MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer Fundamentals**			**Module Delivery**	
Module Type	**Basic**			☒**Theory** ☒**Lecture** ☒**Lab** ☒**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**AITE1202**				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	AIET		**College**		
Module Leader	Zainab Hussein Ali		**e-mail**	Zynb4748@gmail.com	
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**	Msc	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	24/12/2024		**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 module aims to:** 1- To provide students with a foundational understanding of hardware, software, computing, data, and information. 2- To familiarize students with the various components of a computer, including hardware parts, memory types, and input/output units. 3- To develop proficiency in using common operating systems and graphical user interfaces, enabling students to navigate and manage files effectively. 4- To equip students with the skills necessary for creating, formatting, and managing documents using word processing software.

	5- To introduce students to basic spreadsheet concepts, including data manipulation, formulas, and functions for data analysis. 6- To foster skills in creating and delivering presentations using presentation software, focusing on effective communication and visual design. 7- To build an understanding of internet concepts, including networking basics, web browsing, and effective use of search engines. 8- To teach students the principles of electronic communication, including email management and document collaboration. 9- To provide students with the knowledge and skills to identify and troubleshoot common computer hardware and software problems. 10- To encourage the practical application of learned concepts in real-world scenarios, enhancing problem-solving and critical thinking skills.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**By the end of the module, students should be able to:** 1. Identify and Describe Key Concepts: Students will be able to explain fundamental concepts of hardware, software, computing, data, and information. 2. Recognize Computer Components: Students will demonstrate an understanding of the main components of a computer system, including hardware parts, memory types, and I/O units. 3. Navigate Operating Systems: Students will proficiently navigate and utilize common operating systems and graphical user interfaces for file management and application usage. 4. Create and Format Documents: Students will be able to create, edit, and format text documents using word processing software, employing various tools and features effectively. 5. Utilize Spreadsheets for Data Management: Students will demonstrate the ability to manipulate cells, use formulas and functions, and perform basic data analysis using spreadsheet software. 6. Develop Effective Presentations: Students will create engaging presentations using presentation software, including designing slides and delivering content clearly. 7. Navigate the Internet Effectively: Students will understand and apply concepts related to internet use, including web browsing, search engine utilization, and understanding URLs. 8. Manage Electronic Communications: Students will demonstrate proficiency in using email for communication, including sending, receiving, and organizing messages and collaborating on documents. 9. Apply Troubleshooting Techniques: Students will identify common hardware and software problems and apply basic troubleshooting techniques to resolve issues. 10. Integrate Knowledge into Practical Scenarios: Students will apply their acquired knowledge and skills to real-world scenarios, demonstrating problem-solving and critical thinking abilities.

Indicative Contents المحتويات الإرشادية	1. Introduction to Computers: [4 hrs.] • Definition of Computers • History and Evolution of Computers • Types of Computers: Desktops, laptops, tablets, servers. 2. Hardware and Software Concepts: [4 hrs.] • Hardware Components: o Central Processing Unit (CPU) o Memory (RAM, ROM, Cache) o Storage Devices (HDD, SSD, USB drives) o Input Devices (keyboard, mouse, scanner) o Output Devices (monitor, printer, speakers) • Software Components: o System Software (Operating Systems) o Application Software (Word processors, spreadsheets, etc.) 3. Data and Information: [4 hrs.] • Definitions of Data and Information • Data Processing Cycle • Types of Data: Structured vs. unstructured data. 4. Information Electronics and Communication Technology (IECT) : [4 hrs.] • Applications of IECT • Impact on Society and Business 5. Connecting Devices: [4 hrs.] • Input/ Output Devices: Installation and configuration. • Peripherals: Printers, scanners, external drives. • Computer Ports: USB, HDMI, Ethernet, etc. 6. Operating Systems and GUI: [8 hrs.] • Operating System Functions: Resource management, user interface. • Common Operating Systems: Windows, macOS, Linux. • Graphical User Interface (GUI): o Using the mouse and keyboard. o Common icons and their functions. o Menus and menu-navigation. o Managing windows and applications. 7. Word Processing: [8 hrs.] • Creating and Managing Documents • Text Manipulation: Inputting and editing text. • Formatting Techniques: Fonts, sizes, colors, and styles. • Table Creation and Management • Spell Check and Language Tools • Printing Documents 8. Spreadsheet Basics: [8 hrs.] • Introduction to Spreadsheet Software

	• Cell Manipulation: Entering and editing data. • Formulas and Functions: Basic arithmetic, statistical functions • Data Analysis Techniques • Printing Spreadsheets 9. Presentation Software: [8 hrs.] • Creating Presentations: Slide design and content organization. • Using Visuals: Images, charts, and graphs. • Presenting Slides: Techniques for effective delivery. • Printing Handouts and Slides 10. Internet and Web Browsers: [8 hrs.] • Introduction to Computer Networks: LAN, WAN. • Understanding the Internet and its Applications • Web Browsing: Using browsers effectively. • Search Engines: Techniques for efficient searching. • Understanding URLs, Domain Names, and IP Addresses 11. Communications and Emails: [4 hrs.] • Basics of Electronic Mail: Features and protocols. • Setting Up an Email Account • Sending and Receiving Emails • Managing Email Correspondence • Document Collaboration Tools 12. Computer Troubleshooting: [4 hrs.] • Common Hardware Problems: Identification and solutions. • Common Software Issues: Errors, crashes, and performance issues. • Basic Troubleshooting Techniques: Steps and tools for diagnostics. 13. Review and Assessment: [8 hrs.] • Mid-Term Examination: Assessing knowledge and skills acquired. • Practical Assignments: Hands-on tasks to reinforce learning.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The learning and teaching strategies for the module on Computer Principles and operating systems can include: 1. Lectures and Presentations: The instructor can deliver lectures and presentations to introduce and explain key concepts, theories, and principles related to computer fundamentals and operating systems. This can help

	students develop a foundational understanding of the subject matter. 2. Practical Demonstrations: Hands-on practical demonstrations can be conducted to illustrate the usage of different computer components, software applications, and operating system functionalities. This can enhance students' understanding of the practical aspects of computer systems. 3. Group Discussions and Collaborative Learning: Engaging students in group discussions and collaborative learning activities can promote active participation and deeper understanding. Students can discuss and analyze case studies, real- life examples, and scenarios related to computer fundamentals and operating systems. 4. Laboratory Exercises: Practical laboratory exercises can provide students with opportunities to apply their knowledge and skills in a controlled environment. They can work on computer hardware, software installations, operating system configurations, and troubleshooting tasks, allowing them to gain practical experience. Assignments and Projects: Assignments and projects can be assigned to students to encourage independent learning and critical thinking. They can involve research, analysis, problem-solving, and the application of concepts learned in the module. This can help students develop their skills and deepen their understanding

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	6.2
Unstructured SWL (h/sem) الحمل الدراسي الغير المنتظم للطالب خلال الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي الغير المنتظم للطالب أسبوعيا	5.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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- 3, LO # 4 - 8
	Assignments	1	10% (10)	12	LO # 1-11
	Projects / Lab.	1	10% (10)	Continuous	LO # 1-12
	Report	1	10% (10)	Continuous	LO # 1-12
Summative	Midterm Exam	2 hr	10% (10)	10	LO # 1-10

assessment	**Final Exam**	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الدراسي النظري

Week	Material Covered
Week 1	**Introduction to Computer:** Concepts of Hardware and Software with their components; Concept of Computing, Data and Information; Applications of Information Electronics and Communication Technology (IECT); Connecting input/output devices, and peripherals to CPU.
Week 2-3	**Computer Components**: Computer Portions, Hardware Parts, I/O Units, Memory Types, Basic CPU Components, Computer Ports, Personal Computer (Features and Types).
Week 4-5	**Operating System and Graphical User Interface (GUI)**: Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques; Use of Common Icons, Status Bar, Using Menu and Menu-selection, Concept of Folders and Directories, Opening and closing of different Windows; Creating Short cuts.
Week 6-7	**Word Processing**: Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document.
Week 8	**Review and Mid Exam**
Week 9-10	**Spread Sheet**: Basics of Spreadsheet; Manipulation of cells, Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet.
Week 11-12	**Presentation Software**: Basics of presentation software; Creating Presentation; Preparation and Presentation of Slides; Slide Show; taking printouts of presentation / handouts.
Week 13	**Introduction to Internet and Web Browsers**: Computer networks Basic: LAN, WAN; Concept of Internet and its Applications; connecting to internet, World Wide Web; Web Browsing software's, Search Engines; Understanding URL ; Domain name, IP Address.
Week 14	**Communications and Emails**: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails, Document collaboration.
Week 15	**Computer Troubleshooting**: Identifying and solving common hardware and software problems that computer users encounter. Basic troubleshooting techniques and tools for diagnosing and resolving issues.
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	**Introduction to Computer:** • Concepts of hardware and software components.

	• Fundamentals of computing, data, and information. • Applications of information electronics and communication technology (IECT). • Connecting input/output devices and peripherals to CPU.
Week 2-3	**Computer Components:** • Exploration of computer portions and hardware parts. • Identifying I/O units, memory types, and basic CPU components. • Familiarizing with computer ports and personal computer features.
Week 4-5	**Operating System and GUI:** • Basics of common operating systems. • Navigating the user interface using mouse techniques. • Utilizing common icons, status bar, menus, and directories. • Opening, closing, and creating shortcuts for different windows.
Week 6-7	**Word Processing:** • Exploring word processing basics. • Opening and closing documents. • Text creation, manipulation, and formatting. • Handling tables, spell check, language settings, and thesaurus. • Printing word documents.
Week 8	**Review and Mid-Exam**
Week 9-10	**Spreadsheet:** • Spreadsheet software basics. • Manipulation of cells, formulas, and functions. • Editing and printing spreadsheets.
Week 11-12	**Presentation Software:** • Fundamentals of presentation software. • Creating presentations. • Preparing and delivering slide shows. • Taking printouts of presentations and handouts.
Week 13	**Introduction to Internet and Web Browsers** • Computer networking concepts: LAN, WAN. • Concept of the internet and its applications. • Connecting to the internet and exploring the World Wide Web. • Using web browsing software and search engines. • Understanding URLs, domain names, and IP addresses.
Week 14	**Communications and Emails** • Basics of electronic mail. • Setting up email accounts. • Sending, receiving, and accessing emails.
Week 15	**Computer Troubleshooting:** • Identifying and solving common hardware issues. • Identifying and solving common software problems. • Applying basic troubleshooting techniques and tools.
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Tutorial) المنهاج الاسبوعي الدراسي	
Week	**Material Covered**

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

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	[1] G. Brown and D. Watson, "Cambridge IGCSE Information and Communication Technology," 3rd ed. Cambridge, U.K.: Cambridge Univ. Press, 2020. [2] A. Evans, K. Martin, and M. A. Poatsy, "Technology in Action Complete," 16th ed. Boston, MA, USA: Pearson, 2020	Yes
Recommended Texts	3] 2016 ", أساسيات الحاسوب " , الخضر علي الخضر بحات	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.

أ.د. هارون عبد الفتاح سعيد العبيدي

رئيس القسم

مدرس المادة

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Drawing**			**Module Delivery**	
Module Type	**Support**			**Theor** **Lecture** **☒ Lab** **Tutorial** **Practical** **Seminar**	
Module Code	**AITE1204**				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	**AIET**		**College**		
Module Leader	Ali Tawfeeq Lateef Hammoodi		**e-mail**	Ali2111ban@gmail.com	
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**	Msc	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	24/12/2024		**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To develop spatial visualization skills: Enhance your ability to visualize and mentally manipulate objects in three-dimensional space based on two-dimensional drawings. Strengthen your spatial awareness and improve your understanding of complex engineering design 2. Learn sketching and taking field dimensions. 3. Take data and transform it into graphic drawings. 4. Learn basic engineering drawing formats. 5. Learn basic AutoCAD skills. 6. Learn who draw 2D drawings in AutoCAD
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the basic of AutoCAD 2. Explain Drawing settings 3. How to drawing: Point, Line, Multiline, P line, Spline, X line, Rectangle. 4. How to drawing: Donut, Polygon, Circle, Arc, Ellipse 5. List Modify Tools Identify: Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, 6. Identify Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. 7. Explain Zoom, Pan. 8. How to assign: Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions. 9. Dealing with: Text, Style, M text, Scale text, Spell, 10. Knowing the Hatching Objects. 11. Drawing 3d modeling. 12. Drawing the Exercises.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **--AutoCAD Software,** drawing settings, Drawing Tools, Line, Circle, Arc, Ellipse, Donut, Polygon, Rectangle, Point, Multiline, P line, Spline, X line. **[20 hrs.]** **--Modify Tools** Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. **[4 hrs.]** --Display Control Zoom, Pan, Redraw, Clean Screen. **[4 hrs.]** --Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions. **[4 hrs.]** --Hatching Objects **[4hrs]** --Text, Style, M text, Scale text, Spell, **[4 hrs.]** --3D MODELLING, Convert 2D to 3D, Solid Editing **[20 hrs.]**

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

Student Workload (SWL) الحمل الدراسي للطالب موزع على 15 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.26
Unstructured SWL (h/sem) الحمل **الدراسي الغير** المنتظم للطالب خلال الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي الغير المنتظم للطالب أسبوعيا	5.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quiz**	2	10% (10)	5, 10	LO #1- 3, LO # 4 - 8
	Assignments	1	10% (10)	12	LO # 1-11
	Projects / Lab.	1	10% (10)	Continuous	LO # 1-12

	Report	1	10% (10)	Continuous	LO # 1-12
Summative assessment	**Midterm Exam**	2 hr	10% (10)	10	LO # 1-10
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week1	Introducing of Engineering Drawing
Week 2	Drawing settings of AutoCAD
Week 3	Drawing Tools
Week 4	Point, Line, Multiline, P line, Spline, X line.
Week 5	Circle, Arc, Ellipse
Week 6	Modify Tools Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. Display Control Zoom, Pan, Redraw, Clean Screen
Week 7	Mid exam
Week 8	Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions
Week 9	Annotation Tools Text, Style, M text, Scale text, Spell
Week 10	Hatching Objects
Week 11-12-13	3D modeling
Week 13	Convert 2D To 3D
Week 14	Solid Editing
Week 15	Exercises drawing
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Introduction to AutoCAD 2010 By Alf Yarwood Copyright 2009	Yes
Recommended Texts	An Introduction to Autodesk Inventor 2010 and AutoCAD 2010 Unbnd Edition by Randy Shih	No
Websites		

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
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أ.د. هارون عبد الفتاح سيد العميد

رئيس القسم

مدرس المادة

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Advanced Mathematics**			**Module Delivery**	
Module Type	**Support or related learning activity**			☒**Theory** ☒**Lecture** ☐**Lab** ☒**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**AITE1201**				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level		1	**Semester of Delivery**		2
Administering Department		AIET	**College**		
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date		24/12/2024	**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	1. To Understand concepts of vectors and vector operations.

أهداف المادة الدراسية	2. To understand concepts of linear algebra. 3. To get a grasp of various methods to solve systems of linear equations. 4. To compute linear transformations. 5. To be able to determine Eigenvalues and Eigenvectors. 6. To perform matrix diagonalization.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Recognize Vectors concepts, notation and Operations. 2. Discuss dot product, cross product, Orthogonal and orthonormal vectors. 3. Discuss the terms Diagonal, Triangular, Symmetric, Square Matrix, and Transpose of a Matrix. 4. Describe the matrix operations {addition, subtraction, scalar multiplication, multiplication}. 5. Identify Determinant and Inverse for Nonsingular matrices. 6. Discuss aspects about System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.). 7. Identify Row operations, row-echelon form "triangular", Rank of a Matrix, reduced row-echelon form, Augmented Matrix. 8. Discuss Gaussian elimination. 9. Explain Gauss–Jordan elimination and Solving Systems with Inverses. 10. Explain Cramer's Rule. 11. Explain Linear Combinations of Vector, span. 12. Explain Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix. 13. Recognize Linear Transformations. 14. Discuss Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem. 15. Discuss Eigenvalues and Eigenvectors, Diagonalizing Matrices.
Indicative Contents **المحتويات الإرشادية**	<u>Part A - Vectors.</u> This part includes Vectors definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}. In addition to Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors. **[6 hrs]** + Revision problem classes in weekly tutorials **[2 hrs]** <u>Part B – Matrices.</u> This part will take in details Matrices (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.), in addition to operations {addition, subtraction, scalar multiplication, multiplication}. Furthermore, Determinant, Inverse (Nonsingular). **[10 hrs]** + Revision problem classes in weekly tutorials **[3 hrs]** <u>Part C – System of Linear Equations.</u> This part discusses System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.), in addition to Row operations, row-echelon form "triangular", Rank of a Matrix, reduced row-echelon form, Augmented Matrix. Furthermore, Gaussian elimination, Gauss–Jordan elimination, Solving Systems with

	Inverses, Cramer's Rule is described. **[14 hrs]** + Revision problem classes in weekly tutorials **[4 hrs]** Part D – Vector Spaces and Diagonalization. This part discusses Vector Spaces (Linear Combinations of Vector, span, Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix, Linear Transformations. Furthermore, Diagonalization (Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem, Eigenvalues and Eigenvectors, Diagonalizing Matrices.) [15 hrs] + Revision problem classes in weekly tutorials [5 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

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

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل المنتظم للطالب خلال الفصل	93	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6.2
Unstructured SWL (h/sem) الحمل الغير المنتظم للطالب خلال الفصل	82	**Unstructured SWL (h/w)** الحمل الدراسي الغير المنتظم للطالب أسبوعيا	5.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20%	5,10	LO #1 - 4, LO # 6-9
	Assignments	2	15%	5,10	LO # 1 - 14, LO # 6-9
	Projects / Lab.	N/A			
	Report	1	5%	Cont.	LO # 1-15
Summative assessment	Midterm Exam	2 hr	10% (10)	5	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الدراسي النظري

	Material Covered
Week 1	**Vectors (**Definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}.**)**
Week 2	**Vectors (**Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors.**)**
Week 3	**Matrices (**Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.**)**
Week 4	**Matrices (**operations {addition, subtraction, scalar multiplication, multiplication}.**). Matrices (**Determinant, Inverse (Nonsingular)**)**
Week 5	**Midterm Exam**
Week 6	**System of Linear Equations (**Linear Equations, Linear Equations Solution, Matrix equations**.)**
Week 7	**System of Linear Equations (**Row operations, row-echelon form “triangular”, Rank of a Matrix, reduced row-echelon form, Augmented Matrix**.)**
Week 8	**System of Linear Equations (Gaussian elimination.), System of Linear Equations (**Gauss–Jordan elimination, Solving Systems with Inverses**.)**
Week 9	**System of Linear Equations (**Cramer's Rule**.)**
Week 10	**Midterm Exam**
Week 11	**Vector Spaces (**Linear Combinations of Vector, span.**). Vector Spaces (**Linear Transformations.**)**
Week 12	**Midterm Exam**
Week 13	**Vector Spaces (**Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix.)
Week 14	**Diagonalization (**Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem.)
Week 15	**Diagonalization (**Eigenvalues and Eigenvectors, Diagonalizing Matrices.**)**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Tutorial) المنهاج الاسبوعي	
	Material Covered

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

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

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	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.

مدرس المادة

رئيس القسم

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Arabic Language**			**Module Delivery**	
Module Type	**Basic learning activities**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**AITE1205**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	AIET		**College**		
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**	M.	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	24/10/2023		**Version Number**	1.0	

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

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

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

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	استراتيجيات التعلم والتعليم المستخدمة في مادة اللغة تشمل مجموعة من 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 التكنلوجيا في عملية التعلم، مثل استخدام الحواسيب والانترنت 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. التنويع في وسائل التواصل: يتم استخدام مجموعة متنوعة من وسائل التواصل والتعليم، مثل المحاضرات التوضيحية، والمناقشات الجماعية، والأنشطة العلمية، والعروض التقديمية، لتلبية احتياجات وأساليب التعلم المختلفة للطلاب. 7. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطلاب وتحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem)	33	**Structured SWL (h/w)**	2.2
Unstructured SWL (h/sem)	17	**Unstructured SWL (h/w)**	1.13
Total SWL (h/sem)	50		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	20%	5, 10	LO #1-4 LO #4-9
	Assignments	2	10% (10)	2, 12	LO # 1-5 , 5-12
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-12
Summative assessment	**Midterm Exam**	2 hours	20% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

الأسبوع الأول	مقدمة عن الأخطاء اللغوية – التاء المربوطة والطويلة والتاء المفتوحة	١-٨

الأسبوع الثـــــاني	قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية	١٤-٩
الاسبوع الثــــالث	الضاد والظاء	١٩-١٥
الأسبوع الـــرابـع	كتابة الهمزة	٣٠-٢٠
الأسبوع الخــامس	علامات الترقيم	٣٦-٣١
الأسبوع الســادس	الاسم والفعل والتفريق بينهما - المفاعيل	٥٠-٣٧
الأسبوع الســابع	الامتحان النصفي	
الأسبوع الثـــامن	العــــدد	٦١-٥١
الأسبوع التاسع والعاشر	تطبيقات الأخطاء اللغوية الشائعة	٦٩-٦٢
الاسبوع الحادي عشر	النون والتنوين - معاني حروف الجر	٧٥-٧٠
الاسبوع الثاني عشر	الجوانب الشكلية للخطاب الإداري	٨٠-٧٦
الأسبوع الثالث عشر والرابـــع عشر	لغة الخطاب الإداري	٨٦-٨١
الأسبوع الخامس عشر	نماذج من المراسلات الإدارية	
الأسبوع السادس عشر	الاستعداد للأمتحان النهائي	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		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.

رئيس القسم

مدرس المادة

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Workshops**			**Module Delivery**	
Module Type	Support or related learning activity			☐ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**AITE1203**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	AIET		**College**		
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	24/12/2024		**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. 6. Knowledge and Understanding: a. Demonstrate a comprehensive understanding of the principles and concepts related to electrical and mechanical workshop operations. b. Identify and explain the safety measures and regulations applicable to electrical and mechanical workshops. 7. Describe the different tools, machines, and materials used in electrical and mechanical workshops.

	8. Practical Skills: a. Apply safe working practices and use appropriate personal protective equipment (PPE) in electrical and mechanical workshop environments. b. Demonstrate proficiency in using various tools and equipment for turning, filing, drilling, welding, and assembly. 9. Perform practical tasks related to electrical and mechanical workshop operations accurately and efficiently. d. Apply problem-solving techniques to troubleshoot and rectify common issues encountered in electrical and mechanical workshop activities. 10. Critical Thinking and Analysis: a. Analyze and evaluate different turning processes, instrumentation measures, and cutting tools used in the workshop. b. Assess the quality of filing processes and choose appropriate rasps and tools for different filing tasks. 11. Evaluate the drilling processes and select suitable drilling tools based on specific requirements. d. Analyze welding processes, including oxy-acetylene and arc welding, and determine safety precautions and best practices. 12. Communication and Collaboration: a. Effectively communicate and collaborate with peers in group projects and workshop activities. b. Present findings, results, and recommendations related to electrical and mechanical workshop tasks in a clear and concise manner. 13. Professional and Ethical Responsibility: a. Demonstrate ethical behavior and responsibility in adhering to safety regulations, environmental considerations, and industry standards in electrical and mechanical workshop practices 14. 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.** **Part A – Electronic workshop** 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. **[14 hrs.]** We will also talk about conductors and semiconductors **[10 hrs.]** Part B – Electrical workshop 1. Principles of Industrial Safety in Electrical Workshops **[4 hrs.]** 2. Tools Used in Electrical Workshops **[5 hrs.]**. 3. Power Sources and Characteristics **[5 hrs.]** 4. Multimeter and Wire Size Measurement **[5 hrs.]** Part C – Mechanical workshop 1. Different Types of Welding Irons and Spot Welding **[4 hrs.]** 2. Electric Transformers **[5 hrs.]** 3. Electric Circuits and Transformer Operation **[5 hrs.]**. 4. Types of Electric Motors **[5 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 موزع على 15 اسبوع			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	63	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	4.2
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	62	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	4.13
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, 11**	LO #1-4, LO #8-11
	Assignments	**1**	5% (10)	**12**	LO # 1-14
	Projects / Lab.	**2**	20% (10)	**Continuous**	ALL
	Report	**1**	5% (10)	**13**	ALL
Summative assessment	**Midterm Exam**	**4 hr**	10% (10)	**8**	LO # 1-7
	Final Exam	**4hr**	50% (50)	**16**	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي للمختبر Electronic, Electrical , Mechanical Workshops	
	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 useabsorbent 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
Week 8	❖ **Midterm Exam**
Week 9 ,10	Electronic components(resistor , inductors , capacitors) Drawing a Staircase Lamp (Two-Way Switch) Circuit
Week 11,12	❖ Electronic components (Battery , jumper, fuse, push button, switch, rotary switch) ❖ 1-Introduction to Workshop Safety 2- Turning Process and Instrumentation Measures
Week 13,14	❖ Electronic components (Diode , Transistor, Transformer) ❖ 1- Cutting Tools 2-Practical Exercise - Horizontal Turning
Week 15	❖ 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 16	**Final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Encyclopedia of Electronic Components Volume 1 (Charles Platt). 2- J. Smith and E. Johnson, "Electrical Engineering Workshop:Theory and Practice	Yes / online
Recommended Texts		No
Websites		

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

د. هارون عبد الفتاح حسن العميد

رئيس القسم

مدرس المادة