		e-mail	najlaa.m.faris@stu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc	
Module Tutor	Name (if available)		e-mail	E-mail
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	06/9 /2026	Version Number	1.0	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		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 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

	(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. 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.

Student Workload (SWL) الحمل الدراسي للطالب			
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% (15)	5, 7, 13	LO # (1 to 4), (5, 6, 7), (14 to 18)
	Assignments	1	5% (5)	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 الأسبوعي 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 الأسبوعي 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.	No
Recommended Texts	- C++ PROGRAMMING: PROGRAM DESIGN INCLUDING DATA STRUCTURES, D.S. MALIK, SEVENTH EDITION, Cengage Learning 2015.	No
Websites	https://www.geeksforgeeks.org/	

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.				

5MODULE 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	
Administering Department	CSTE	College	TTC
Module Leader	Zainab ashour	e-mail	Zainab.i.ashour1@stu.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	06/10/2026	Version Number	1.0

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 للطلاب			
Structured SWL (h/sem) الحمل الدرا يس المنتظم للطلاب خلال الفصل	63	Structured SWL (h/w) الحمل الدرا يس المنتظم للطلاب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدرا يس غ ري المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدرا يس غ ري المنتظم للطلاب أسبوعيا	6
Total SWL (h/sem) الحمل الدرا يس الك يل 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, 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 الاسبوعي 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	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		3
Administering Department	CSTE	College	TTC	
Module Leader	Dr Ahmed Abbas Jasim Al-HChaimi		e-mail	ahmed.alhchaimi@stu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.	
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	08/10/2026	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. 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.
	<u>Part A: introduction to software engineering and its techniques (Estimated time: 10 hours)</u>
	<u>Part B: Cost Estimation, project requirements (Estimated time: 15 hours)</u>
	<u>Part C: Scheduling and Delivery (Estimated time: 15 hours)</u>
	<u>Part D: software Architecture (Estimated time: 15 hours)</u>
	<u>Part E: Testing and Integration (Estimated time: 15 hours)</u>

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.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراي المنتظم للطالب خالل الفصل	94	Structured SWL (h/w) الحمل الدراي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراي غير المنتظم للطالب خالل الفصل	56	Unstructured SWL (h/w) الحمل الدراي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراي الكلي للطالب خالل 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 to 5], LO # [5 to 8]
	Assignments	2	10% (10)	6, 13	LO# [1 to 12]
	Projects / Lab.	5	15% (15)	Continuous	
	Report	1	5% (5)	13	LO # 1 to 12
Summative assessment	Midterm Exam	2 hrs.	10% (10)	8	LO # 1 to 7
	Final Exam	4hrs.	50% (40 + 10)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج السبوعي 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 السبوعي للمختبر	
	Material Covered
Week 1	Linux distros

Week 2	Linux layout
Week 3	Navigating the Filesystem
Week 4	Command Line Proficiency
Week 5	File Management and Manipulation
Week 6	System Administration Basics
Week 7	Midterm Exam (No lab session).
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
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Engineering Workshops		Module Delivery	
Module Type	Basic		☐ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	EETC101			
ECTS Credits	6			
SWL (hr/sem)	125			
Module Level	1	Semester of Delivery		2
Administering Department	CSTE	College	TTC	
Module Leader	Kadhim fakhir oudah		e-mail	Kazemoda75@gmail.com
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	MSc	
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	06/10/2026	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 – Electrical workshop</u> 1. Principles of Industrial Safety in Electrical Workshops[6 hrs.] 2. Tools Used in Electrical Workshops[6hrs.]. 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 الدراس المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدرا يس المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراس غ ري المنتظم للطالب خلال الفصل	86	Unstructured SWL (h/w) الحمل الدرا يس غ ري المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراس الكل 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 Volume1 (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 (تقيد 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	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	CSTE	College	TCC	
Module Leader	Sabah Mohammed Fayadh		e-mail	sabah.fayadh@stu.edu.iq
Module Leader's Acad. Title	Ass. Professor.		Module Leader's Qualification	Ph.D.
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	07/10/2026	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 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.
-------------------	---

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 الاسبوعي 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 DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Arabic Language		Module Delivery
Module Type	Support or related learning activity		☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code			
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	
Administering Department	CSTE	College	TTC
Module Leader	Mutashar Jasim Mohamed	e-mail	Mutashergg@gmail.com
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	PHD
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	06/10/2026	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 هـ أن يكون الطالب قادرًا على أن : 1. يتعرف على أنواع الأخطاء اللغوية المش رنكة وتوضيح أسبابها وكيفية تجنبها. 2. يتعلم القواعد المتعلقة بالناء المربوطة والطويلة والناء المفتوحة وكيفية كتابتها بشكل صحيح. 3. يتعلم قواعد كتابة الألف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح. 4. التعرف على الضاد والطاء ومعرفة كيفية النمي ت بينهما ف الكتابة. 5. يتعلم طرق كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. التعرف على علامات ال رقيم واستخدامها بشكل صحيح ف النصوص. 7. يفهم الفروق ب ي الاسم والفعل والنمي ت بينهما ف الجمل. 8. يفهم المفاعيل وكيفية استخدامها بشكل صحيح ف النصوص. 9. يتعلم الأرقام والعدد واستخدامها ف التعب ت عن الكميات. 10. يتجنب الأخطاء اللغوية الشائعة ف سياقات عملية لتعزيز فهم القواعد وتحس ي المهارات اللغوية. 11. يدرس النون والتنوين وفهم معا ن حروف الجر واستخدامها بشكل صحيح ف الجمل. 12. يركز على الجوانب الشكلية للخطاب الإداري وكيفية كتابته بأسلوب صحيح ومناسب. 13. التعرف على لغة الخطاب الإداري وفهم استخدامها ف التواصل الإداري. 14. يفهم نماذج من المراسلات الإدارية لتطبيق المفاهيم والمهارات المكتسبة ف الخطاب الإداري.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	مخرجات التعلم للمادة الدراسية هـ : 1. قدرة الطلاب على تحليل وتعريف الأخطاء اللغوية المش رنكة وتطبيق القواعد الصحيحة لتجنبها. 2. القدرة على استخدام القواعد اللغوية المتعلقة بالناء المربوطة والطويلة والناء المفتوحة بشكل صحيح. 3. قدرة الطلاب على استخدام الألف الممدودة والمقصورة بشكل صحيح واستخدام الحروف الشمسية والقمرية بطريقة صحيحة. 4. تمك ي الطلاب من النمي ت ب ي الضاد والطاء وتطبيق القواعد الصحيحة ف الكتابة. 5. القدرة على كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. استخدام علامات ال رقيم بشكل صحيح ف النصوص المكتوبة. 7. فهم الطلاب للفروق ب ي الاسم والفعل وتمكينهم من استخدامها بشكل صحيح ف الجمل. 8. القدرة على استخدام المفاعيل بشكل صحيح ف النصوص المكتوبة. 9. استخدام الأرقام والعدد بطريقة صحيحة للتعب ت عن الكميات. 10. التمكن من تطبيق الأخطاء اللغوية الشائعة ف سياقات عملية وتصحيحها بشكل مناسب. 11. فهم استخدام النون والتنوين ومعا ن حروف الجر واستخدامها بشكل صحيح ف الجمل. 12. القدرة على كتابة الخطاب الإداري بأسلوب صحيح ومناسب وفهم لغة الخطاب الإداري. 13. تطبيق المفاهيم والمهارات المكتسبة ف كتابة المراسلات الإدارية بشكل صحيح وفعال.
Indicative Contents المحتويات الإرشادية	المحتويات الإرشادية ف مادة اللغة تشمل مجموعة من المفاهيم والمواضيع ال ت يتم تغطيتها خلال عملية التعلم. ومن ب ي المحتويات الإرشادية المهمة: 1. مقدمة عن الأخطاء اللغوية والتعريف بالناء المربوطة والناء المطولة والناء المفتوحة. (4 ساعات) 2. قواعد كتابة الألف الممدودة والمقصورة والتعرف على الحروف الشمسية والقمرية. (4 ساعات) 3. دراسة الضاد والطاء وتعلم طرق كتابتهما بشكل صحيح. (4 ساعات) 4. تعلم كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. (4 ساعات) 5. دراسة علامات ال رقيم وتعلم استخدامها بشكل صحيح ف النصوص اللغوية. (4 ساعات) 6. التعرف على الاسم والفعل والتفريق بينهما وفهم القواعد المتعلقة بهما. (4 ساعات) 7. دراسة المفاعيل وتعلم استخدامها ف الجمل اللغوية. (4 ساعات) 8. التعرف على الأعداد واستخدامها بشكل صحيح ف العبارات والجمل. (4 ساعات) 9. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها ف النصوص اللغوية. (4 ساعات) 10. تعلم استخدام النون والتنوين وفهم معا ن حروف الجر واستخدامها بشكل صحيح ف الجمل. (3 ساعات) 11. التعرف على الجوانب الشكلية للخطاب الإداري وفهم لغته وقواعده. (3 ساعات) 12. دراسة نماذج من المراسلات الإدارية وتطبيقها ف الكتابة. (3 ساعات) توفر هذه المحتويات الإرشادية للطلاب فيها شاملاً للمفاهيم اللغوية وتعلم القواعد والتطبيقات العملية ال ت تساعدهم ف 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، وتحسين مشاركتهم في العملية التعليمية واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ أسبوعاً

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعياً	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)		
المناهج الأسبوعي النظري		
8-1	مقدمة عن الأخطاء اللغوية – التاء المربوطة والطويلة والتاء المفتوحة	الأسبوع الأول
14-9	قواعد كتابة الألف الممدودة والمقصورة – الحروف الشمسية والقمرية	الأسبوع الثاني
19-15	الضاد والطاء	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 والتتوين - معاني حروف الجر	الأسبوع الحادي عشر
80-76	الجوانب الشكلية للخطاب الإداري	الأسبوع الثاني عشر
86-81	لغة الخطاب الإداري	الأسبوع الثالث عشر والرابع عشر
	نماذج من المراسلات الإدارية	الأسبوع الخامس عشر
	الاستعداد للامتحان 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 العال والبحث العلم)			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.				