المرحلة: الاولى

الفصل الدراسي: الاول

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Audio Technology**			**Module Delivery**	
Module Type	**Core**			☐**Theory** ☒**Lecture** ☐**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC210020**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	MTCE		**College**	COE	
Module Leader	Aws Jabbar Jassim		**e-mail**	aws.allami@uoitc.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2024		**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 Objectives أهداف المادة الدراسية	Sound engineering involves the artistic and technical control of the sound field and communication with sound and audio systems. This course will develop a theoretical and practical understanding of the fundamentals of sound engineering including recording, mixing, production, and mastering. This will be achieved by theoretically and practically exploring the area of sound engineering through lectures, tutorials, and workshops, developing and analyzing the practice of sound engineering
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• Understand the workflow and roles in sound systems • Understand the principles of editing and enhancing audio technology • Understand the workflow and roles in live sound environments • Identify the different stages of film sound production • Recognize the different roles and responsibilities in film sound departments • Describe the procedure of recording film sound on location • Discuss the workflow in film sound post-production • Discuss the strategies used for the editing of film production sound (location recordings) • Describe the workflow of automated dialogue replacement (ADR) sessions • Discuss the importance of diegetic and non-diegetic sound effects • Elaborate on the importance of film music • Recall health and safety recommendations in live sound environments • Identify the different elements found in live sound audio signal chains
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A - Simple Harmonic Motion</u> Fundamental Definitions, Acceleration (symbol a), Force (symbol F), Mass (symbol m), Density (symbol p), Some examples of periodic events, Mathematical in Simple Harmonic Motion, Circular motion, Velocity v, Acceleration a, Displacement X. [15 hrs.]. <u>Part B - Measurement of Sound</u> Decibel Notation, Types of Sounds, Adding Sound Levels/Spectrum Level, Spectral Analysis, Shaping Spectra, Temporal Factor, Distortion. [15 hrs.]. <u>Part C - Waves and Vibrations</u> Waves are everywhere in nature, What is a wave?, Types of Mechanical Waves, Measuring a Wave, Frequency, Wavelength, Amplitude, Wave speed, Distance, Phases, Displacement. [15 hrs.]. <u>Part D - Digital Audio Principles</u> Digital vs. analog, Decimal, binary, hexadecimal, Sampling theory, A/D conversion, D/A conversion, Sample-rate and bit-depth conversion, DSP techniques, Data reduction. [15 hrs.].

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	There are several strategies that auditory learners can implement to improve their overall learning experience in the workplace. The following are strategies you can use if you're an auditory learner: 1. Play background music Many auditory learners work best when there's background noise as opposed to silence. Background noise, such as music, can help auditory learners concentrate more easily and be more productive. 2. Ask for verbal direction Auditory learners typically understand directions best when they're communicated verbally. 3. Participate in group discussions Individuals who are auditory learners often benefit from group discussions within the workplace. 4. Record meetings If you're an auditory learner and have an important meeting and want to ensure that you don't miss any important, you may record the meeting to listen to again later. Before you record the meeting, ensure that everyone is comfortable being recorded. 5. Read aloud While this strategy may not be appropriate in all work environments, for auditory learners who work in a private area, reading aloud may prove beneficial when trying to remember information.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
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 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Sound Fundamentals** • Brief History of Sound • What meaning of the sound? • Why sound plays an important role in your life?
Week 2	• Speech • Echo • Ultrasound and Infrasound
Week 3	**Simple Harmonic Motion** • Fundamental Definitions • Acceleration (symbol a) • Force (symbol F) • Mass (symbol m) • Density (symbol p) • Some examples of periodic events
Week 4	• Mathematical in Simple Harmonic Motion • circular motion • Displacement, x • Velocity, v • Acceleration, a • Examples
Week 5	**Measurement of Sound** • Decibel Notation • Types of Sounds • Adding Sound Levels/Spectrum Level • Spectral Analysis • Shaping Spectra • Temporal Factors • Distortion

	• Examples
Week 6	**Waves and Vibrations** • Waves are everywhere in nature • What is a wave? • Types of Mechanical Waves • Measuring a Wave
Week 7	Mid-term Exam + **Interference of waves** • Principle of superposition • Constructive interference • Destructive interference • Stationary (standing) waves
Week 8	**Speed of Sound** • What is the origin of sound • sound travel in air • Sound travels in other media • pitch of sound Temperature Conversion
Week 9	**Doppler Effect** • Doppler effect fundamentals • derivation of the Doppler Effect • source and the observer placed
Week 10	• relation between frequency and wavelength • Doppler effect equations • Examples • Exercises
Week 11	**Noise Reduction** • Methods • Dolby • Noise gates • Digital noise extraction
Week 12	**Digital Audio Principles I** • Digital vs. analog • Decimal, binary, hexadecimal • Sampling theory
Week 13	**Digital Audio Principles II** • A/D conversion • D/A conversion • Sample-rate and bit-depth conversion • DSP techniques • Data reduction
Week 14	**Digital Audio in Intelligence Systems**
Week 15	**Digital Audio in VR Environment**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction to Audio Principles
Week 2	Lab 2: Sound and Audio produce devices
Week 3	Lab 3: Digital audio cabling and testing
Week 4	Lab 4: Digital audio sources in TV channels
Week 5	Lab 5: Microphone types and sources
Week 6	Lab 6: PA systems
Week 7	Lab 7: Practical mid exam
Week 8	Lab 8: hybrid – telephone audio connection
Week 9	Lab 9: Audio mixers 1
Week 10	Lab 10: Audio mixers 2
Week 11	Lab 11: Practical experience in a local radio station1
Week 12	Lab 12: Practical experience in a local radio station2
Week 13	Lab 13: Practical experience in a local TV channel1
Week 14	Lab 14: Practical experience in a local TV channel2
Week 15	Lab 15: Practical final exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• Sound System Engineering - Fourth Edition • Don Davis - Eugene Patronis, Jr. - Pat Brown	No
Recommended Texts	Digital Audio Editing Fundamentals - Wallace Jackson	No
Websites	https://www.coursera.org/learn/audio-signal-processing	

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	**Electrical Circuits I**			**Module Delivery**	
Module Type	**C**			☐ **Theory** ☒ **Lecture** ☐ **Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	ITC200031				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		1	**Semester of Delivery**		1
Administering Department		MTCE	**College**	COE	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title		Asst.Lec	**Module Leader's Qualification**		Ms.c.
Module Tutor	Ahsan Jbar		**e-mail**		
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**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. The Electrical Circuits course discusses the basic concepts of circuits and their analysis, the basic laws of circuits which include Ohm and Kirchhoff's Laws, node and mesh analysis methods 2. Problems on Series, Parallel circuits and source transformation 3. Star and Delta Circuits 4. Mesh and Nodal Analysis 5. basic subject for all electrical and electronic circuits. 6. understand Kirchhoff's current and voltage Laws problems. 7. Perform method of analysis like superposition , Thevenin , Norton, and maximum power transfer. 8. The next topic of discussion is the working principle of capacitors and inductors, circuits with resistors or inductors (first order), as well as circuits with resistors, capacitors and inductors (second order) both series and parallel.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understand and apply ohm's law to an electrical circuit. 2. Know and Able to understand and apply the current kirchoff law to an electrical circuit. 3. Understand and apply voltage kirchoff law to an electrical circuit. 4. Identify nodes and supernodes in a chain. 5. Understand and apply node analysis in a series. 6. Solve equations derived from node analysis. 7. Identify the mesh in a series. 8. Understand and apply node analysis in a series. 9. Solve equations derived from mesh analysis. 10. Understand and apply the superposition theorem to a series 11. Understand and apply source transformation in a series. 12. Obtain the equivalent circuit of Thevenin and Norton in a complex circuit. 13. Understand and apply the concept of maximum power transfer in a circuit. 14. Show capacitors, explain capacitance phenomena and mathematical models. 15. Analyze capacitor circuits connected in series or parallel. 16. Show inductors, explain inductance phenomena and mathematical models. 17. Analyze inductor circuits connected in series or parallel.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 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, Introduction to mesh and nodal analysis. [20 hrs]

	AC circuits I – Time dependent signals, average and RMS values. Capacitance and inductance, energy storage elements, simple AC steady-state sinusoidal analysis. [20 hrs] AC Circuits II - Phasor diagrams, definition of complex impedance, AC circuit analysis with complex numbers. [15 hrs] RL, RC and RLC circuits - Frequency response of RLC circuits, simple filter and band-pass circuits, resonance and Q-factor, use of Bode plots, use of differential equations and their solutions. Time response (natural and step responses). Introduction to second order circuits. [20 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
`	1. Fostering an atmosphere of mutual respect and reducing disruptive behavior. 2. Combining online and face-to-face instruction. 3. Having students work in groups to achieve a common goal. 4. Tailoring instruction to meet the needs and abilities of individual students. 5. Providing hands-on and authentic learning opportunities. 6. Monitoring and providing feedback on student learning during the lesson. 7. Using games and simulations to motivate and challenge students. 8. Breaking a larger group into smaller groups, and providing them with a task to complete learners work together without constant direct supervision of the teacher. 9. Develops skills that are important in the workplace, including collaborative skills, working in teams, listening and responding to others.

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

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #3, #4 and #14, #16
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #13
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Ohm's Law Voltage and Current, Electrical Resistance
Week 2	Kirchoff's Laws Delta- Star Connections and Transformations. Analysis of Circuits Containing a Dependent Source
Week 3	Resistance and Resistivity, Ohm's Law and Inductance, Capacitance

Week 4	Review of Kirchhoff's Laws, Circuit Analysis - Nodal and Mesh
Week 5	Source Transformations Thevenin and Norton Equivalents Maximum Power Transfer Super Position
Week 6	The Inductor The Capacitor, Series-Parallel Combinations of Inductance and Capacitance Mutual Inductance
Week 7	Mid-term Exam
Week 8	The Step Response of RL and RC Circuits
Week 9	Nodal and Mesh Revisited, Average Power, RMS, Introduction to Polyphase Circuits
Week 10	Mutual Inductance, Linear and Ideal Transformers, Circuits with Mutual Inductance
Week 11	Frequency Response of Series/Parallel Resonances, High-Q Circuits
Week 12	Complex Frequency, s-Plane, Poles and Zeros, Response Function, Bode Plots
Week 13	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 14	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 15	Two Port Networks, Admittance, Impedance, Hybrid, and Transmittance Parameters
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Working with multi-meter and function generator
Week 2	Lab 2: Measurement of voltage, current and resistance
Week 3	Lab 3: The voltage-Divider Circuit, the Current-Divider Circuit
Week 4	Lab4:Thevenin and Norton equivalents, maximum power transfer and super position I
Week 5	Lab 5: Thevenin and Norton equivalents, maximum power transfer and super position II
Week 6	Lab 6:Working with inductors and capacitors and connecting circuits using these elements
Week 7	Lab 7: RL circuit, RC circuit and their analysis
Week 8	Lab8:Step response of RL and RC circuits
Week 9	Lab9:The natural and step responses of parallel RLC circuit
Week 10	Lab10:The natural and step responses of series RLC circuit

Learning and Teaching Resources مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Electric Circuits, 10th Edition, Nilsson and Riedel, Prentice Hall, 2014	Yes
Recommended Texts	Engineering Circuit Analysis, 8th edition, Hayt and Kimmerly, McGRaw-Hill Education, 2011	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	**Engineering Drawing**			**Module Delivery**	
Module Type	**S**			☐ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**ITC200040**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	MTCE		**College**	COE	
Module Leader	Ola Adel Qasim		**e-mail**	ola.adel@uoitc.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2024		**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 Objectives أهداف المادة الدراسية	▪ To emphasize the importance of drawing as a language for engineers ▪ To develop skills in engineering drawing and drafting. ▪ To develop skills in interpretation of engineering drawings ▪ To develop skills in computer aided drafting and design. To know about different types of projection ▪ To know projection of points ,straight lines, solids etc. ▪ To know development of different types of surfaces. ▪ To know about isometric projection. ▪ Basics of dimensioning ,Lettering& representation of lines ▪ Different lines used for representation of different Engineering Sections. ▪ To know different angle of projection.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	One of the best ways to communicate one's ideas is through some form of picture or drawing. This is especially true for the engineer. An engineering drawing course focuses on usage of drawing instruments, lettering, construction of geometric shapes, etc. Students study use of dimensioning, shapes and angles or views of such drawings. Dimensions feature prominently, with focus on interpretation, importance and accurate reflection of dimensions in engineering drawing. Other areas of study in this course may include projected views and development of surfaces On completion of this course students will be able to: ▪ Prepare and understand drawings. ▪ Identify various D curves used in Engineering Drawing and their applications. ▪ Use the principles of orthographic projections. ▪ By studying about projections of solids students will be able to visualize three dimensional ▪ objects and that will enable them to design new products. ▪ Design and fabricate surfaces of different shapes. ▪ Represent the objects in three dimensional appearances
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A –</u> Review windows-windows explorer create a folder copy move delete rename a file introduction to AutoCAD the drawing editor the layout wizard the command prompt the object properties toolbar [5 hrs] Drawing basics- Lettering, Drawing curves, Filet, Chamfer, Point, Point Type, Divided [5 hrs] Filet, Chamfer, Point, Point Type, Divided, Move, Text, Break Line Type, M-Text, Leader, Hatch, Hatch Scale [8 hrs] Move, Text, Break Line Type, M-Text, Leader, Hatch, Hatch Scale [5 hrs] Dimensioning , Reference Dimensions [7 hrs]

	Part B - Sectioning, Half-Sections [5 hrs] Orthographic Drawings (part 1), Orthographic Drawings (part 2) [5 hrs] Isometric Drawing (part 1), Isometric Drawing (part 2), Assembly Drawing, Cross-Sectional Views. [5 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 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 SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

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

Summative assessment	**Final Exam**	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Review windows-windows explorer create a folder copy move delete rename a file introduction to AutoCAD the drawing editor the layout wizard the command prompt the object properties toolbar
Week 2	Drawing basics- Lettering
Week 3	Drawing curves
Week 4	Filet, Chamfer, Point, Point Type, Divided
Week 5	Move, Text, Break Line Type, M-Text, Leader, Hatch, Hatch Scale
Week 6	Dimensioning
Week 7	Reference Dimensions
Week 8	Sectioning
Week 9	Half-Sections
Week 10	Orthographic Drawings (part 1)
Week 11	Orthographic Drawings (part 2)
Week 12	Isometric Drawing (part 1)
Week 13	Isometric Drawing (part 2)
Week 14	Assembly Drawing
Week 15	Cross-Sectional Views
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Venugopal K. "Engineering Graphics", 9th Edition (Revised), New Age International Publishers, 2009.	Yes
Recommended Texts	Narayana K.L, Kannaiah. P, "Textbook on Engineering Drawing ", 2010.	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
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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.

Code	Course/Module Title	ECTS	Semester
EDW1	Academic English	3	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
0	3	48	27
Description			
One of the best ways to communicate one's ideas is through some form of picture or drawing. This is especially true for the engineer. An engineering drawing course focuses on usage of drawing instruments, lettering, construction of geometric shapes, etc. An engineering drawing is a type of technical drawing that is used to convey information about an object. A common use is to specify the geometry necessary for the construction of a component and is called a detail drawing. Usually, a number of drawings are necessary to completely specify even a simple component. The drawings are linked together by a master drawing or assembly drawing which gives the drawing numbers of the subsequent detailed components, quantities required, construction materials and possibly 3D images that can be used to locate individual items. Although mostly consisting of pictographic representations, abbreviations and symbols are used for brevity and additional textual explanations may also be provided to convey the necessary information			

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**English Language I**			**Module Delivery**	
Module Type	**B**			☐**Theory** ☒ **Lecture** ☒**Lab** ☒ **Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC000031**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	MTCE		**College**	Engineering	
Module Leader	Mustafa Khalid Saleh		**e-mail**	Mksalrawi88@gmail.com	
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**	M.A.	
Module Tutor	----------		**e-mail**	----------	
Peer Reviewer Name	Dr. Jaafar		**e-mail**		
Scientific Committee Approval Date	/06/2024		**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 Objectives أهداف المادة الدراسية	1. To enhance students' listening, speaking, reading, and writing skills in English. Emphasize accuracy, fluency, and comprehension in various contexts. 2. To introduce and reinforce essential grammatical structures and vocabulary necessary for effective communication. Focus on building a solid foundation in English grammar and expanding students' vocabulary range. 3. To enhance students' oral communication skills through various activities such as discussions, presentations, debates, and role-plays. Focus on developing effective listening strategies and improving overall spoken fluency. 4. To encourage students to reflect on their language learning progress, identify areas for improvement, and develop strategies for ongoing language development beyond the course.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate improved proficiency in the English language, including enhanced reading, writing, listening, and speaking skills. 2. Effectively communicate ideas and information in English, both orally and in writing, using appropriate grammar, vocabulary, and discourse markers. 3. Understand and analyze a variety of texts, including academic articles, essays, reports, and literary works, demonstrating the ability to identify main ideas, supporting details, and author's purpose. 4. Produce coherent and well-organized written work, such as essays, reports, and research papers, using appropriate academic writing conventions, including clarity, logical structure, and accurate referencing. 5. Engage in oral communication with fluency and clarity, express opinions, participate in discussions, and deliver presentations effectively in English. 6. Develop self-assessment skills to monitor language progress, identify strengths and weaknesses, and implement strategies for ongoing language improvement beyond the course.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Grammar and Syntax: Parts of speech (nouns, verbs, adjectives, etc.) Verb tenses and forms Sentence structure and word order Articles, pronouns, and determiners Prepositions and phrasal verbs Modals and auxiliary verbs(6lhrs) 2. Vocabulary Development: Building vocabulary through reading and listening

	Synonyms, antonyms, and collocations Idioms and idiomatic expressions(6hrs) 3. Reading Skills and Strategies: Skimming and scanning techniques Understanding main ideas and supporting details Identifying text structure and organization Vocabulary in context (6hrs) 4. Writing Skills: Paragraph writing (topic sentences, supporting details) Coherence and cohesion in writing (an Introduction) Paraphrasing and summarizing (6hrs) 5. Listening and Speaking Skills: Understanding spoken English in various contexts (lectures, conversations, presentations) Listening for main ideas, details, and specific information Participating in discussions and group activities (6hrs)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• Communicative Approach: Emphasize the use of English for real-life communication purposes. Encourage students to engage in meaningful interactions through pair work, group discussions, role-plays, and debates. • Task-Based Learning: Design learning activities that involve completing specific tasks or projects using English. This approach focuses on meaningful and authentic language use while addressing specific learning objectives. • Active Learning: Encourage active participation and engagement through hands-on activities, problem-solving tasks, and interactive exercises. This can include role-plays, and team work. • Technology Integration: Utilize technology tools and resources to enhance language learning. This can include multimedia presentations, online learning platforms, language learning apps, and virtual collaboration tools.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	#1, #4, #6
	Presentations	2	10% (10)	6 and 11	#2, #5
	Daily Activities	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	#3,#4
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	#2,#3,#4
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General Introduction
Week 2	You and me, verb Be, possessive adjectives, Possessive ‘s
Week 3	A good job, Present simple, questions and negatives
Week 4	Work hard play hard, Present simple II, adverbs of frequency
Week 5	Somewhere to live, there is-are, demonstratives
Week 6	Super me, can - can’t, adverbs, was - were - could
Week 7	Life’s ups and downs, past simple, regular, irregular, time expressions
Week 8	Dates to remember, past simple II, questions and negatives

Week 9	Eat in or out, countable vs. uncountable – some any
Week 10	City living, comparative adjectives, superlative adjectives
Week 11	Where on earth are you, in at on, present continuous, present simple (continuous)
Week 12	Going far, going to future, infinitives of purpose
Week 13	Future, it's uses, Conditionals
Week 14	Listening and speaking
Week 15	Reading and Writing (Focus on tenses)
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Liz and John Soars: New Headway, Elementary 4th Edition. Oxford University Press	Yes
Recommended Texts	"English Grammar in Use" by Raymond Murphy: A comprehensive grammar reference and practice book "English Vocabulary in Use" by Michael McCarthy and Felicity O'Dell: A vocabulary book with exercises to expand your word knowledge.	Yes
Websites	• Fun English Games (https://www.funenglishgames.com/) - Fun English Games offers a collection of interactive games and activities designed to help young learners practice vocabulary, grammar, reading, and listening skills. The games are engaging and can make learning English enjoyable. • ESL Games Plus (https://www.eslgamesplus.com/) - ESL Games Plus provides a variety of interactive games and activities designed to help elementary level learners practice English grammar, vocabulary, and reading comprehension. The site offers games for different topics and language areas. • Starfall (https://www.starfall.com/) - Starfall is a popular website that focuses on early reading and phonics skills. It offers interactive activities, songs, and stories that help young learners develop their English reading and pronunciation skills. • Dreamreader (https://dreamreader.net/) - Dreamreader offers a collection of simplified reading passages for English learners. The articles cover a variety of topics and are accompanied by comprehension questions and vocabulary exercises. • English Worksheets Land (https://englishworksheetsland.com/) - English Worksheets Land provides a vast collection of printable worksheets and activities for elementary level English learners. The worksheets cover grammar, vocabulary, reading, writing, and phonics.	

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	**Electronics Physics**			**Module Delivery**	
Module Type	**B**			☐**Theory** ☒**Lecture** ☒**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC210010**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	1		**Semester of Delivery**	1	
Administering Department			**College**	COE	
Module Leader	Fatma N. Jaafer		**e-mail**	fatma.nafaa@uoitc.edu.iq	
Module Leader's Acad. Title	Asst. Professor		**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2024		**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To demonstrate a comprehensive understanding of electronic physics principles in the context of communications engineering. 2. To analyze and design electronic circuits and components for communication systems. 3. Apply theoretical knowledge to the analysis and optimization of communication systems. 4. Develop skills in the measurement and characterization of electronic components
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate a solid understanding of the fundamental principles and concepts of electronic physics. 2. Explain the characteristics and behavior of various electronic components, such as diodes, transistors, and operational amplifiers. 3. Describe the principles and operation of basic electronic circuits, including amplifiers, oscillators, and digital logic gates. 4. Explain the principles of semiconductor physics and its relevance to electronic devices and circuits. 5. Understand the importance of measurement and analysis techniques in electronic circuits.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Introduction to Electronics in Communications Engineering(6) • Overview of electronic physics and its significance in communication systems. • Essential electronic components used in communication systems and their characteristics. 2. Semiconductor Physics and Devices(6) • Crystal structure and energy bands in semiconductors. • Properties and characteristics of diodes and transistors. • Applications of semiconductor devices in communication systems. 3. Amplifiers and Signal Processing(6) • Analysis and design of analog amplifiers. • Amplifier configurations: common-emitter, common-base, and common-collector. • Signal processing techniques in communication systems. 4. Frequency Modulation (FM) and Amplitude Modulation (AM)(6) • Principles and analysis of FM and AM modulation techniques. • Modulation and demodulation circuits for FM and AM signals. • Design and optimization of FM and AM communication systems. 5. Digital Electronics and Communication(6) • Introduction to digital logic gates and Boolean algebra. • Digital modulation techniques: ASK, FSK, PSK, and QAM.

	• Error detection and correction techniques in digital communication. 6. RF and Microwave Electronics(5) • Introduction to radio frequency (RF) and microwave electronics. • Transmission lines, impedance matching, and Smith charts. • Analysis and design of RF amplifiers, mixers, and filters for communication systems. 7. Communication Circuits and Systems(5) • Design considerations for communication circuits and systems. • Analog and digital communication system components. • Design and analysis of communication system blocks. 8. Laboratory Sessions(5) • Hands-on experiments to reinforce theoretical concepts. • Measurement and characterization of communication system components. • Use of electronic instrumentation and simulation software specific to communications engineering.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The Electronic Physics module provides students with a comprehensive understanding of the principles and concepts of electronics. This module aims to introduce students to the fundamental theories and applications of electronic devices and circuits. Through theoretical lectures, practical demonstrations, and hands-on experiments, students will develop a strong foundation in electronic physics, enabling them to analyze and design basic electronic circuits.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Electronics
Week 2	Semiconductor Physics
Week 3	Diodes and Rectifiers
Week 4	Bipolar Junction Transistors (BJTs)
Week 5	Field-Effect Transistors (FETs)
Week 6	Operational Amplifiers (Op-Amps)
Week 7	Digital Electronics
Week 8	Communication Systems
Week 9	RF and Microwave Electronics
Week 10	Analog and Digital Communication
Week 11	Communication Circuits and Systems
Week 12	Wireless Communication
Week 13	Optical Communication
Week 14	Digital Signal Processing (DSP)
Week 15	Integrated Circuits and System Design
Week 16	Preparatory week before the final Exam

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

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Lee, T. H. (2003). The Design of CMOS Radio-Frequency Integrated Circuits. Cambridge University Press.	No
Recommended Texts	Proakis, J. G., & Salehi, M. (2013). Communication Systems Engineering. Pearson.	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Mathematics I**			**Module Delivery**	
Module Type	**B**			☐**Theory** ☒**Lecture** ☒ **Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC200011**				
ECTS Credits	**6.00**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	MTCE		**College**	COE	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Ghuson S. Abed		**e-mail**	Ghsonabed.2019@uoitc.edu.iq	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2024		**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 Objectives أهداف المادة الدراسية	By the end of this course, students will: • The student's knowledge in the field of solving inequalities, drawing functions, how to find their field, as well as finding ends in several ways. Enable the student to know how to find continuity of functions. Study the most important basics of engineering by explaining derivations, integrals and their applications. The second part of this curriculum was to introduce the student to a field in mathematics, which is the important part in scientific and engineering life, which is differential equations of the first and second degree, and to explain several ways through which this type of differential equations can be solved. • Increasing the student's skills in understanding topics through the huge number of examples. • Giving students basic information in mathematics that helps them solve mathematical problems related to engineering, as the student is provided with information, ideas, and concepts related to the specialization, as well as the rationale related to it.

	• Enabling the student to employ the information, ideas and concepts obtained in an applied manner by building a flexible mentality of the student that enables him to absorb all the updates that the specialization is witnessing with the possibility of linking them to his previous practical knowledge.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Realizing the basic concepts, principles and mathematical theories underlying engineering with basic knowledge of general mathematics 2- Establishing a solid mathematical foundation on which to rely on in various mathematical subjects in the later educational stages. 3- Giving a general and comprehensive explanation of the topic of derivations and integrals. 4- Studying and explaining the types of functions, drawing them, how to find ends, and knowing the continuity of the function. 5- Learn how to solve differential equations of the first and second degree. 6- Learn how to solve a linear system. 7- Study of complex numbers. 8- Identify the polar coordinates.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - **Matrix and Determinants** Introduction of matrix, Types of matrices , Matrix Addition and Subtraction, Equal two Matrix, Multiplication of Matrices , Existence of Additive Inverse of Matrix, Transpose of A Matrix, Determinant of A Matrix , Inverse of A Matrix **[3 hrs]** Part B – **Solution of Linear System** Solution of Linear Equations By Gaussin Jordan Elimination Method, The Gauss-Jordan elimination, Method of finding of Inverse Matrix **[3 hrs]** Part C – **Inequalities and Function** Definition of Inequalities, Function (Domain and Range),absolute value properties ,graph of functions., types of function **[6 hrs]** Part D – **Limit and Continuous** Definition of Limit , Definition of Continuous **[3 hrs]** Part E – **Differentiation and their Applications** Derivative Formulas , Derivatives of Trigonometric Functions, Derivative of the Natural Exponential Function, Chain Rule, Implicit Differentiation, Higher order derivatives , Rolle's Theorem, The Mean Value Theorem , Cauchy's Mean Value Theorem , Application of Differentiation. **[6 hrs]** Part F – **Integration and their Applications** Definition of integration, Properties of integration, integration of Trigonometric Functions, The Definite integration, ,Integration by parts, The integration of natural Logarithm, The integration of the fractional function where the derivative, denominator is not exist., Application of Definite Integral, Area under a curve, Area Between two curves **[6 hrs]** Part G - **Ordinary Differential Equations and their Applications** First Order and first degree differential equations, Homogenous differential equations, Linear differential equations, Equations reducible to linear differential equations: Bernoulli's equation, First order and Higher degree differential equation; Clairaut's equation, Second order and first degree linear differential equations with constant coefficient, Second order and first degree linear differential equations with variable coefficient; Cauchy's equations. , Applications in engineering field**[9 hrs]** Part H – **Polar Coordinates** Polar Coordinates, Graphs in polar coordinate ,Symmetric test, Area in polar coordinate, Area between two polar curves , Arc Length of polar curves**[6 hrs]** Part I - **Complex Numbers** Introduction of Complex Numbers , Properties, Roots of complex numbers **[3 hrs]**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in Developing self-potential through numerous tests of course topics. - Application of differential equations in engineering subjects - Applying the solution of linear systems in engineering subjects - Scientific and practical discussions of the content of the lecture

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	102	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	3 and 13	LO #1, #2 and #10,#11,#12
	Assignments	2	5% (5)	8 and 15	LO #6,#7 and #13, #14
	Projects / Lab.	0	0% (0)		
	Report	1	5% (5)	13	All
Summative assessment	**Midterm Exam**	2hr	20% (20)	5 and 12	LO #1,2,3,4 and #6,#7,#8,#9
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Matrix and Determinants
Week 2	Solution of Linear System
Week 3	Part 1: Inequalities and Function
Week 4	Part 2: Inequalities and Function
Week 5	**Mid-term Exam** Limit and Continuous
Week 6	Part 1: Differentiation and their Applications

Week 7	Part 2: Differentiation and their Applications
Week 8	Part 1: Integration and their Applications
Week 9	Part 2: Integration and their Applications
Week 10	Ordinary Differential Equations and their Applications I
Week 11	Ordinary Differential Equations and their Applications II
Week 12	**Mid-term Exam** Ordinary Differential Equations and their Applications III
Week 13	Polar Coordinates I
Week 14	Polar Coordinates II
Week 15	Complex Numbers
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	A binding prepared by me, which contains a full explanation of the course.	No
Recommended Texts	- Erwin Kreyszig, Advance Engineering Mathematics, John Wiley and Sons Inc - Thomas, Finney, Calculus and Analytical geometry Addison-Wesley	No
Websites	Websites specialized in the study of the article.	

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 I**			**Module Delivery**	
Module Type	B			**Theory** **Lecture** **Lab** **Tutorial** **Practical** **Seminar**	
Module Code	ITC000021				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level		1	**Semester of Delivery**		1
Administering Department		MTCE and MCCE	**College**	COE	
Module Leader	Zeena jamal Jabar		**e-mail**	zena.jamal@uoitc.edu.iq	
Module Leader's Acad. Title		Ass. Lecturer	**Module Leader's Qualification**		Ms.c.
Module Tutor	Zeena jamal Jabar		**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Understanding the student of the fundamental principles of computer science, including MS Office, Equip students with the knowledge to analyze and solve computational problems efficiently.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• Word **Processing**: Develop the ability to create, edit, format, and save documents using Microsoft Word. This includes using styles, formatting text, inserting tables, images, and using advanced features like Mail Merge. • Spreadsheet **Management**: Gain proficiency in Microsoft Excel for managing data, performing calculations, creating formulas, generating charts, and using functions and tables. • **Presentation Skills**: Learn to design and deliver effective presentations using Microsoft PowerPoint, including adding text, images, transitions, animations, and multimedia elements.
Indicative Contents المحتويات الإرشادية	Introduction to computer concept of hardware and software with their components concept of Computing data and information connecting input/output devices and the peripherals to CPU. (3) Computer Components: Computer Portions Hardware Parts, I/O Units, Memory Types. Computer Components (Cont.): Basic CPU Components, Computer Ports, Personal Computer, Personal Computer (Features and Types) (6) Operating System and Graphical User Interface GUI: Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques. Operating System and Graphical User Interface GUI(Cont.): 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. (6) Word Processing: Word Processing Basics; Basic Features of Word Processors, Opening and Closing of documents, Text creation and Manipulation; Formatting Text and Paragraphs, Using Templates for Document Creation.Word Processing (Cont.): Creating and Managing Tables, Utilizing Styles and Themes, Spell Check and Grammar Tools, Using Headers and Footers. (6) Spread Sheet: Introduction to Spreadsheet Software, Creating and Formatting Worksheets. Sorting and Filtering Data, Using Formulas and Functions. Spread Sheet (Cont.): Using Formulas and Functions, Using Pivot Tables for Data Analysis, Data Validation and Error Checking, Data Visualization: Creating Charts and Graphs. (6) Presentation Software: Introduction to Presentation Software, Overview of Popular Presentation Tools, creating a New Presentation, Using Templates and Themes, Inserting and Formatting Text and Images, Transition and Animation Effects. Presentation Software (Cont.): Using Speaker Notes and Timers,, Advanced Features:

	Hyperlinks and Action Buttons, Troubleshooting Common Presentation Issues, Future Trends in Presentation Technology. (6) Introduction to Internet and Web Browsers: Computer networks Basic; LAN, WAN; Concept of Internet and its Applications; connecting to internet. Introduction to Internet and Web Browsers (Cont.): World Wide Web; Web Browsing software's, Search Engines; Understanding URL; Domain name; IP Address. Communications and Emails: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration. (18) Introduction to Cloud Computing and Services: Definition of Cloud Computing and its concept, Cloud-Based Office Suites (Office 365 and Google Workspace), Google Docs, Google Sheets, Google Drive, Google Meet.(3)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	it's important to adopt effective strategies to help students master the core tools (Word, Excel, PowerPoint,etc.) and gain practical skills that they can apply in both academic and professional settings.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	28	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	12% (4)	Continuous	3-1
	Online Assignments	1	3% (3)	Continuous	3-1
	Lab.	9	9% (1)	Continuous	3-1
	report	2	6% (3)	Continuous	3-1
	Seminars	1	10% (10)	Continuous	3-1
Summative assessment	Midterm Exam	1hr	10% (10)	9	3-1
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week 1	Introduction to computer concept of hardware and software with their components concept of Computing data and information connecting input/output devices and the peripherals to CPU.
Week 2	Computer Components: Computer Portions Hardware Parts, I/O Units, Memory Types.
Week 3	Computer Components (Cont.): Basic CPU Components, Computer Ports, Personal Computer, Personal Computer (Features and Types)
Week 4	Operating System and Graphical User Interface GUI: Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques.
Week 5	Operating System and Graphical User Interface GUI(Cont.): 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	Word Processing: Word Processing Basics; Basic Features of Word Processors, Opening and Closing of documents, Text creation and Manipulation; Formatting Text and Paragraphs, Using Templates for Document Creation.
Week 7	Word Processing (Cont.): Creating and Managing Tables, Utilizing Styles and Themes, Spell Check and Grammar Tools, Using Headers and Footers.

Week 8	Spread Sheet: Introduction to Spreadsheet Software, Creating and Formatting Worksheets. Sorting and Filtering Data, Using Formulas and Functions.
Week 9	Spread Sheet (Cont.): Using Formulas and Functions, Using Pivot Tables for Data Analysis, Data Validation and Error Checking, Data Visualization: Creating Charts and Graphs+mid term exam
Week 10	Presentation Software: Introduction to Presentation Software, Overview of Popular Presentation Tools, creating a New Presentation, Using Templates and Themes, Inserting and Formatting Text and Images, Transition and Animation Effects.
Week 11	Presentation Software (Cont.): Using Speaker Notes and Timers,, Advanced Features: Hyperlinks and Action Buttons, Troubleshooting Common Presentation Issues, Future Trends in Presentation Technology.
Week 12	Introduction to Internet and Web Browsers: Computer networks Basic; LAN, WAN; Concept of Internet and its Applications; connecting to internet.
Week 13	Introduction to Internet and Web Browsers (Cont.): 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	Introduction to Cloud Computing and Services: Definition of Cloud Computing and its concept, Cloud-Based Office Suites (Office 365 and Google Workspace), Google Docs, Google Sheets, Google Drive, Google Meet..
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to computer concept of hardware and software with their components concept of Computing data and information connecting input/output devices and the peripherals to CPU.
Week 2	Computer Components: Computer Portions Hardware Parts, I/O Units, Memory Types.
Week 3	Computer Components (Cont.): Basic CPU Components, Computer Ports, Personal Computer, Personal Computer (Features and Types)
Week 4	Operating System and Graphical User Interface GUI: Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques.
Week 5	Operating System and Graphical User Interface GUI(Cont.): 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	Word Processing: Word Processing Basics; Basic Features of Word Processors, Opening and Closing of documents, Text creation and Manipulation; Formatting Text and Paragraphs, Using Templates for Document Creation.
Week 7	Word Processing (Cont.): Creating and Managing Tables, Utilizing Styles and Themes, Spell Check and Grammar Tools, Using Headers and Footers.

Week 8	Spread Sheet: Introduction to Spreadsheet Software, Creating and Formatting Worksheets. Sorting and Filtering Data, Using Formulas and Functions.
Week 9	Spread Sheet (Cont.): Using Formulas and Functions, Using Pivot Tables for Data Analysis, Data Validation and Error Checking, Data Visualization: Creating Charts and Graphs+mid term exam
Week 10	Presentation Software: Introduction to Presentation Software, Overview of Popular Presentation Tools, creating a New Presentation, Using Templates and Themes, Inserting and Formatting Text and Images, Transition and Animation Effects.
Week 11	Presentation Software (Cont.): Using Speaker Notes and Timers,, Advanced Features: Hyperlinks and Action Buttons, Troubleshooting Common Presentation Issues, Future Trends in Presentation Technology.
Week 12	Introduction to Internet and Web Browsers: Computer networks Basic; LAN, WAN; Concept of Internet and its Applications; connecting to internet.
Week 13	Introduction to Internet and Web Browsers (Cont.): 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	Introduction to Cloud Computing and Services: Definition of Cloud Computing and its concept, Cloud-Based Office Suites (Office 365 and Google Workspace), Google Docs, Google Sheets, Google Drive, Google Meet..

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1- Graham Brown, David Watson, "Cambridge IGCSE Information and Con Technology", 3rd Edition (2020) 2. Alan Evans, Kendall Martin, Mary Anne Poatsy, "Technology In Action 16th Edition (2020). 3. Ahmed Banafa, ""Introduction to Artificial Intelligence (AI)", 1st Edition 4. Microsoft Office 2019 Step by Step 1st Edition by Curtis Frye & Joan Lambert MITTEE	No
Recommended Texts	الخضر علي الخضر بحاث " أساسيات الحاسوب" MM 2016 الدكتور عادل عبدالنور, "مدخل إلى عالم الذكاء الاصطناعي " 2005	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.

المرحلة: الاولى

الفصل الدراسي: الثاني

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	اللغة العربية 1			**Module Delivery**	
Module Type	B			☒**Theory** ☐**Lecture** ☐**Lab** ☒**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	ITC000041				
ECTS Credits	2.00				
SWL (hr/sem)	50				
Module Level	1		**Semester of Delivery**	الثاني	
Administering Department	Type Dept. Code		**College**	Type Dept. Code	
Module Leader	مأمون يوسف رجب		**e-mail**	mamoun.yousef@uoitc.edu.iq	
Module Leader's Acad. Title	مدرس مساعد		**Module Leader's Qualification**	ماجستير	
Module Tutor	مأمون يوسف رجب		**e-mail**	mamoun.yousef@uoitc.edu.iq	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	15/6/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	*التعرف على أساسيات النحو العربي . *إكساب الطالب المهارة في الكتابة العربية من تصحيح الأخطاء الإملائية، ومعرفة القواعد النحوية والإملائية التي تصون اللسان عن الخطأ، ويفهم الطالب مدى أهمية اللغة العربية وقواعدها في الدراسات الإنسانية وفي كتابة البحوث والتقارير *التعريف بالأدب العربي وفنونه وعصوره القديمة.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. إكساب الطالب المزيد من الثقافة بلغته وهويته العربية وهي لغة القرآن الكريم وإكسابه المزيد من الثقافة الدينية 2. أن يُميز الطالب بين أقسام الكلام وما يتبع ذلك من ضوابط إملائية ونحوية. 3. أن يُفرق الطالب بين همزتي القطع والوصل في اللفظ والكتابة. 4. أن يعرف الطالب القواعد الصحيحة لكتابة الهمزة بالشكل الصحيح. 5. تعريف الطالب بأهم الأخطاء اللغوية الشائعة. 6. تعريف الطالب بالضوابط الإملائية الصحيحة. 7. تعريف الطالب بأحكام العدد من حيث التذكير والتأنيث والإعراب والبناء، تمييز الأعداد . 8. تعريف الطالب بالأدب العربي، وإكسابه ثقافة موجزة بتراث أدبه العربي.
Indicative Contents المحتويات الإرشادية	1 القرآن الكريم- ودوره في ترسيخ اللغة العربية 2 -جمع المذكر السالم 3 -قواعد كتابة الهمزة 4 المثنى 5 -تصويبات لغوية 6 -التفريق بين التاء المربوطة والتاء المفتوحة والهاء في نهاية الكلمة 7 -التفريق بين الياء وحركة الكسرة في مُخاطبة المؤنث 8 -العدد والمعدود 9 -جمع المؤنث السالم 10 -كيف تكتب مقالا 11 -المضاف والمضاف إليه 12 -الأدب العربي

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• إستراتيجية التعلم التعاوني. • إستراتيجية التعلم وجهاً لوجه. • إستراتيجية التعلم عبر الإنترنت. • إستراتيجية التعلم الهجين • تقسيم الطلبة على مجموعات صغيرة لعمل التقارير. • المحاضرات التقليدية. • استخدام منصات التعليم الإلكتروني.(Google class room) • دمج بين التعليم التقليدي والتعليم عبر الإنترنت.

Student Workload (SWL) الحمل الدراسي للطالب موزع على (15) أسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem)	18	**Unstructured SWL (h/w)**	

الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	4	16% (4)	Continuous	1-8
	Online Assignments	4	12% (3)	Continuous	1-8
	seminar	1	6%(6)	Continuous	1-8
	Report	1	6% (6)	Continuous	1-8
Summative assessment	**Midterm Exam**	2hr	10% (10)	Continuous	1-8
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	القرآن الكريم ودوره في ترسيخ قواعد اللغة العربية
Week 2	المبتدأ والخبر
Week 3	الفعل وأنواعه
Week 4	طرق كتابة الهمزة
Week 5	التفريق بين التاء المربوطة والتاء المفتوحة والهاء في نهاية الكلمة
Week 6	التفريق بين التاء المربوطة والتاء المفتوحة والهاء في نهاية الكلمة+الامتحان النصفي
Week 7	علامات الترقيم
Week 8	امتحان شهري+إن وأخواتها
Week 9	الأفعال الناقصة
Week 10	تصويبات لغوية
Week 11	كتابة الألف اللينة
Week 12	المضاف والمضاف إليه
Week 13	التفريق بين الضاد والظاء
Week 14	الأدب العربي
Week 15	الأدب العربي

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts		
Recommended Texts	1-الوجيز في اللغة العربية/ د.محي هلال السرحان 2- جامع الدروس الاملائية / د. فاضل عباس فاضل. 3_ العربية الجامعية لغير المتخصصين/ د. عبده الراجحي	
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	**Computer Programming**			**Module Delivery**	
Module Type	**C**			☐**Theory** ☒**Lecture** ☐**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC200050**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	MTCE		**College**	COE	
Module Leader	Nashwan Dhyaa Zaki		**e-mail**	nashwanalani@uoitc.edu.iq	
Module Leader's Acad. Title	Assist Professor		**Module Leader's Qualification**	Master	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/9/2023		**Version Number**	1.0	

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	"Students are introduced to the use of structured problem solving methods, algorithms, structured programming, and object-oriented programming. Students use a high level programming language to learn how to design, develop, and document well-structured programs using software engineering principles. Students learn the workings of a computer as part of programming. In a laboratory setting, through critical thinking and investigation, students will iteratively design and build a variety of applications to reinforce learning and develop real world competency in Computer Programming. This course is for students who plan to learn basic programming concepts."
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate problem solving skills by developing and implementing algorithms to solve problems. 2. Derive problem specifications from problem statements. 3. Develop algorithms using modular design principles to meet stated specifications. 4. Create code to provide a solution to problem statements ranging from simple to complex. 5. Test and debug programs and program modules to meet specifications and standards. 6. Create programs that contain clear and concise program documentation.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – introduction to Office</u> In this article, we shall discuss at length Microsoft Office, its applications, important notes to prepare for the upcoming examinations and some sample questions and answers for the reference of candidates. . [10 hrs] Introduction to Microsoft word. [5 hrs] Introduction to Microsoft power point. [5 hrs] Introduction to Microsoft Excel. [5 hrs] Revision problem classes. [5hrs] <u>Part B – Introduction to Computer H.W.</u> - This course deals with advanced concepts in the programming. [5 hrs] - interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples. It covers the advanced architecture of modern processors and the many I/O peripherals now commonly found on-board the device. [5 hrs] - Detailed studies of computer I/O and interrupt techniques as applied to analog-to-digital, digital-to-analog, timers, parallel and serial interfaces are included. [5 hrs]

	Laboratory activities provide the student with experience in developing the hardware and software required to incorporate microprocessors into systems that solve real-world interfacing problems. [5 hrs] <u>Part C – programming language fundamentals</u> The chapter titles in the text book are a good indicator of the topics covered in this course: Module 1: Introduction [3 hrs] Module 2: Data and Expressions [3 hrs] Module 3: Using Classes and Objects [4 hrs] Module 4: Conditionals and Loops [3 hrs] Module 5: Writing Classes [3 hrs] Module 6: Arrays [4 hrs] Module 7: Recursion [5 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be Understand the fundamental programming aspects and use of Python programming language. Apply basic object-oriented programming concepts. Design, develop, and document well-structured programs using software-engineering principles. Use problem-solving skills to write software applications. Identify a real-world problem that can be addressed through the design and development of a novel computer application. Reflect on and apply informed conclusions to build on the knowledge gained from earlier applications and feedback received from faculty and peers to build more complex applications as the course progresses.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**

Module Evaluation
تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Microsoft word
Week 2	Introduction to Microsoft Excel.
Week 3	Introduction to Microsoft power point.
Week 4	Revision problem classes.
Week 5	interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples.
Week 6	Detailed studies of computer I/O and interrupt techniques as applied to analog-to-digital, digital-to-analog, timers, parallel and serial interfaces are included.
Week 7	Mid-term Exam + Unit-Step Forcing, Forced Response, the RLC Circuit
Week 8	advanced architecture of modern processors and the many I/O peripherals now commonly found on-board the device.
Week 9	Introduction to Programming language (Python)
Week 10	Data and Expressions
Week 11	Using Classes and Objects
Week 12	Conditionals and Loops

Week 13	Writing Classes
Week 14	Arrays
Week 15	Recursion
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction to Microsoft Office
Week 2	Lab 2: Introduction to Microsoft word
Week 3	Introduction to Microsoft power point & Excel.
Week 4	Revision problem classes.
Week 5	interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples.
Week 6	Detailed studies of computer I/O and interrupt techniques as applied to analog-to-digital, digital-to-analog, timers, parallel and serial interfaces are included.
Week 7	Mid-term Exam + Unit-Step Forcing, Forced Response, the RLC Circuit
Week 8	advanced architecture of modern processors and the many I/O peripherals now commonly found on-board the device.
Week 9	Introduction to Programming language (Python)
Week 10	Data and Expressions
Week 11	Using Classes and Objects
Week 12	Conditionals and Loops
Week 13	Introduction to Microsoft power point.
Week 14	Revision problem classes.
Week 15	interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Python: - The Bible- 3 Manuscripts in 1 Book: -Python Programming For Beginners -Python Programming For Intermediates -Python Programming for Advanced	Yes

Recommended Texts		
Websites	http://WilliamStallings.com/COA/COA7e.html	

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	**Digital System Design**			**Module Delivery**	
Module Type	**Core**			☐**Theory** ☒**Lecture** ☐**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC200020**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	2	
Administering Department	MTCE		**College**	COE	
Module Leader	AHMED ABDULSAHIB HASHIM		**e-mail**	dr.ahmed.hashim@uoitc.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	20/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ITC200021	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Understand and describe the behavior of Flip-Flops, Latches, shift registers and Counters. 2. Be familiar with different concepts of sequential circuits. 3. Describe the configuration and the design and implement sequential circuits. 4. Design and implementation of different synchronous/asynchronous counters 5. Presenting different counter applications 6. Design and implementation of different registers 7. Presenting different registers applications
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize the difference between combinational circuits and sequential circuits 2. Differentiate between different types of flip flops 3. Ability of designing of different sequential circuits like counters 4. Differentiate between different types of registers and how to design them 5. Be familiar with counter applications and registers applications 6. Solve, Design and implementation ability of different real problems
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Sequential circuits Introduction to sequential circuits, flip flops, latches, flip flop truth table, state table, characteristic table, characteristic equation, state table and state diagram of different flip flops (RSFF, DFF, JKFF, TFF), timing diagram and waveforms [30 hrs] COUNTERS Synchronous counters (up, down, truncated, and random, and up/down), asynchronous counters, counter applications [15 hrs] registers introduction to registers, types of registers (SISO, SIPO, PISO, PIPO, bidirectional), registers as a counter (ring and johanson) register applications [30 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 design 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 SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation
تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to sequential circuits
Week 2	RS flip flops and its truth table, characteristic table, characteristic equation, state table and state diagram
Week 3	DFF, JKFF, TFF and their truth table, characteristic table, characteristic equation, state table and state diagram
Week 4	Flip flop application as a memory (storage element – delay) , flip flop as frequency divider, Timing diagram and waveforms
Week 5	Introduction to counters
Week 6	How to design synchronous counter
Week 7	Mid-term Exam
Week 8	More examples on designing synchronous counter (up, down, truncated, random, up/down)
Week 9	Introduction to asynchronous counter
Week 10	How to design asynchronous counter

Week 11	Counters applications
Week 12	Introduction to registers
Week 13	Types of registers (SISO, SIPO, PISO, PIPO, bidirectional SR)
Week 14	Shift register counters (Ring, Johanson), Examples and timing diagram
Week 15	Shift Register applications
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: flip flop I
Week 2	Lab 2: flip flop II
Week 3	Lab 3: flip flop applications (frequency divider)
Week 4	Lab 4: synchronous counter
Week 5	Lab 5: asynchronous counter
Week 6	Lab 6: up/down counter
Week 7	Lab 7: test
Week 8	Lab 8: shift register types
Week 9	Lab9: more on shift register types
Week 10	Lab10: bidirectional shift register
Week 11	Lab11: examine timing diagram and different input conditions
Week 12	Lab12: ring counter
Week 13	Lab13: shift register as a memory
Week 14	Lab14: shift register application
Week 15	Lab15: test

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Digital Fundamentals, 11th Edition , Thomas L. Floyd, 2015.	No
Recommended Texts	1. Digital Design, 6th Edition , M. Morris R. Mano,2013. 2. Digital Principles and Applications , Malvino And Leach, 6th Edition,2001	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Electrical Circuits II**			**Module Delivery**	
Module Type	**C**			☐**Theory** ☒**Lecture** ☐**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	ITC200032				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level		1	**Semester of Delivery**		2
Administering Department		MTCE	**College**	COE	
Module Leader	Noor Moohammed		**e-mail**	Noor_moh@uoitc.edu.iq	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ms.c.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ITC200031	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of 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 mesh and Nodal analysis.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Recognize Generation of Alternating Current, Sinusoidal Current. 2. Discuss Average and Reactive Power . 3. Summarize Calculations in Delta Connection Calculations in Star Connection. 4. Discuss Kirchhoff's Laws, Circuit Analysis - Nodal and Mesh. 5. Describe Linearity and Superposition, Source Transformations, Thévenin and Norton Equivalents. 6. Identify the Laplace Transform (LT). 7. Discuss the Circuit Elements in the s DomainCircuit Analysis in the s Domain. 8. Discuss the The Impulse Function in Circuit Analysis. 9. Explain theFilters
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. ac circuits – Current and voltage definitions, Passive sign convention and circuit elements, Combining resistive, inductive and capacitive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Introduction to mesh and nodal analysis. [20 hrs] AC circuits I – Time dependent signals, average and RMS values. Capacitance and inductance, energy storage elements, simple AC steady-state sinusoidal analysis. [20 hrs] AC Circuits II - Phasor diagrams, definition of complex impedance, AC circuit analysis with complex numbers. [10 hrs] RL, RC and RLC circuits - Frequency response of RLC circuits, simple filter and band-pass circuits, resonance and Q-factor, use of Bode plots, use of differential equations and their solutions. Time response (natural and step responses). Introduction to second order circuits. [15 hrs] Revision problem classes [10 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Fostering an atmosphere of mutual respect and reducing disruptive behavior. 2. Combining online and face-to-face instruction. 3. Having students work in groups to achieve a common goal. 4. Tailoring instruction to meet the needs and abilities of individual students. 5. Providing hands-on and authentic learning opportunities. 6. Monitoring and providing feedback on student learning during the lesson. 7. Using games and simulations to motivate and challenge students. 8. Breaking a larger group into smaller groups, and providing them with a task to complete learners work together without constant direct supervision of the teacher. 9. Develops skills that are important in the workplace, including collaborative skills, working in teams, listening and responding to others.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #8, #9
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All

	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	The Alternating Current Network Generation of Alternating Current, Sinusoidal Current Complex Number
Week 2	Instantaneous Power Average and Reactive Power The RMS Value and Power Calculations
Week 3	Calculations in Delta Connection Calculations in Star Connection
Week 4	Review of Kirchhoff's Laws, Circuit Analysis - Nodal and Mesh
Week 5	Linearity and Superposition, Source Transformations, Thévenin and Norton Equivalents
Week 6	Introduction to the Laplace Transform (LT)
Week 7	Mid-term Exam
Week 8	Circuit Elements in the s Domain Circuit Analysis in the s Domain
Week 9	The Transfer Function The Transfer Function in Partial Fraction Expansions The Convolution Integral
Week 10	Steady-State Response The Impulse Function in Circuit Analysis
Week 11	Filters Low-Pass Filters High-Pass Filters
Week 12	Band-pass Filters Band-reject Filters
Week 13	
Week 14	
Week 15	
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered

Week 1	Lab 1:Calculations of sinusoidal steady-state measurements such as instantaneous, average, and reactive powers
Week 2	Lab 2: methods in frequency domain circuits
Week 3	Lab 3:Norton and Phasor diagrams
Week 4	Lab4:The Node-Voltage in frequency domain circuits I
Week 5	Lab 5: The Mesh-Current Method in frequency domain circuits
Week 6	Lab 6: Voltage and current measurements in Delta and Star connections
Week 7	Lab 7: Representing transfer function in the s-domain using computer software

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Electric Circuits, 10th Edition, Nilsson and Riedel, Prentice Hall, 2014	Yes
Recommended Texts	Engineering Circuit Analysis, 8th edition, Hayt and Kimmerly, McGRaw-Hill Education, 2011	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
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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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Democracy and Human Rights**			**Module Delivery**	
Module Type	**Base**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC000000**				
ECTS Credits	**2.00**				
SWL (hr/sem)	**50**				
Module Level		1	**Semester of Delivery**		2
Administering Department		MCCE	**College**	COE	
Module Leader	Azza Hazem		**e-mail**	azza.hazem@uoitc.edu.iq	
Module Leader's Acad. Title		Asst. Professor	**Module Leader's Qualification**		MS.C
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		16/06/2023	**Version Number**		1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1- تعزيز الوعي الديمقراطي: تهدف المادة إلى تعزيز الفهم العام للمبادئ الأساسية للديمقراطية وحقوق الانسان، مثل حقوق الإنسان، وحرية التعبير، والمساواة، وحوكمة القانون. 2- تعليم المشاركة الفعّالة: تسعى المادة إلى تعليم الطلاب كيفية المشاركة الفعّالة في العمليات الديمقراطية، سواء على المستوى الجامعي أو في المجتمع بشكل عام. وذلك من خلال تعلم مهارات التفاوض، واتخاذ القرارات المشتركة، وحل المشكلات بشكل ديمقراطي. 3-تعزيز الحوار والاحترام المتبادل: تسعى المادة إلى تعزيز الحوار المفتوح والبناء بين الطلاب وتشجيعهم على احترام وتقدير وجهات نظر الآخرين، حتى في حالة اختلاف الرأي. وتهدف أيضًا إلى تعزيز التفاهم المتبادل وقدرة الطلاب على التفاعل مع الآراء المتنوعة. 4-تطوير المهارات الحياتية: تساهم مادة الديمقراطية وحقوق الانسان في تطوير مهارات حيوية للطلاب، مثل التفكير النقدي، والقراءة والكتابة، والبحث، وحل المشكلات، واتخاذ القرارات المستنيرة، والتواصل الفعّال. 5-تعزيز المواطنة النشطة: تهدف المادة إلى تعزيز المواطنة النشطة لدى الطلاب، وتشجيعهم على المشاركة في العمل الجماعي.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	من المتوقع أن تحقق مادة الديمقراطية وحقوق الانسان في الجامعات مجموعة من المخرجات التعلمية للطلاب. وفيما يلي بعض المخرجات المحتملة لهذه المادة: 1. الفهم العميق للمفاهيم الديمقراطية وحقوق الانسان: يمكن للطلاب أن يكتسبوا فهمًا شاملاً لمفاهيم الديمقراطية ومبادئها الأساسية، بما في ذلك حقوق الإنسان، وحرية التعبير، والمساواة، وحوكمة القانون. 2. تطوير مهارات المشاركة الديمقراطية: يمكن للطلاب أن يتعلموا مهارات المشاركة الفاعلة في العمليات الديمقراطية، بما في ذلك القدرة على التفاوض واتخاذ القرارات المشتركة وحل المشكلات بشكل ديمقراطي. 3. تعزيز الحوار والاحترام المتبادل: يمكن للطلاب أن يتعلموا كيفية المشاركة في حوارات بنّاءة ومتعاونة، وتقدير واحترام وجهات نظر الآخرين، حتى في حالة اختلاف الرأي. 4. تطوير المهارات الحياتية: يمكن للطلاب أن يحسنوا مهاراتهم الحياتية المرتبطة بالديمقراطية، مثل التفكير النقدي، والقراءة والكتابة، والبحث، وحل المشكلات، واتخاذ القرارات المستنيرة، والتواصل الفعّال. 5. تعزيز الوعي المواطن: يمكن للطلاب أن يكتسبوا وعيًا أكبر بمسؤولياتهم كمواطنين ودورهم في المجتمع، وتعزيز المواطنة النشطة والمشاركة الاجتماعية.
Indicative Contents المحتويات الإرشادية	يتضمن المقرر التعريف بحقوق الانسان وخصائصها والتعريف بالديمقراطية ومزاياها (6ساعات) كما يتضمن تطبيقات عن حقوق الانسان في الاديان السماوية كالديانة المسيحية واليهودية والشريعة الاسلامية واهم الحقوق التي وردت في القرآن الكريم، فضلا عن بيان ابرز الحقوق التي تضمنها الدستور العراقي لسنة 2005، وما الضمانات التي ضمن تطبيقها وفقا للموثيق الدولية، كما يجب بيان تطبيقات الديمقراطية من خلال التعريف بأنواع الديمقراطية المطبقة في العالم (10ساعات) اما الجانب العملي لمقرر حقوق الانسان والديمقراطية فيتضمن بيان دور المنظمات الدولية لحماية حقوق الانسان كمنظمات الصليب والهلال الاحمر ومنظمة العفو الدولية وغيرهما، اما الجانب التطبيقي للديمقراطية فيقضي بيان كيفية تطبيق الديمقراطية عن طريق العملية الانتخابية (8ساعات) كما يقضي المقرر التعريف بأبرز المصادر التي تعد المرجع الاساس لحقوق الانسان، كما لابد من التعريف بأنواع الانظمة الانتخابية المطبقة في العالم (6ساعات)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	هناك العديد من الاستراتيجيات التي يمكن استخدامها في تدريس وتعلم مادة حقوق الانسان والديمقراطية في الجامعات. وفيما يلي بعض الاستراتيجيات التعليمية المشتركة التي يمكن تطبيقها: 1. المناقشات الجماعية: يمكن تنظيم مناقشات جماعية حول مواضيع حقوق الانسان والديمقراطية مهمة. يتم توجيه الطلاب لتبادل وجهات النظر والمناقشة النقدية بشأن قضايا مثل حقوق الإنسان والتحكم الديمقراطي. ينبغي تشجيع المشاركة الفعّالة واحترام وجهات النظر المختلفة. 2. دراسات الحالة: يمكن استخدام دراسات الحالة لتعريف الطلاب بتجارب حقيقية للديمقراطية في العالم الحقيقي. يتم تحليل حالات مثل الانتخابات، أو تحركات المجتمع المدني، أو حالات انتهاكات حقوق الإنسان، ومناقشة التحديات والمشكلات التي تواجهها. 3. لعروض التقديمية والمنشورات: يمكن للطلاب إعداد عروض تقديمية ومنشورات حول مفاهيم حقوق الانسان والديمقراطية وتطبيقاتها. يمكنهم استخدام الصور والرسوم التوضيحية والأمثلة الواقعية لتوضيح المفاهيم بشكل أكثر وضوحًا وإلقاء الضوء على أمثلة إيجابية للديمقراطية.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

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

Summative assessment	**Final Exam**	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	التعريف بحقوق الانسان وحقوق الانسان في الاديان السماوية
Week 2	حقوق الانسان في الاسلام (حق الانسان في الحياة-حق الانسان في الامن والطمأنينة-الحق في السكن واحترام الحياة الخاصة)
Week 3	حقوق الانسان في الاسلام (الحق في كفالة حرية العقيدة-الحق في حرية الرأي والتعبير-الحق في التعليم-الحق في تولي الوظائف العامة-الحق في العمل-الحق في حرية التنقل والسفر-الحق في اللجوء)
Week 4	خصائص حقوق الانسان
Week 5	مصادر حقوق الانسان
Week 6	ضمانات حقوق الانسان (ضمانات حقوق الانسان في دستور العراق لسنة 2005)
Week 7	ضمانات حقوق الانسان وفقا للمواثيق الدولية
Week 8	الامتحان الشهري 1
Week 9	دور المنظمات الدولية في حماية حقوق الانسان
Week 10	تعريف الديمقراطية ومزاياها
Week 11	انواع الديمقراطية
Week 12	الانتخاب (هيئة الناخبين-المرشحون-تحديد الدوائر الانتخابية)
Week 13	الانتخاب (القوائم الانتخابية –الحملة الانتخابية-التصويت)
Week 14	نظم الانتخاب (الانتخاب المباشر وغير المباشر-الانتخاب الفردي والانتخاب بالقائمة-نظام التصويت الاختياري والاجباري-نظام التصويت السري والعلني)
Week 15	نظم الانتخاب (نظام الاغلبية ونظام التمثيل النسبي-نظام تمثيل المصالح)
Week 16	مراجعة للمنهج قبل الامتحان النهائي

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**

Required Texts	حقوق الانسان والطفل والديمقراطية تأليف: د.ماهر صالح علاوي الجبوري، د.رعد ناجي الجدة، د.رياض عزيز هاي، د.كامل عبد العنكود، د.علي عبدالرزاق محمد، د.حسان محمد شفيق	No
Recommended Texts	المحاضرات المعدة من قبل التدريسي	نعم
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	**Mathematics II**			**Module Delivery**	
Module Type	**B**			☐ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**ITC200012**				
ECTS Credits	**5.00**				
SWL (hr/sem)	**125**				
Module Level		1	**Semester of Delivery**		2
Administering Department		MTCE	**College**	COE	
Module Leader	Name		**e-mail**	E-mail	
Module Leader's Acad. Title		Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Ghuson S. Abed		**e-mail**	Ghsonabed.2019@uoitc.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		01/06/2023	**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ITC200011	**Semester**	One
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	By the end of this course, students will: • The student's knowledge in the field of knowledge of functions with two or more variables, how to find their field, as well as finding goals in several ways. Enable the student to know how to find the continuity of functions with two or more variables. Study the most important basics of engineering by explaining derivations, partial derivations, double and triple integrals and their applications. The second part of this curriculum was to introduce the student to a field in mathematics, which is the important part in scientific and engineering life, which is series and sequences, and how to solve differential equations by series. The third part of the subject is an explanation of algebraic vectors, their calculation and their applications in the

	plane and space, and the fourth part is an explanation of three-dimensional stereoscopic geometry. • Increasing the student's skills in understanding topics through the huge number of examples. • Giving students basic information in mathematics that helps them solve mathematical problems related to engineering, as the student is provided with information, ideas, and concepts related to the specialization, as well as the rationale related to it. • Enabling the student to employ the information, ideas and concepts obtained in an applied manner by building a flexible mentality of the student that enables him to absorb all the updates that the specialization is witnessing with the possibility of linking them to his previous practical knowledge.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Understand the basic concepts, principles and mathematical theories underlying engineering with basic knowledge of general mathematics 2- Establishing a solid mathematical foundation on which to rely on in various mathematical subjects in the later educational stages. 3- Giving a general and comprehensive explanation of the topic of derivations and integrals. 4-Studying functions with two variables and more, and how to find goals and their continuity. 5- Learn about derivations for two or more variables, double and triple integrals and their applications. 6. Explanation of series, sequences, and L'Hôpital's law. 7 -Learn how to solve differential equations using series method. 8 - Study vectors in the plane. 9 - Studying stereoscopic geometry with three dimensions.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - **Calculus of two or more variables** Limits and continuity in Higher Dimensions, properties of limits of functions of two variables ,Continuity ,Partial Derivatives of a function of two variables, implicit partial differenti equation., second order partial derivatives, the mixed derivative theorem, partial derivatives o higher order ,the Chain Rule for functions of two variables ,functions of three variables, functior defined on Surfaces and implicit differentiation. **[6 hrs]** Part B - **Multiple Integrals** Double integral over a bounded nonrectangular region, double Integral as volumes, properties of double Integrals, Fubini's Theorem, triple Integral and properties of triple integrals. **[6 hrs]** Part C – **Sequences and Infinite Series** Geometric and arithmetic Sequence, convergence and divergence, calculating limits of sequences, L'Hopital's rule , Geometric Series, convergence and divergence, repeating decimals. **[9 hrs]** Part D – **Solution of Differential Equations in Series and Special Functions** Solution of differential equation by power series method, idea and technique of the Power Series method, recurrence relation, Legendre's equation, Legendre polynomial function, properties and applications, Bessel's equation, Bessel's function of first and second kind and properties and applications **[6 hrs]** Part E – **Vector Algebra and Calculus** Two and three dimensional vectors, unit vectors, midpoint of a Line segment, scalar products and vector products, Application of vectors: Lines and planes, scalar and vector fields , derivatives , Velocity and acceleration and directional derivatives. **[9 hrs]** Part F – **Three Dimensional Solid Geometry** The straight line; Symmetric and general form, coplanar lines ,shortest distance, sphere, plane section of a sphere by planes, tangent planes and lines to the spheres, right circular cone ,right circular cylinder **[9 hrs]**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students for developing self-potential through numerous tests at the following addresses:- - Application of differential equations in engineering subjects. - Applying the solution of linear systems in engineering subjects. - Scientific and practical discussions of the content of the lecture.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
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)	3 and 10	LO #1, #2 and #8, #9
	Assignments	2	5% (5)	4 and 13	LO #3 and #10,#11,#12
	Projects / Lab.	0	0% (0)		
	Report	1	5% (5)	13	All
Summative assessment	**Midterm Exam**	2hr	20% (20)	5 and 12	LO #1,2,3,4 and #5,6,7,8,9
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Part 1: Calculus of two or more variables
Week 2	Part 2 :Calculus of two or more variables
Week 3	Part 1: Multiple Integrals I
Week 4	part 2: Multiple Integrals II
Week 5	**Mid-term Exam** Part 1 : Sequences and Infinite Series

Week 6	Part 2: Sequences and Infinite Series
Week 7	Part 3 : Sequences and Infinite Series
Week 8	Part 1: Solution of Differential Equations in Series and Special Functions
Week 9	Part 2: Solution of Differential Equations in Series and Special Functions
Week 10	Part 1: Vector Algebra and Calculus
Week 11	Part 2: Vector Algebra and Calculus
Week 12	**Mid-term Exam** Part 3: Vector Algebra and Calculus
Week 13	Part 1: Three Dimensional Solid Geometry
Week 14	Part 2: Three Dimensional Solid Geometry
Week 15	Part 3: Three Dimensional Solid Geometry
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	A binding prepared by me, which contains a full explanation of the course.	No
Recommended Texts	- Erwin Kreyszig, Advance Engineering Mathematics, John Wiley and Sons Inc - Thomas,Finney,Calculus and Analytical geometry Addison-Wesley	No
Websites	Websites specialized in the study of the article.	

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	**Media laws and Ethics**			**Module Delivery**	
Module Type	**S**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC210030**				
ECTS Credits	**2**				
SWL (hr/sem)	75				
Module Level		2	**Semester of Delivery**		4`
Administering Department		MCTE	**College**		EC
Module Leader	Hadeel Hussain		**e-mail**		hadeel.hussain@uoitc.edu.iq
Module Leader's Acad. Title		Assistant lecturer	**Module Leader's Qualification**		msc
Module Tutor	Name (if available)		**e-mail**		E-mail
Peer Reviewer Name		Name	**e-mail**		E-mail
Scientific Committee Approval Date		17/6/2023	**Version Number**		1.0

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

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

Module Objectives أهداف المادة الدراسية	- تنمية الوعي الفكري وبناء الشخصية - تكوين القيم الأخلاقية التي تؤثر بدورها لاحقاً في سلوك الفرد كأفراد صالحين في المجتمع وبيئة العمل . - تطهير النفوس من السلبيات وتحليها بالفضائل ومكارم الأخلاق. - تهذيب الحس الإنساني لدى الفرد. - التعرف على اخلاقيات مهنة الاعلام. - كيفية مواجهة التحديات العامة والغزو الفكري بالاعلام.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. معرفة مفهوم عملية الأتصال ودراسة عناصر العملية الأتصالية 2. الأطلاع على وظائف وسائل الأعلام والتعرف على اهمية كل وظيفة في التاثير على الجمهور 3. التعرف على اخلاقيات العمل الأعلامي وماهي المباديء التي يجب ان يتحلى بها العامل في المؤسسات الأعلامية 4. معرفة المواثيق الأعلامية او مواثيق الشرف المهنية في العمل الأعلامي 5. الأطلاع على المسؤولية الأعلامية في اخلاقيات العمل الأعلامي 6. الأطلاع على القيم الأخلاقية في العمل الأعلامي لأيصال الرسالة الأعلامية باكبر قدر من الحيادية 7. التعرف على ماهو الأعلام الجديد وماهي الضوابط والمعايير التقنية لهذا الأعلام 8. دراسة الممارسة المهنية للأعلام الجديد 9. معرف ايجابيات وسلبيات الأعلام الجديد وماهي الأضافات والأختراقات التي اضافها على الأعلام بشكل عام 10. دراسة الضوابط القانونية والأخلاقية للأعلا م الجديد من خلال دراسة حقوق وواجبات العامليين في المؤسسات الأعلامية في ظل البيئة الألكترونية الجديدة
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. اولاً: اخلاقيات العمل الأعلامي - مقدمة عن مفهوم عملية الأتصال واهم عناصر العملية الأتصالية التي تحدد نجاح الرسالة الاعلامية (4ساعات) - التعرف على التفكير الأخلاقي والمباديء التي يجب ان يتحلى بها الاعلامي 8) ساعات) - والأطلاع على مواثيق الشرف المهنية في المؤسسات الأعلامية وتحديد اهم القيم الأخلاقية التي يجب ان يكون العامل في المؤسسة الأعلامية متبنيها (4ساعات) ثانيا:قوانين الأعلام - الضوابط والمعايير التقنية للأعلام الجديد لتحديد اهم الضوابط التي يجب ان ينتبه لها العامل في المؤسسة الأعلامية بما يتناسب مع خصائص الثورة التكنولوجيا التي اضافها الأنترنت لوسائل الأعلام (8ساعات) - الضوابط الأخلاقية والقانونية للأعلام الجديد وتتمثل بحقوق وواجبات الأعلاميين في البيئة الألكترونية الجديدة (4 ساعات)

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	-في هذه المادة نحاول ايصال مفهوم العملية الأتصالية بشكل عام وكيفية اعداد رسالة اتصالية ناجحة تؤثر في المتلقي من خلال توظيف كل التقنيات لأخراج عمل اعلامي مؤثر ،ومعرفة اهم القوانين التي تحكم العمل الأعلامي والتي يجب ان يحترمها العامل في المؤسسة الأعلامية ،واهم الأخلاقيات التي يجب ان يتحلى بها وتهذيب النفس وفق القيم الاخلاقية لإعداد جيل واعي قادر على اتخاذ القرارات ومعرفة الصواب من الخطأ وعدم التأثر بالظواهر السلبية و المغريات ، والوصول بالطالب الى القدرة على تحليل وتفسير التحولات العالمية ،والتعرف على اهم حقوق وواجبات العامل في المؤسسات الأعلامية .

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	مقدمة - عن مفهوم عملية الأتصال وعناصر العملية الأتصالية
Week 2	استكمال عناصر عملية الأتصال

Week 3	وظائف وسائل الأعلام/الوظيفة الأخبارية ،التوجيه وتكوين المواقف والأتجاهات
Week 4	المواثيق الأخلاقية او مواثيق الشرف المهنية في العمل الأعلامي،مواثيق اللزامية ،مواثيق اختيارية + واجب دراسي
Week 5	المسؤولية الأعلامية في اخلاقيات العمل الأعلامي
Week 6	القيم الأخلاقية في العمل الأعلامي
Week 7	امتحان(1)+ مقدمة عن الضوابط والمعايير التقنية للأعلام الجديد-1-
Week 8	الضوابط والمعايير التقنية للأعلام الجديد-1-/مهارات التحرير الألكتروني
Week 9	الضوابط والمعايير التقنية للأعلام الجديد -1-/مهارات توظيف الروابط التشعبية
Week 10	الضوابط والمعايير التقنية للأعلام الجديد -2-مهارات البحث في الأنترنت
Week 11	الضوابط والمعايير التقنية للأعلام الجديد-2- مهارات التعامل مع صحافة المواطن
Week 12	الممارسة المهنية للأعلام الجديد + واجب دراسي
Week 13	الجوانب الأيجابية والسلبية للأعلام الجديد
Week 14	الضوابط القانونية والأخلاقية للأعلام الجديد
Week 15	حقوق وواجبات الأعلاميين في البيئة الألكترونية الجديدة
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	non
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	اخلاقيات الأعلام وقوانينة،د.ابراهيم السيد حسنين /2015 قوانين واخلاقيات العمل الأعلامي ،د.حسين محمد نصر ،2010	yes
Recommended Texts	التقارير والدوريات والمجلات العامة	yes
Websites	شبكة المعلومات الدولية الأنترنت	

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.

المرحلة: الثانية

الفصل الدراسي: الثالث

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Electronics**			**Module Delivery**	
Module Type	**C**			☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC200070**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	2		**Semester of Delivery**	3	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	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	• Introduce students to the basic principles of electronics devices and circuits: - • To understand the operation of diode and its application. • Learn the physical operation and characteristics of BJT. • Learn the small signal models and use them to analyze the performance of single transistor circuits (BJT). • To understand the characteristics and biasing of Field-Effect Transistors (FET) and Circuits. • Analyze the frequency responses of amplifier circuits, Multistage/Compound and Feedback Amplifiers
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Analysis of characteristics of semiconductor devices and their application in common electronic circuits. Course covers the theory and practical application of diodes, and bipolar junction transistors (BJTs). And introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits using appropriate techniques and test equipment.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>PART A:</u> A diode is a semiconductor device that essentially acts as a one-way switch for current. It allows current to flow easily in one direction, but severely restricts current from flowing in the opposite direction. [20hrs]. A bipolar junction transistor is a three-terminal semiconductor device that consists of two p-n junctions which are able to amplify or magnify a signal. It is a current controlled device. The three terminals of the BJT are the base, the collector, and the emitter. [20hrs] <u>PART B:</u> A Field Effect Transistor (FET) is a three-terminal Active semiconductor device, where the output current is controlled by an electric field generated by the input voltage. FETs are also known as unipolar transistors because, unlike bipolar transistors, FETs only have either electrons or holes operating as charge carriers. FET uses the voltage applied to its input terminal (called the Gate), to control the current flowing from the source to drain, making the Field Effect Transistor a “Voltage” operated device. [20hrs] An amplifier is an electronic device that increases the voltage, current, or power of a signal. Amplifiers are used in wireless communications and broadcasting, and in audio equipment of all kinds. They can be categorized as either weak-signal amplifiers or power amplifiers.[15hrs]

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

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Semiconductors materials and PN junction. • Basic Construction • Essential Characteristics • I-V Characteristic Carve and Current Equation • Resistance Levels • EquivalentCircuits Models)) • Load-Line Analysis
Week 2	Diode Switching Circuits • Basic Concepts Diode applications.
Week 3	Diode Rectifier Circuits Basic Definition Half-Wave Rectifier (HWR) Full-Wave Rectifier (FWRs) A Bridge Full-Wave Rectifier A Center-Tapped (CT) Full-Wave Rectifier
Week 4	Diode Rectifier Circuits Capacitor Fillers Ripple of a Capacitor Filler Diode Clipping Circuits Basic Definition Simple Series (Positive) Clipper Simple Parallel (Negative) Clipper
Week 5	Diode Clamping Circuits Basic Concepts Examples and Exercises
Week 6	Voltage-Multiplier Circuits Basic Concepts

	Voltage Doubler Hall- Wave Voltage Doubler Full -Wave Voltage Doubler
Week 7	Mid-term Exam + Zener Diodes and Applications Zener Diodes AC Voltage Regulators Limiters or Clippers)(DC Voltage Reference DC Voltage Regulators Examples and Exercises
Week 8	Bipolar Junction Transistors (BJTs) Basic Construction Active Region Operation Common-Base (CB) Configuration Transistor Amplification Action Common-Emitter (CE) Configuration Common-Collector (CC) Configuration Transistor Casing and Terminal identification
Week 9	DC Biasing Circuits of BJTs Basic Concepts Standard Biasing Circuits Fixed-Bias Circuit Emitter-Stabilized Bias Circuit Voltage-Divider Bias Circuit Voltage-Feedback Bias Circuit
Week 10	BJT Modeling and AC Equivalent Circuits Basic Concepts The Hybrid (h-parameters) Equivalent Model Gain and Impedance Computation of the Complete Hybrid Equivalent Circuit Types of Hybrid Parameters
Week 11	BJT Small-Signal Analysis I Common-Emitter Configuration Common-Base Configuration Common-Collector (Emitter-Follower) Configuration Examples and Exercises
Week 12	Frequency Response of BJT Amplifiers I - Low-Frequency Response of BJT Amplifiers - Millers Theorem and Its Dual - High-Frequency Response of BJT Amplifiers

	- Circuit (Capacitances) Parameters - hfe (β) Variation
Week 13	Field-Effect Transistors (FETs) - Basic Definitions - A Comparison between FET and BJT Junction Field-Effect Transistor (JFET) - Basic Operation of JFET - JFET Characteristics DC Biasing Circuits of JFETs - Fixed-Bias Configuration - Self-Bias Configuration - Voltage-Divider Bias Configuration Examples and Exercises
Week 14	**JFET Small-Signal Analysis** - Common-Source Configuration - Common-Drain (Source-Follower Configuration) - Common-Gate Configuration **Frequency Response of JFET Amplifiers** - Low-Frequency Response of JFET Amplifiers - High-Frequency Response of JFET Amplifiers
Week 15	**Multistage and Compound Amplifiers I** - Basic Definitions - Cascade Amplifiers - Frequency Response of Cascade Amplifiers - Darlington Amplifiers - Feedback Pair Amplifiers **Feedback Amplifiers** - Feedback Concepts - Feedback Connection Types - Gain with Feedback
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: An introductory lecture with instruments on LAB.
Week 2	Lab 2: Diode Characteristics
Week 3	Lab 3: Rectifier Circuits
Week 4	Lab 4: Clipping Circuits
Week 5	Lab 5: Clamping Circuits
Week 6	Lab 6: The Zener Diode
Week 7	Lab 7: Light Emitting Diodes

Week 8	Lab 8: Characteristics of Bipolar Junction Transistors
Week 9	Lab 9: The Common Emitter Amplifier
Week 10	Lab 10: The Common Base Amplifier
Week 11	Lab 11: The Emitter Follower
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	• Robert L. Boylestad, "Electronic Devices and Circuit theory", Prentice Hall International. (11th Edition) 2012.	Yes
Recommended Texts	Theodore F. Bogart, "Electronic Devices and Circuits", Merrill Publishing Company. (6th Edition) 2003	yes
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electronics circuit .	

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	**Electromagnetic Fields**			**Module Delivery**	
Module Type	**C**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC210050**				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level		UG2	**Semester of Delivery**		3
Administering Department		Media Technology and Communications Engineering	**College**	College of Engineering	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		01/06/2023	**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**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. Introduces and develops knowledge in fundamental electromagnetics by using the basic concepts of electromagnetic theory from a physical and application point of view. 2. Students will learn scientific, mathematical, and engineering principles that enable them to understand fields and waves, in addition to knowing how to use those principles and phenomena. 3. Provide the students with the fundamental principles of electrical energy (electromagnetism). 4. Develop a strong background in electromagnetic theory and understand how to use various mathematical tools to solve Maxwell equations in problems. State several laws and principles of electric, magnetic, and electromagnetic fields.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	This course presents a study of electromagnetic fields and their relationship to problem solving in engineering. Understanding the physical meaning as well as being able to use Maxwell's equations to find field waves, potential waves, energy conservation conditions, and charge conservation conditions. The course of study begins with the development of an understanding of the basics, moves to the integration of the basic knowledge, and proceeds to the ability to use that knowledge to solve electromagnetic field problems.
Indicative Contents المحتويات الإرشادية	Vector analysis, Coulombs law and electric field,(10) Gauss law and divergence, energy and potential(6) Poisson's and Laplace's equations, (6) study magnetic field, magnetic flux, magnetic intensity and Maxwell's Equations.(8)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The primary approach of teaching for this module will be to promote student participation in the exercises while honing and extending their critical thinking abilities. Classes, interactive tutorials, and the consideration of various sorts of straightforward experiments incorporating some sample activities that are appealing to the students will all help to achieve this.

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

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	20% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (0)	-	-
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	15% (15)	7	LO #1 - #7
	Final Exam	3hr	50% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	• Vector Analysis. • Scalars and Vectors. • Vector Algebra. • Vector Component and Unit Vectors. • The Vector field. • The Dot Product. • The Cross Product.
Week 2	• Cartesian Coordinates • Cylindrical Coordinates
Week 3	• Spherical Coordinates • Transformation between coordinates systems
Week 4	• Coulomb's Law and Field Intensity (Part I) • The Experimental Law of Coulomb.

Week 5	• Electric Field Intensity. • Field Arising from A Continuous Volume • Charge Distribution.
Week 6	• Coulomb's Law and Field Intensity (Part II) • Field of line charge. • Field of a sheet of charge.
Week 7	• Electric Flux density. • Gauss's Law. • Application of Gauss's Law (Some Symmetrical Charge Distributions).
Week 8	Mid-term Exam
Week 9	• Divergence and Maxwell first equation. • The vector operator and the Divergence Theorem
Week 10	• Energy and Potential. • Potential Field in Moving A point • Potential Gradient.
Week 11	• Electrical Dipole. • Electric Filed of a Dipole. • Energy Density in the Electrostatic Field.
Week 12	• Conductors and Dielectrics Density. • Current and Current Density. • Continuity of Current.
Week 13	Poisson's and Laplace's Equations
Week 14	• The steady Magnetic Field • Biot-Savart Law • Ampere's Circuital Law. • Ampere's Law Applied to a Long Wire • Curl of Vector Field.
Week 15	• Magnetic Flux and Flux Density. • Maxwell's Equations in Point Form. • Maxwell's Equations in Integral Form.
Week 16	**Preparatory week before the final Exam**

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

Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Engineering Electromagnetics, Eighth edition by William Hayt and John Buck	
Recommended Texts	Elements of Electromagnetics by Matthew N. O. Sadiku	
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.

Code	Course/Module Title	ECTS	Semester
EMF3	Academic English	4	3
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/w)**
2	-	33	67
Description			

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Mathematics 1**			**Module Delivery**	
Module Type	**B**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC200061**				
ECTS Credits	**5.00**				
SWL (hr/sem)	**125**				
Module Level	2		**Semester of Delivery**	3	
Administering Department	MTCE		**College**	ENG	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MAT2	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of differential equations through the application of techniques. 2. To understand the orders and the degrees of differential equations. 3. This course deals with the basic concept of solutions of first order differential equations. 4. To understand second and high order of differential equations. 5. To perform the Laplace and its inverse transform.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. List the various terms associated to the differential equations. 2. Summarize what is meant by the differential equations. 3. Discuss the reaction and involvement of solutions of differential equations. 4. Identify the basic solutions of differential equations and their applications. 5. Discuss the operations of the Laplace transform. 6. Discuss the various properties of differential equations and Laplace transform.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – Differential Equations</u> 1st order differential equation: advance problems solving skills to solve sophisticated applications using first order differential equations [9 hrs.] 2nd order differential equation: [7 hrs.] High order differential equation: [7 hrs.] <u>Part B – Laplace Transform</u> Laplace Transform. Definitions and properties of Laplace Transform, Derivations of basic formulae of Laplace Transform, Inverse Laplace Transform: Definition and standard formulae of inverse Laplace Transform, Theorems on Laplace transform and its inverse, Convolution, and related problems, Applications of Laplace Transform to ordinary differential equations. [12 hrs.] <u>Part C</u> Determinants and Matrices, Line, Surface, and Volume Integrals [10 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 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 SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	77	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	20% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	0	0% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	Introduction – Differential equations and its applications, order, degree, linear and nonlinear.
Week 2	1st order differential equation, sparable solutions
Week 3	1st order differential equation, linear solutions
Week 4	1st order differential equation, Homogenous solutions
Week 5	1st order differential equation, Exact solutions
Week 6	2nd order differential equation: Homogenous and nonhomogeneous, using Matrix solution
Week 7	2nd order differential equation: Homogenous and nonhomogeneous, using particle solution
Week 8	High order differential equation: Homogenous and nonhomogeneous
Week 9	Laplace Transform
Week 10	Inverse Laplace Transform
Week 11	Ordinary differential equation using Laplace Transform
Week 12	Determinants and Matrices 1
Week 13	Determinants and Matrices 2
Week 14	Line, Surface, and Volume Integrals 1
Week 15	Line, Surface, and Volume Integrals 2
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	

Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	E. Kreszig, "Advance Engineering Mathematics", Willey, New York	Yes
Recommended Texts		
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Statistics and Probability			**Module Delivery**	
Module Type	B			☒Theory ☐Lecture ☐ Lab ☐Tutorial ☐Practical ☐Seminar	
Module Code	ITC200080				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level	2		**Semester of Delivery**	3	
Administering Department	MTCE		**College**	EC	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	18/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MAT 2	**Semester**	3
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. Providing the student with statistical information in support of his cognitive aspect. 2. Introducing students to the methods of applying statistical laws and obtaining results. 3. Benefit from the application of statistical laws in engineering applications
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. Enabling students to obtain knowledge and introduction to statistics 2. Enabling students to obtain knowledge in the use of statistical laws 3. Understand the laws of probability and probabilistic theories 4. Enabling students to apply the laws of statistics and probability in engineering applications 5. Enabling students to apply statistical methods in their graduation research 6.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A - statistics 1- Data – which includes graphical and numerical summaries to describe the distribution of a variable, or the relationship between two variables [10 hrs] 2- Data production to learn how to design good surveys and experiments, collect data from samples that are representative of the whole population, and avoid common sources of biases 3- Produce graphical representations of data 4- Produce numerical summary measures for data [10 hrs] Part B – Probability 1- Able to compute and interpret probability of events [5] 2- Graph data samples to represent data and results. [10] 3- Using probability and the properties of numerical summaries computed from a random samples and Describe probability distributions for certain types of random variables [10 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: - Providing students with general knowledge in statistics Applying the knowledge acquired by students in solving statistical problems and Benefiting from what students have learned in processing their graduation research data statistically

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	27	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction : Population and sample - Why use sample data - Types of samples
Week 2	Descriptive Statistics Vs Inferential Statistics Simple Random Samples
Week 3	Data Types - Qualitative random variables - Quantitative random variables

Week 4	Data presentation - Pie Charts - Bar Chart - Histograms
Week 5	Descriptive data: Measures of Central Tendency Arithmetic Mean . The Mode Mode for ungrouped data Mode for grouped data
Week 6	The Median Median for ungrouped data Median for grouped data . Range
Week 7	Variance Standard deviation Coefficient of variation
Week 8	Mid-term Exam
Week 9	Correlation and regression
Week 10	Probability Introduction Definition Approaches to probability theory
Week 11	Basic probability concepts Types of events Laws of probability
Week 12	Types of probabilities Conditional probability Tree diagram
Week 13	Counting rules Multiplication Rule Permutations Combinations
Week 14	Probability Distributions Discrete probability distributions. Bernoulli distribution Binomial distribution Poisson distribution
Week 15	Continuous probability distributions The Normal distribution The standard normal distribution
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Non
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Probability and Statistics Michael J. Evans and Jeffrey S. Rosenthal	Yes
Recommended Texts	Introduction to descriptive and parametric statistic with R., Antoine Tordeux.	No
Websites	20+ Statistics Books for Free! [PDF] | InfoBooks.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.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Video Technology**			**Module Delivery**	
Module Type	**C**			☒**Theory** ☐ **Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC210060**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	2		**Semester of Delivery**	3	
Administering Department	MTCE		**College**	COE	
Module Leader			**e-mail**	.murtdha@uoitc.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	18/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	AUT2	**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 improve students' knowledge in video signals. 2. To improve skills of specifying problems of video signal. 3. To understand display devices and how they work. 4. To understand film projectors technology. 5. To distinguish between all video signals types 6. To distinguish and understanding color spaces. 7. To understand photo and video camera technology
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Color spaces & Video Formats (PAL, NTSC, SECAM) 2. Scanning theory. 3. Composite video technology. 4. Discuss CRT monitors technology. 5. Discuss LCD (liquid crystal display) 6. Discuss LED 7. Discuss Plasma Monitors 8. List various types of video projectors. 9. Optical film projector explanation 10. Discuss Optical camera system 11. Discuss CCDs 12. Discuss all cameras factors
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – Basics of Video Signals</u> Video Formats (PAL, NTSC, SECAM), Scanning Technology (Interlace, Progressive), Color spaces (RGB, YUV, YCrCb), Video Color Encoding, Video Modulation, Composite Video, Aspect Ratio, video circuits. [20 hr] <u>Part B – Display Devices</u> Cathode Ray Tube (CRT) Monitors, Liquid Crystal Display, Plasma Display, Digital Light Processor Display (DLP), Light Emitting diode Display (LED), Cinema Projector. [20 hr] <u>Part C – Camera Fundamentals</u> Optical System (Angle of View, Light Color & Temperature, color conversion Filters, Chromatic Aberration, Depth of Field, Focal length, flare, F-Number, Iris, Lense Modulation Transfer Function, Zoom). Photoelectric System (Charge Couple Device, Photo-electric Effect, Efficiency, Meal Oxide Semiconductor, Charge Transfer Mechanism, CCD scanning Format, CCD Architecture, colors in CCDs, Sensitivity, Speed, Resolution). [20 hr]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering types of simple experiments involving some sampling activities that are interesting to the students. In addition, practical skills can be gained through participation activities like live events.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	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	10% (10)	5 and 10	LO #1, #4 and #11, #12, #13
	Assignments	2	10% (10)	2 and 12	LO #6, #7, #8, #9
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #6, #7, #8, #9
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #9
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Video Formats (PAL, NTSC, SECAM), Scanning Technology (Interlace, Progressive),
Week 2	Color spaces (RGB, YUV, YCrCb) Video Color Encoding,
Week 3	Video Modulation, Composite Video, Aspect Ratio
Week 4	video circuits
Week 5	Cathode Ray Tube (CRT) Monitors, Liquid Crystal Display,
Week 6	Plasma Display, Digital Light Processor Display (DLP),
Week 7	Light Emitting diode Display (LED) Cinema Projector.
Week 8	Mid Term Exam, cinema projector
Week 9	Cinema projector, Camera's fundamentals, camera Optical System
Week 10	Angle of View, Light Color & Temperature, color conversion Filters,
Week 11	Chromatic Aberration, Depth of Field, Focal length, flare.
Week 12	F-Number, Iris, Lense Modulation Transfer Function, Zoom
Week 13	Photoelectric System, Charge Couple Device, Photo-electric Effect, Efficiency, Meal Oxide Semiconductor
Week 14	Charge Transfer Mechanism, CCD scanning Format
Week 15	CCD Architecture, colors in CCDs, Sensitivity, Speed, Resolution
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Video format setting
Week 2	Lab 2: Waveform and video signal control
Week 3	Lab 3: video signal examines and connections
Week 4	Lab 4: studio project connections
Week 5	Lab 5: studio project connections
Week 6	Lab 6: studio project connections
Week 7	Lab 7: studio project connections
Week 8	Lab 8: studio project connections
Week 9	Lab 9: studio project connections

Week 10	Lab 10: camera control unit
Week 11	Lab 11: camera control unit
Week 12	Lab 12: camera control unit
Week 13	Lab 13: camera control unit
Week 14	Lab 14: camera control unit
Week 15	Lab 15: camera control unit

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Broadcast Engineer's Reference Book, **Tozer, EPJ 2004**	Yes
Recommended Texts	Standard Handbook of Broadcast Engineering, Jerry C Whitaker 2005	yes
Websites		

Grading Scheme
مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Web Design**			**Module Delivery**	
Module Type	**E**			☐ **Theory** ☒ **Lecture** ☐**Lab** ☒ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**ITC210040**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	3		**Semester of Delivery**	5	
Administering Department	MTCE		**College**	COE	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CPR2	**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	**Upon successful completion of this course, students should be able to:** • **Design and develop a Web page using HTML, CSS with JavaScript.** • **Design and develop a Web site using text, images, links, lists, and tables for navigation and layout** • **Style the page using CSS, internal style sheets; create Forms and external style sheets.** • **Create advanced web applications and services through client and server side programming and relational database technology.**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. **Web Engineering introduces a structured methodology utilized in software engineering to Web development projects. The course addresses the concepts, methods, technologies, and techniques of developing Web sites that collect, organize and expose information resources. Topics covered include requirements engineering for Web applications, design methods and technologies, interface design, usability of web applications, accessibility, testing, and operation of Web applications. Specific technologies covered in this course include client-side (HTML, JavaScript, and CSS) and server-side (Java Server Pages) with Database.**
Indicative Contents المحتويات الإرشادية	**Indicative content includes the following.** **Part A -** **Introduction –** **HTML & CSS, Creating basic HTML file, Publishing Web Content, Understanding HTML and XHTML Connections, Create and validate basic HTML file, : Learning how to use Stylesheet and HTML together** **Learning how to work with fonts, texts, table, and lists in HTML** **Learning how to use the external and internal files, Advance HTML, Learn basic JavaScript files** **[25 hrs]** **Getting Started with JavaScript Programming,** **Learn how to use JavaScript variable, string and arrays, Using JavaScript Variables, Strings, and Arrays** **Using Variables, learn how to use the functions, condition and loop of JavaScript** **[15 hrs]** **Java Server Pages, learn how to use Java Server Pages** **[20 hrs]** **Part B - MySQL Database Connection in JSP** **[5 hrs]** **Midterms [5hrs}** **Revision problem classes [5 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 programming, 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 SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	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 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Introduction** – HTML & CSS
Week 2	**Publishing Web Content** - A Brief History of HTML and the World Wide Web - Creating Web Content - Understanding Web Content Delivery - Selecting a Web Hosting Provider - Testing with Multiple Web Browsers - Creating a Sample File Distributing Content Without a Web Server
Week 3	**Understanding HTML and XHTML Connections** - Getting Started with a Simple Web Page - HTML Tags Every XHTML Web Page Must Have - Organizing a Page with Paragraphs and Line - Breaks - Organizing Your Content with Headings - Validating Your Web Content The Scoop on HTML, XML, XHTML, and HTML5
Week 4,5	**Advance HTML** - Understanding Cascading Style Sheets - Working with Fonts, Text Blocks, and Lists - Using Tables to Display Information - Using External and Internal Links - HTML form
Week 6	**Getting Started with JavaScript Programming** - Basic Concepts - JavaScript Syntax Rules - Using Comments Best Practices for JavaScript
Week 7,8	**Using JavaScript Variables, Strings, and Arrays** **Using Variables** - Understanding Expressions and Operators - Data Types in JavaScript - Converting Between Data Types - Using String Objects - Working with Substrings - Using Numeric Arrays - Using String Arrays Sorting a Numeric Array
Week 9	Mide1
Week 10	**Java Server Pages** - The Servlet API - JSP syntax and scripting elements - Session management - The Expression Language - JavaServer Pages Standard Tag Library (JSTL) -
Week 11,12	- Custom tags and tag files - Filters and listeners - Application design - Connection pooling - Dependency injection

	- File upload and programmatic file download - Asynchronous processing -
Week 13	- Security - Deployment and the deployment descriptor - Dynamic registration Servlet container initializers
Week 14	**MySQL Database Connection in JSP** - Create Database JSP Database Connection: Select, Insert, Update and Delete
Week 15	Mide2
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Creating basic HTML file
Week 2	Lab 2: Create and validate basic HTML file
Week 3,4	Lab 3,4: Learning how to use Stylesheet and HTML together Learning how to work with fonts, texts, table, and lists in HTML Learning how to use the external and internal files
Week 5	Lab 5: Learn basic JavaScript files
Week 6	Lab 6: Learn how to use JavaScript variable, string and arrays
Week 7,8	Lab 7,8: Learn how to use the functions, condition and loop of JavaScript
Week 9	Lab 9:Mid
Week 10,11	Lab 10,11: Learn how to use Java Server Pages
Week 12,13	Lab12,13 : Learn how to use Java Server Pages
Week 14	Lab 14 : Learn how to use MySQL Database Connection in JSP
Week 15	Mid
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	**Denise M. Woods and William J. Dorin., HTML and CSS: Comprehensive 7th edition, by by Publisher: Cengage Learning, 2012.**	/

Recommended Texts	**Kogent Learning Solutions Inc.,Web Engineering and Technology, WILAY,2007.** **Budi Kurniawan, Servlet and JSP: A Tutorial, 2012.**	/
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	**Crimes of the Baath regime in Iraq**			**Module Delivery**	
Module Type	**B**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC000010**				
ECTS Credits	**2.00**				
SWL (hr/sem)	**50**				
Module Level		1	**Semester of Delivery**		1
Administering Department		MCCE	**College**	جامعة تكنلوجيا المعلومات والاتصالات/كلية الهندسة	
Module Leader	Rouaa Mohammed Saab		**e-mail**	Rouaa.saab@uoitc.edu.iq	
Module Leader's Acad. Title		assistant Lecturer	**Module Leader's Qualification**		MS.C
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		16/06/2023	**Version Number**		1.0

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

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	الأهداف المعرفية 1-فهم تأثير الجريمة على الضحايا واحتياجات الضحايا. 2-فهم العنف القائم على أساس العرق والدين والقومية باعتباره انتهاكا لحقوق الانسان الأهداف المهاراتية الخاصة بالمقرر 1-تمكين الطالب اكتساب مهارات النقاش والحوار والاستماع وتقبل اراء الاخرين 2-تعزيز الوعي للمواطن المهارات العامة والتأهيلية 1-اكتساب المعرفة التاريخية للاحداث والوقائع التي حدثت في زمن النظام السابق والتي تعمل على زيادة الواعز الإنساني للطلبة .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	من المتوقع أن تحقق مادة جرائم نظام البعث : 1-التعرف على القوانين الوطنية والدولية المتعلقة بجرائم الأنظمة الشمولية والانتهاكات التي ارتكبها نظام البعث 2-معرفة كيفية تصنيف الجرائم مثل (جرائم حرب ,جرائم ضد الإنسانية ,الإبادة الجماعية). 3-تحليل السياقات التاريخية والسياسية التي أدت الى وقوع هذه الجرائم . 4-فهم اليات المحاسبة القانونية للافراد المتورطين في الجرائم 5-مناقشة دور المصالحة والعدالة الانتقالية في بناء مجتمعات مستقرة بعد سقوط الأنظمة الشمولية 6-القدرة على تطبيق المفاهيم القانونية في حالات مشابهة 7-التفكير في كيفية منع وقوع مثل هذه الجرائم في المستقبل .
Indicative Contents المحتويات الإرشادية	يتضمن المقرر التعريف بمفهوم الجرائم واقسامها /جرائم نظام البعث وفق قانون المحكمة الجنائية العراقية العليا عام 2005(2ساعات) كما يتضمن أنواع الجرائم الدولية /القرارات الصادرة من المحكمة الجنائية العليا (2ساعات), والجرائم النفسية والاجتماعية واثارها , وابرز انتهاكات النظام البعثي في العراق (2ساعات) الجرائم البيئية لنظام البعث في العراق /التلوث الحربي والاشعاعي وانفجار الألغام (2ساعات) تدمير المدن والقرى (سياسة الأرض المحروقة)(2ساعات) تجفيف الاهوار(2ساعات) تجريف بساتين النخيل والأشجار والمزروعات (2ساعات) جرائم المقابر الجماعية /احداث مقابر الإبادة الجماعية المرتكبة من النظام البعثي في العراق (2ساعات) التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة 1963-2023 (2 ساعات)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	هناك العديد من الاستراتيجيات التي يمكن استخدامها في تدريس وتعلم مادة جرائم نظام البعث في الجامعات. وفيما يلي بعض الاستراتيجيات التعليمية المشتركة التي يمكن تطبيقها: 1. المناقشات الجماعية: من الممكن تنظيم مناقشات مفتوحة حول سياسات النظام وتأثيرها على حقوق الانسان ,يمكن للطلاب ان يناقشوا أسباب وتبعات الجرائم التي ارتكبها النظام . 2. لعروض التقديمية والمنشورات: يمكن عرض أفلام وثائقية عن فترة الحكم والجرائم التي ارتكبها ,ممايساعد الطلاب على الارتباط بالواقع التاريخي .

	3. دراسة حالات :عرض حالات محددة من الجرائم التي ارتكبها النظام وتحليلها من جميع الزوايا القانونية والسياسية والإنسانية 4. محاضرات حضورية.	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	20% (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	جرائم نظام البعث وفق قانون المحكمة الجنائية العراقية العليا عام ٢٠٠٥/مفهوم الجرائم وأقسامها
Week 2	انواع الجرائم الدولية/القرارات الصادرة من المحكمة الجنائية العليا
Week 3	الجرائم النفسية والاجتماعية
Week 4	اليات الجرائم النفسية
Week 5	أثار الجرائم النفسية، وأبرز انتهاكات النظام البعثي في العراق
Week 6	الجرائم الاجتماعية
Week 7	عسكرة المجتمع و بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث
Week 8	الامتحان الفصلي
Week 9	الجرائم البيئية لنظام البعث في العراق/التلوث الحربي والإشعاعي وانفجار الألغام
Week 10	تدمير المدن والقرى (سياسة الأرض المحروقة) -
Week 11	تجفيف الأهوار
Week 12	تجريف بساتين النخيل والأشجار والمزروعات
Week 13	جرائم المقابر الجماعية
Week 14	احداث مقابر الإبادة الجماعية المرتكبة من النظام البعثي في العراق
Week 15	التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة 1963-2023
Week 16	مراجعة للمنهج قبل الامتحان النهائي

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	جرائم نظام البعث في العراق/مقرر دراسي للجامعات الحكومية والأهلية صادر عن وزارة التعليم والبحث العلمي	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.

المرحلة: الثانية

الفصل الدراسي: الرابع

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Linear Algebra			**Module Delivery**	
Module Type	**B**			☐**Theory** ☒**Lecture** ☒**Lab** ☒**Tutorial** ☒**Practical** ☒**Seminar**	
Module Code	**ITC200100**				
ECTS Credits	4				
SWL (hr/sem)	**100**				
Module Level	3		**Semester of Delivery**	5	
Administering Department	MTCE		**College**	COE	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Mathematics II	**Semester**	3
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 provide a working understanding of matrices and vector spaces for later modules to build on and to teach students practical techniques and algorithms for fundamental matrix operations and solving linear equations.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of the **module**, students are expected to be able to: 1. Master matrix arithmetic 2. Perform row-reduction of matrices to row-reduced echelon form 3. Solve linear systems using row-reduction of matrices and Cramer's Rule 4. Compute determinants of matrices 5. Compute matrix inverses 6. Compute the eigenvalues and eigenvectors of square matrices 7. Diagonalizable a non-deficient matrix 14. Give coordinates of a vector with be able to apply to finding solutions to **linear** equations
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – - Basic concepts and definition of matrices and their types - arithmetic operations on matrices (addition, subtraction, multiplication) and properties on those operations. The effect of the matrix and its applications in calculations [10 hrs] - Finding Determinants for Large Arrays - Properties of Determinants - Inverse of Matrices (Using Initial Transformations - Ellipsis for Kaus) - Properties of Matrices Inverse [15] Part B: complex number - Complex numbers and calculations on them with their properties Describe probability distributions for certain types of random variables Methods for Solving Systems of Hetero linear Equations Using Kaus, Kaus, Gordon, and Kramer Method When the Determinant of a Matrix is Not Equal to Zero [10 hrs] - Definition of Euclidean space and some of its theories - Definition of linear structure, Euclidean length and Euclidean distance between two vectors in Euclidean space - Finding distinctive roots and characteristic vectors [10hours]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: - Encourage students to participate in exercises, while at the same time improving and expanding critical thinking skills. This will be achieved through interactive classes and tutorials and by looking at simple types of experiments that include some sampling activities of interest to students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**100**		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Systems of Linear Equations, Guassian and Gauss-Jordan Elimination
Week 2	Matrix Arithmetic and Properties Symmetric Matrices
Week 3	Inverse of a Matrix
Week 4	Determinants
Week 5	Properties and Applications of Determinants
Week 6	Vector Spaces
Week 7	Subspaces

Week 8	Spanning Sets, Linear Independence, Bases, and Dimensions
Week 9	Mid-Course Examination
Week 10	Rank, Row Space, Column Space, Coordination, and Change of Basis
Week 11	Length and Dot Product for Real Vectors and an Introduction to Inner Product Spaces
Week 12	Orthonormal Bases, the Gram-Schmidt Process, and Cross Product
Week 13	Linear transformations and Their Kernals and Ranges
Week 14	Matrices for Linear Transformations, Transition Matrices, and Similarity
Week 15	Eigenvectors, Eigenvalues, and Diagonalization
Week 16	**Preparatory week before the final Exam**

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

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Ron Larson. Elementary Linear Algebra. Eighth edition. Boston: Cengage Learning, 2017. ISBN-13: 978-1-305-65800-4	Yes
Recommended Texts	**Introduction to Linear Algebra, Sixth Edition Gilbert Strang.** WELLESLEY-CAMBRIDGE PRESS Box 812060 Wellesley MA 0248. **.(2023)** **(gilstrang@gmail.com)** **ISBN : 978-17331466-7-8**	**No**
Websites	6 Best Linear Algebra Textbooks (2022 Review) - Best Books Hub	

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	**Communication Fundamentals**			**Module Delivery**	
Module Type	**C**			☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	ITC210070				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level	UGII		**Semester of Delivery**	FOUR	
Administering Department	MTCE		**College**	ENG	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MAT1+ECT2	**Semester**	1,2
Co-requisites module	NON	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	Beyond strong technical knowledge, engineering employers place a high value on other critical engineering competencies such as personal effectiveness and academic and workplace skills. Engineers with strong communication skills can position themselves for leadership roles, using those skills to effectively manage and motivate teams and train individuals in lean development processes or new software programs. Additionally, engineers are responsible for inspiring confidence in their ideas; this requires communication skills to sell their products or designs. Engineering communication skills, including active listening, negotiation, and clarity, are useful in key engineering design stages. Below are a few examples of the benefits of having strong communication skills
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. - Upon completion of the subject, students will be able to: - Describe the principles and conventional representation of engineering drawings according to engineering standards and be able to use it as a medium in technical communication and documentation with application, modelling and practice with application in communication and electrical engineering; - Be able to represent information as time-domain or frequency-domain functions with an understanding of the equivalence between these domains - Understand the operation of analogue and digital communication systems in the time-domain and the frequency-domain - Understand the basic theory and operation of analogue communication systems, e.g. AM and FM modulation - Understand the fundamentals of digital communication systems, especially baseband signaling, digital modulation - Be able to analyses and design simple analogue/digital communications systems
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A - Theory</u> Introduce the student to basic concepts and fundamental theories, introduction to communication system ,channel: Signal Classification and Characteristics Introduction To Wave Propagation, Multipath [15 hrs] Describe and analyze the mathematical techniques of generation, transmission and reception of amplitude modulation (AM), frequency modulation (FM) and phase modulation (PM) signals. Introduction To Fourier Transform, Filters And Bandwidth [10 hrs]

	Analog Communication, Amplitude Modulation System, AM-DSB-SC (Mod/Demod) AM-SSB & AM-VSB(Modulation-Demodulation), FDM, Frequency Conversion. [10 hrs] . FM: Introduction, NBFM, WBFM, Spectrum Plotting Using Bessel Function ,Power In FM, FM Generation : Direct (VOC)And Indirect Method (Armstrong), FM Detection : Discriminator, Zero Crossing Detector, PLL [10 hrs] Revision problem classes [3 hrs] Part B - Introduction Noise Sources, Mathematical Representation Of Noise ,Noise Figure Thermal Noise ,White And Filtered Noise , Noise In Multistage System. [15 hrs] NOISE & SNR IN :AM (DSB/SSB/NORMAL AM), FM NOISE REDUCTION IN FM USING EMPHASIS [12 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 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 SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	97	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduce the student to basic concepts and fundamental theories, introduction to communication system ,channel: Signal Classification and Characteristics
Week 2	Introduction To Wave Propagation, Multipath
Week 3	Describe and analyze the mathematical techniques of generation, transmission and reception of amplitude modulation (AM), frequency modulation (FM) and phase modulation (PM) signals.
Week 4	Introduction To Fourier Transform, Filters And Bandwidth
Week 5	Analog Communication, Amplitude Modulation System, AM-DSB-SC (Mod/Demod)
Week 6	AM-SSB & AM-VSB(Modulation-Demodulation), FDM, Frequency Conversion
Week 7	FM: Introduction, NBFM, WBFM
Week 8	Spectrum Plotting Using Bessel Function ,Power In FM
Week 9	FM Generation : Direct (VOC)And Indirect Method (Armstrong)
Week 10	FM Detection : Discriminator, Zero Crossing Detector, PLL
Week 11	Introduction Noise Sources, Mathematical Representation Of Noise ,Noise Figure
Week 12	Thermal Noise ,White And Filtered Noise
Week 13	Noise In Multistage System
Week 14	NOISE & SNR IN :AM (DSB/SSB/NORMAL AM)
Week 15	FM NOISE REDUCTION IN FM USING EMPHASIS
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	- Second Order Active Low Pass Filter (LPF). - Second Order High Pass Filter (HPF)
Week 2	- Second Order Active Band Filter (BPF).
Week 3	- Second Order Active - Band Elimination Filter.
Week 4	- Second Order Active - Band Elimination Filter.
Week 5	- Schmitt Trigger.
Week 6	- A stable Multi-vibrator (Symmetrical and Unsymmetrical).
Week 7	- Nonstable Multi-vibrator.
Week 8	- AM Modulation & Demodulation
Week 9	- Characteristics of AM receiver (Selectivity & Sensitivity)
Week 10	- DSB-SC and SSB Modulators
Week 11	- DSB-SC and SS Demodulators.
Week 12	- FM Modulator - FM Demodulator
Week 13	- PWM Modulator - PWM Demodulator
Week 14	Analog Multiplexing
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Ziemer - Tranter, Principles of Communications - Systems, Modulation, and Noise, 7th edition, 2014	Yes
Recommended Texts	Proakis - Salehi, Fundamentals of Communication Systems, 2nd edition , 2014 Carlson - Crilly, Communication Systems, 5th ed, 2010	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer II**			**Module Delivery**	
Module Type	**B**			☒**Theory** ☐**Lecture** ☒**Lab** **Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC000022**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	2		**Semester of Delivery**	3	
Administering Department	MTCE		**College**	CoE	
Module Leader	Nashwan Dhyaa Zaki		**e-mail**	nashwanalani@uoitc.edu.iq	
Module Leader's Acad. Title	Assist Professor		**Module Leader's Qualification**	Master	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/9/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CPR2	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The learning objectives of this course are: 1. To understand why Python is a useful scripting language for developers. 2. To learn how to design and program Python applications. 3. To learn how to use lists, tuples, and dictionaries in Python programs. 4. To learn how to identify Python object types. 5. To learn how to use indexing and slicing to access data in Python programs. 6. To define the structure and components of a Python program. 7. To learn how to write loops and decision statements in Python. 8. To learn how to write functions and pass arguments in Python. 9. To learn how to build and package Python modules for reusability. 10. To learn how to read and write files in Python. 11. To learn how to design object-oriented programs with Python classes. 12. To learn how to use class inheritance in Python for reusability. 13. To learn how to use exception handling in Python applications for error handling.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	When students complete Intro to Programming with Python, they will be able to: Build basic programs using fundamental programming constructs like variables, conditional logic, looping, and functions. Work with user input to create fun and interactive programs. 1. To learn how to write loops and decision statements in Python. 2. To learn how to write functions and pass arguments in Python. 3. To learn how to build and package Python modules for reusability. 4. To learn how to read and write files in Python. 5. To learn how to design object-oriented programs with Python classes. 6. To learn how to use class inheritance in Python for reusability. 7. To learn how to use exception handling in Python applications for error handling.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A – introduction to Python</u> In Overview of programming languages used for business analytics, fundamentals of programming (logic statements, conditional statements, loops, functions, classes, etc.), fundamentals of data analytics and visualisation, introduction to programming environments (IDE, console, Jupyter notebook), data structures (numbers, variables, strings, lists, tuples, NumPy arrays, etc.), introduction to pandas data frames, reusing existing functionalities, libraries and APIs, development of solutions for the business context, sharing code and working remotely & effectively (online notebooks and repositories e.g. GitHub, Kaggle, Colab, etc.). [20 hrs]

	Part B – Explain the structure of a Python program and understand the basics of computer programming. [15 hrs] Part C – Read, analyze, test and debug Python programs.[15 hrs] Part D— Identify, characterize, and analyze a problem, and write Python programs to solve the business problem. [10 hrs] Part E— Apply Python programming knowledge and techniques to facilitate data-driven decision-making through data analyses and visualization. [15 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Python programming is widely used in Artificial Intelligence, Natural Language Generation, Neural Networks, and other advanced fields of Computer Science. Moreover, Python is one of the most demanded programming languages in the market, so there are huge job opportunities for candidates having knowledge of Python programming. The main strategy that will be Understand the fundamental programming aspects and use of Python programming language. Apply basic object-oriented programming concepts. Design, develop, and document well-structured programs using software-engineering principles. Use problem-solving skills to write software applications. Identify a real-world problem that can be addressed through the design and development of a novel computer application.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	28	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Install Python IDE — How to Install Python on Windows & Python Hello World — Create Your First Python Program-
Week 2	Python print() Function — How to Print in Python with Examples, Python Variables — How to Define/Declare String Variable Types
Week 3	Escape Character Sequences — Python Escape Character Sequences (Examples, How to check the Python Version — Windows, Mac, Linux, Script, Command Line
Week 4	How to Run Python Scripts — Step by Step Guide, Revision problem classes.
Week 5	Python TUPLE — Pack, Unpack, Compare, Slicing, Delete, Key
Week 6	Python Dictionary(Dict) — Update, Cmp, Len, Sort, Copy, Items, str Example
Week 7	Python Dictionary Append — How to Add Key/Value Pair
Week 8	Python Operators — Arithmetic, Logical, Comparison, Assignment, Bitwise & Precedence
Week 9	Python Not Equal (!=) — Python Not Equal (!=) Operator with Examples
Week 10	Python Arrays — Create, Reverse, Pop with Python Array Examples
Week 11	Python 2D Arrays — Python 2D Arrays: Two-Dimensional List Examples
Week 12	Python Conditional Statements — IF…Else, ELIF & Switch Case
Week 13	Python For & While Loops — Enumerate, Break, Continue Statement, Python break, continue, pass statements — Learn with Example
Week 14	Class, Object, Inheritance and Constructor with Example

Week 15	Recursion
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Install Python IDE — How to Install Python on Windows & Python Hello World — Create Your First Python Program-
Week 2	Python print() Function — How to Print in Python with Examples, Python Variables — How to Define/Declare String Variable Types
Week 3	Escape Character Sequences — Python Escape Character Sequences (Examples, How to check the Python Version — Windows, Mac, Linux, Script, Command Line
Week 4	How to Run Python Scripts — Step by Step Guide, Revision problem classes.
Week 5	Python TUPLE — Pack, Unpack, Compare, Slicing, Delete, Key
Week 6	Python Dictionary(Dict) — Update, Cmp, Len, Sort, Copy, Items, str Example
Week 7	Python Dictionary Append — How to Add Key/Value Pair
Week 8	Python Operators — Arithmetic, Logical, Comparison, Assignment, Bitwise & Precedence
Week 9	Python Not Equal (!=) — Python Not Equal (!=) Operator with Examples
Week 10	Python Arrays — Create, Reverse, Pop with Python Array Examples
Week 11	Python 2D Arrays — Python 2D Arrays: Two-Dimensional List Examples
Week 12	Python Conditional Statements — IF…Else, ELIF & Switch Case
Week 13	Python For & While Loops — Enumerate, Break, Continue Statement, Python break, continue, pass statements — Learn with Example
Week 14	Class, Object, Inheritance and Constructor with Example
Week 15	interfacing of microprocessors/microcontrollers to the outside world as demonstrated by a variety of application examples.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Python: - The Bible- 3 Manuscripts in 1 Book: -Python Programming For Beginners -Python Programming For Intermediates -Python Programming for Advanced	Yes
Recommended Texts		

Websites	http://WilliamStallings.com/COA/COA7e.html

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	**Digital Electronics**			**Module Delivery**	
Module Type	**C**			☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC200090**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	2		**Semester of Delivery**	4	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ELC3	**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	• Perform arithmetic operations in many number systems. • Manipulate Boolean algebra structures. • Simplify the Boolean expression using Karauagh Map. • Implement the Boolean Functions using logic gates. • Understand the importance of state diagram representation of logical circuits. • Analyze, design, verified, and tested various combinational logic circuits. • It provides coverage of classical hardware design for combinational logic circuit. • Understand and describe the behavior of Flip-Flops, Latches, shift registers and Counters. • Define the operation of memories. • Describe the configuration of programmable logic devices to implement sequential circuits. • Discuss the fundamental concepts of digital computer and digital design.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The course presents an introduction to logic design and the basic building used in digital systems, number systems, digital codes, combinational logic, logic gates, minimization technique, arithmetic circuits, and modern logic device such as field programmable logic gates, Boolean Algebra and logic simplification, Digital Logic Families. • Design synchronous sequential circuits using state diagrams, simplify design circuits, and implement the design using schematic entry. • Provide students with the practical knowledge of digital logic system. To develop the ability to analyze and design sequential logic circuits used to construct digital systems. Topics discussed include flip-flops, timing and state diagrams, analysis and design of sequential circuits, and memory devices. Students design digital system, such as a video driver or communications module.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. <u>Part A –</u> A number system is defined as a system of writing to express numbers. It is the mathematical notation for representing numbers of a given set by using digits or other symbols in a consistent manner. It provides a unique representation of every number and represents the arithmetic and algebraic structure of the figures. [15hrs] A logic gate is a device that acts as a building block for digital circuits. They perform basic logical functions that are fundamental to digital circuits. Most electronic devices we use today will have some form of logic gates in them. For example, logic gates can be used in technologies such as smartphones, tablets or within memory devices.[15hrs]

	Part B A latch is an electronic device that changes its output immediately on the basis of the applied input. One can use it to store either 0 or 1 at a specified time. A latch contains two inputs- SET and RESET, and it also has two outputs. They complement each other. One can use a latch for storing one bit of data. It is a memory device- just like the flip-flop. But it is not synchronous, and it does not work on the edges of the clock like the flip-flop. [15hrs] A flip-flop is a digital memory circuit that stores one bit of data. They are the primary blocks of the most sequential circuits. It is also called one-bit memory, binary, or a bitable multivibrator. Flip-flops act as memory elements in a sequential circuit. You can obtain the output in the sequential circuits using a flip-flop, a combinational circuit, or both. [15hrs]. A Counter is a device which stores (and sometimes displays) the number of times a particular event or process has occurred, often in relationship to a clock signal. Counters are used in digital electronics for counting purpose, they can count specific event happening in the circuit. [15hrs].

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

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Number system: General number formula: Binary, octal, decimal and hexadecimal numbers.
Week 2	Numbers Base Conversion: Arithmetic operations in different number system, complements, binary codes, BCD, Ex-3, Gray codes.
Week 3	- Boolean Algebra: - Basic definitions, basic theorem and properties, Boolean functions. - Boolean Algebra and logic simplification: - Use Boolean Algebra to Simplify Complicated Logical Circuits. - Standard Forms of Boolean Algebra: - The Sum of Products (SOP). - The Product of Sum (POS). - Converting Standard SOP to Standard POS. - Converting SOP to Truth Table. - Converting POS to Truth Table. - Don't Care Conditions
Week 4	Boolean Algebra an d logic simplification Expression Simplification Using Karnaugh Map (K.M) , Karnaugh Map with don't Care Conditions,
Week 5	Canonical and Standard forms Digital Logic Gates: - Combinational Logic - Design Procedure - Half-Adder Logical Circuit Design

	- **Full-Adder Logical Circuit Design** - **Parallel Binary Adder Circuit Design** - **Adder Expansion** - **Binary Subtractor** - **- Binary Adder-Subtractor**
Week 6	**Digital Logic Families** - **Four-Bit adder Subtractor (with Overflow Detection)** - **Subtractor Logical Circuit Design -Half** - **Subtractor Logical Circuit Design - Full** - **Decimal Adder** - **BCD Adder Logical Circuit Design** - **Binary Multiplier** - **- Magnitude Comparator Logical Circuit Design**
Week 7	**Mid-term Exam** **Code Conversion:** **Even and odd party logic, decoders, encoders.** - **Encoders Logical Circuit Design and Characteristics** - **Decoder Logical Circuit Design and Characteristics** - **Implementation of A Full Adder with A Decoder** - **Priority Encoder Logical Circuit Design**
Week 8	**Synchronous Sequential Logic.** **Sequential Circuits.** - **Storage Elements** **Latches** - **The S-R (Set-Rest) Latch.** - **The Gated S-R Latch.** - **The Gated D Latch (Transparent Latch).**
Week 9	**Sequential Logic:** **Flip-flops (RS, T, D, JK …), master slave FF.**
Week 10	**Asynchronous Counter** - **State- Equations (Transition equation).** - **State- table.** - **State Diagram** - **Analysis Sequential Logical Circuit with D Flip-Flops** - **Analysis Sequential Logical Circuit with JK Flip-Flops.** - **Analysis Sequential Logical Circuit with T Flip-Flops.**
Week 11	**Registers** - **Four-bit Register** - **Register with Parallel Load.** **Shift Registers.** - **Serial In / Serial Out Shift Registers.** - **Serial In /Parallel Out shift registers.** - **Parallel In/ Serial Out Shift registers.** - **Parallel In/Parallel Out Shift Registers.** - **A Bidirectional shift registers**

	- **Serial Transfer.** - **Serial Addition.** - **Universal Shift Register.** - **Serial Adder.**
Week 12	**Counters** **Asynchronous Counters** - **Ripple Counter.** - **Binary Ripple Counter.** - **BCD Ripple Counter.** - **2-Bit Asynchronous Binary Counter (Up Counter).** - **A 3-Bit Asynchronous Binary Counter (Up Counter).** - **A Synchronous Decade Counter.** - **A 4- Bit Asynchronous Binary counter.**
Week 13	**Synchronous Counters** - **A 2-Bit Synchronous Binary Counter.** - **A 3-Bit Synchronous Binary Counter.** - **A 4-Bit Synchronous Decade Counter.** - **Synchronous BCD Decade Counter.** - **UP/DOWN Synchronous Counter.** - **Design of Synchronous Counter.**
Week 14	**Synchronous Counters** - **Cascade Counters** - **G-A 3-Bit Gray Code Synchronous Counter.** - **Ring Counter.** - **Johnson Counter.** - **4- Shift Register Counters.**
Week 15	**Memory and Programmable Logic** **An Introduction to memory and Programmable Logic.** **Random – Access Memory.** **Write and Read Operation.** **Timing Waveforms.** **Memory Decoding.**
Week 16	**Introduction to Microprocessor:** **Microprocessor architecture (component of microprocessor, fetch, execute cycle…).**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: logic gate
Week 2	Lab 2: laches
Week 3	Lab 3: laches
Week 4	Lab 4: counter
Week 5	Lab 5: counter

Week 6	Lab 6: flip-flop
Week 7	Lab 7:
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	- Digital Fundamentals, 11th Edition, Thomas L. Floyd, 2015. - Digital Design, 6th Edition , M. Morris R. Mano,2013.	Yes
Recommended Texts	Digital Principles and Applications , Malvino And Leach, 6th Edition,2001	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/digital electronics	

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 Mathematics 2**			**Module Delivery**	
Module Type	**B**			☒**Theory** ☐ **Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**ITC200062**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	2		**Semester of Delivery**	4	
Administering Department	MTCE		**College**	ENG	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	EMT 3	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of Fourier Series through the application of techniques. 2. To understand the types of Fourier Series. 3. This course deals with the basic concept of solutions of Fourier Series. 4. Z transform and its applications. 5. Double Integrals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Important: Write at least 6 Learning Outcomes, better to be equal to the number of study weeks. 1. List the various terms associated to the Fourier Series. 2. Summarize what is meant by the Fourier Series. 3. Discuss the reaction and involvement of solutions of Fourier Series. 4. Identify the basic solutions of Fourier Series and their applications. 5. Discuss the operations of the Z transform. 6. Discuss the various properties of Z transform and double integral.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Fourier Series(20) Fourier series and Fourier transform. Fast Fourier Transform Part B - Z transform(13) Part C – Double Integral(12)

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

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	102	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**200**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10, #11
	Assignments	2	10% (10)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Discrete Time Signals
Week 2	Fourier Series and its applications.
Week 3	Fourier Series
Week 4	Fourier Series
Week 5	Fourier Series
Week 6	Even and Odd of Fourier Series
Week 7	Complex of Fourier Series

Week 8	Fast Fourier Transform
Week 9	Fast Fourier Transform
Week 10	Inverse Fast Fourier Transform
Week 11	Inverse Fast Fourier Transform
Week 12	Z Transform
Week 13	Z Transform
Week 14	Inverse Z transform
Week 15	Double Integral
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	NON
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	E. Kreszig, "Advance Engineering Mathematics", Willey, New York	Yes

Recommended Texts		
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**English Language II**			**Module Delivery**	
Module Type	**B**			☒ **Theory** ☐ **Lecture** ☐**Lab** ☐ **Tutorial** ☐ **Practical** ☐**Seminar**	
Module Code	**ITC000032**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	2		**Semester of Delivery**	4	
Administering Department	MCCE		**College**	COE	
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	1/06/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	English Language I (ENG1)	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. To further develop students' listening, speaking, reading, and writing skills in English, focusing on more advanced language structures and vocabulary. 2. To enhance students' academic writing skills, including essay composition, research paper writing, critical analysis, and argumentation. 3. To strengthen students' ability to comprehend and analyze complex texts from a variety of disciplines. Improve critical thinking skills, inference, and evaluation of arguments. 4. To enhance students' oral communication skills in academic and professional settings. Develop skills in giving presentations, participating in debates, and engaging in discussions on complex topics. 5. To expand students' academic vocabulary to encompass specialized terminology from various disciplines. Develop strategies for acquiring and using domain-specific vocabulary. 6. To deepen students' understanding of advanced grammatical structures, syntax, and sentence complexity. Focus on accuracy and precision in language use. 7. To promote self-directed learning strategies, including self-assessment, goal setting, and reflection. Encourage students to take ownership of their language learning and pursue ongoing language development beyond the course.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate advanced proficiency in the English language, including enhanced listening, speaking, reading, and writing skills. 2. Produce well-structured and coherent academic paragraphs, essays and reports. Apply appropriate academic writing conventions, including critical analysis, argumentation, and proper citation and referencing. 3. Comprehend and critically analyze complex academic texts from various disciplines. Identify main ideas, supporting evidence, and implicit arguments. Apply advanced reading strategies and engage in critical thinking. 4. Communicate effectively in academic and professional settings, such as presentations, debates, and discussions. Express ideas clearly, engage in nuanced conversations, and respond appropriately to audience needs. 5. Expand academic vocabulary to include discipline-specific terminology and advanced vocabulary relevant to various academic fields. Apply vocabulary effectively in speaking and writing tasks. 6. Demonstrate advanced understanding and application of grammar and syntax in complex sentence structures. Use grammatical structures accurately and effectively. 7. Engage in self-directed learning by reflecting on language learning progress, identifying areas for improvement, and implementing strategies for ongoing language development beyond the course.

Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Topic 1- Grammar and Syntax: Understanding complex grammar structures such as sentence patterns, verb tenses, conditionals, and reported speech is important. Using sentence structures effectively promotes sentence variety and coherence, conveying meaning clearly. Recognizing and correcting common grammar errors contributes to grammar accuracy. **(10 hrs.)** Topic 2- Academic Vocabulary Development: Expanding vocabulary with advanced academic terminology and discipline-specific words and phrases is crucial. Employing vocabulary acquisition strategies aids in acquiring and retaining new words effectively. **(6 hrs.)** Topic 3- Reading and Comprehension: Advanced reading comprehension involves understanding complex academic texts across various disciplines. Employing reading strategies like skimming, scanning, and critical reading techniques enhances comprehension. Analyzing and synthesizing information helps identify main ideas, supporting evidence, and implicit arguments within the text. Developing vocabulary in context through reading aids in understanding word usage in different contexts. **(6 hrs.)** Topic 4- Oral Communication and Presentation Skills: Academic presentations require effective planning, organization, and delivery. Improving pronunciation and intonation enhances spoken fluency, clarity, and natural expression. Developing listening and note-taking skills helps understand complex spoken discourse, summarize main ideas, and take effective notes. **(4 hrs.)** Topic 5- Independent Learning and Reflection: Developing self-directed learning strategies enables independent language learning, including goal setting and progress monitoring. Reflecting on language learning experiences helps identify strengths and areas for improvement, and implementing learning strategies for continuous growth. **(4 hrs.)**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• Communicative Approach: Emphasize the use of English for real-life communication purposes. Encourage students to engage in meaningful interactions through pair work, group discussions, role-plays, and debates. • Task-Based Learning: Design learning activities that involve completing specific tasks or projects using English. This approach focuses on meaningful and authentic language use while addressing specific learning objectives. • Active Learning: Encourage active participation and engagement through hands-on activities, problem-solving tasks, and interactive exercises. This can include role-plays, and team work. • Technology Integration: Utilize technology tools and resources to enhance language learning. This can include multimedia presentations, online learning platforms, language learning apps, and virtual collaboration tools.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	#1, #2,#3, #5, #6
	Presentations	2	10% (10)	6 and 11	#3, #4, #5, #7
	Daily Activities	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	#2,#5, #6
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	All
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General Introduction
Week 2	Getting to know you, tenses, questions
Week 3	Whatever makes you happy, present tenses, simple and progressive
Week 4	What's in the news, past tenses, simple and progressive
Week 5	Eat, drink and be merry, quantity, much many, some any
Week 6	Looking forward, future forms, verb patterns
Week 7	The way I see it, What…like, comparative and superlative
Week 8	Living history, present perfect, unfinished past, definitive past
Week 9	Girls and boys, have to, should, must
Week 10	Time for a story, past perfect, narrative tenses
Week 11	Joining sentences, conjunctions
Week 12	Our interactive world, possessives
Week 13	Just wondering, first conditionals if, will
Week 14	Listening and speaking
Week 15	Reading Writing (focus on tenses)
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Liz and John Soars: New Headway, Pre-Intermediate 4th Edition. Oxford University Press	Yes
Recommended Texts	"English Grammar in Use" by Raymond Murphy: A comprehensive grammar reference and practice book "English Vocabulary in Use" by Michael McCarthy and Felicity O'Dell: A vocabulary book with exercises to expand your word knowledge.	Yes
Websites	• BBC Learning English (http://www.bbc.co.uk/learningenglish) - BBC Learning English provides a wide range of resources, including videos, audio programs, grammar explanations, vocabulary exercises, and quizzes. It covers different topics and skill levels, making it suitable for pre-intermediate learners.	

	• Cambridge English (https://www.cambridgeenglish.org/learning-english/) - Cambridge English offers a comprehensive range of learning materials, including videos, listening activities, vocabulary exercises, and grammar explanations. Their website also provides sample tests and exam preparation resources.

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 II			**Module Delivery**	
Module Type	B			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	ITC000042				
ECTS Credits	2.00				
SWL (hr/sem)	50				
Module Level	1		**Semester of Delivery**		2
Administering Department			**College**	Type Dept. Code	
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	15/6/2023		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	*التعرف على أساسيات النحو العربي. * إكساب الطالب المهارة في الكتابة العربية من تصحيح الأخطاء الإملائية، ومعرفة القواعد النحوية والإملائية التي تصون اللسان عن الخطأ، ويفهم الطالب مدى أهمية اللغة العربية وقواعدها في الدراسات الإنسانية وفي كتابة البحوث والتقارير *التعريف بالأدب العربي وفنونه وعصوره القديمة .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	- إكساب الطالب المزيد من الثقافة بلغته وهويته العربية وهي لغة القرآن الكريم وإكسابه المزيد من الثقافة الدينية -أن يُميز الطالب بين أقسام الكلام وما يتبع ذلك من ضوابط إملائية ونحوية. -أن يُفرق الطالب بين همزتي القطع والوصل في اللفظ والكتابة. -أن يعرف الطالب القواعد الصحيحة لكتابة الهمزة بالشكل الصحيح. -تعريف الطالب بأهم الأخطاء اللغوية الشائعة. -تعريف الطالب بالضوابط الإملائية الصحيحة. - تعريف الطالب بأحكام العدد من حيث التذكير والتأنيث والإعراب والبناء، تمييز الأعداد . -تعريف الطالب بالأدب العربي، وإكسابه ثقافة موجزة بتراث أدبه العربي.
Indicative Contents المحتويات الإرشادية	1 القرآن الكريم- ودوره في ترسيخ اللغة العربية 2 -أهمية اللغة العربية وخصائصها 3 -جمع المذكر السالم 4 المثنى 5 -جمع المؤنث السالم 6 -الأسماء الخمسة 7 -التفريق بين الياء وحركة الكسرة في مُخاطبة المؤنث 8 -كيف تكتب خطابا إداريا 9 -أسس تحرير الخطاب 10 -التفريق بين التاء المربوطة والتاء المفتوحة والهاء في نهاية الكلمة 11 -المضاف والمضاف إليه 12 -الأدب العربي

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	• إستراتيجية التعلم التعاوني. • إستراتيجية التعلم وجهاً لوجه. • إستراتيجية التعلم عبر الإنترنت. • إستراتيجية التعلم الهجين • تقسيم الطلبة على مجموعات صغيرة لعمل التقارير.

	• المحاضرات التقليدية. • استخدام منصات التعليم الإلكتروني (Google class room). • دمج بين التعليم التقليدي والتعليم عبر الإنترنت.

Student Workload (SWL) الحمل الدراسي للطالب موزع على (15) اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (5)	4, 10	LO #1-4 , LO #5-9
	Assignments	2	10% (5)	4, 11	LO # 1-3 , LO # 4- 10
	Activities	2	10% (5)	4, 12	
	Report	1	10%(10)	16,12	LO #1-5, LO # 9-11
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	لقرآن الكريم ودوره في ترسيخ قواعد اللغة العربية
Week 2	أهمية اللغة العربي وخصائصها
Week 3	جمع المذكر السالم
Week 4	المثنى
Week 5	جمع المؤنث السالم
Week 6	الامتحان النصفي
Week 7	الأسماء الخمسة
Week 8	كيف تكتب خطابا إداريا
Week 9	أسس تحرير الخطاب

Week 10	أخطاء لغوية شائعة
Week 11	التفريق بين التاء المربوطة والتاء المفتوحة والهاء في نهاية الكلمة
Week 12	المضاف والمضاف إليه
Week 13	التفريق بين الياء وحركة الكسرة في مُخاطبة المؤنث
Week 14	الأدب العربي
Week 15	الامتحان النهائي

Delivery Plan (Weekly Tutorial)

المنهاج الاسبوعي الإضاف

	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		
Recommended Texts	1-الوجيز في اللغة العربية/ د.محي هلال السرحان 2- جامع الدروس الاملائية / د. فاضل عباس فاضل. 3_ العربية الجامعية لغير المتخصصين/ د. عبده الراجحي	
Websites		

Grading Scheme

مخطط الدرجات

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