Module Information معلومات المادة الدراسية				
Module Title	**Digital Fundamentals**		**Module Delivery**	
Module Type	**Core**		✔**Theory** **Lecture** ✔**Lab** **Tutorial** **Practical** **Seminar**	
Module Code	**CET1101**			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level	1	**Semester of Delivery**	1	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To be able to deal with the number systems and codes. 2. To understand the functionality of logic gates. 3. To have a skill to use the logic gates in designing logic circuit. 4. To have a skill to simplify the digital circuits. 5. To learn the simplification process, Boolean expression, Demorgans law, and Karnaugh map.. 6. To understand the principles for designing logic circuit. 7. To understand adder, subtractor, decoder, incoder, multiplexer, demultipleaer, and comparator circuits.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Number systems (decimal, binary, octal, conversions, operations)
Week 2	Number systems (hexadecimal, BCD, conversions, operations)
Week 3	Number systems (excess-3,gray code, conversions, operations, complements)
Week 4	Logic gates (AND,OR,NOT,NAND,NOR,XOR,XNOR)
Week 5	Logic simplification (Boolean theorem)
Week 6	Logic simplification (Demorgan's theorem)
Week 7	Karnaugh maps(2-variables,3-variables,)
Week 8	Karnaugh maps (4-variables (SOP,POS,don't care))
Week 9	Karnaugh maps (5-variables, (SOP,POS,don't care))
Week 10	Midterm exam
Week 11	Arithmetic operations
Week 12	Arithmetic operations (decoder, encoder)
Week 13	Arithmetic operations (Multiplexer, Demultiplexer)
Week 14	Arithmetic operations (comparators)
Week 15	Arithmetic operations (code conversion)
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	logic gates (NOT, AND,OR)
Week 2	Logic gates (NOR.NAND)
Week 3	Logic gates (XOR,XNOR)
Week 4	Boolean theorem
Week 5	Demorgan's law
Week 6	Karnaugh map
Week 7	SOP
Week 8	POS, don't care
Week 9	Combinational circuit (half adder, full adder)
Week 10	Combinational circuit (Half subtractor, full subtractor)
Week 11	Decoder and Encoder circuits
Week 12	Multiplexer and Demultiplexer circuits
Week 13	Comparator circuit
Week 14	Code conversion circuits

Module Information معلومات المادة الدراسية				
Module Title	Electrical Engineering Fundamentals		**Module Delivery**	
Module Type	**Core**		☒**Theory** ☐**Lecture** ☒**Lab** ☐ **Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	CET1102			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level	1	**Semester of Delivery**	1	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	8. To develop problem solving skills and understanding of circuit theory through the application of techniques. 9. To understand voltage, current and power from a given circuit. 10. This course deals with the basic concept of electrical circuits. 11. This is the basic subject for all electrical and electronic circuits. 12. To understand Kirchhoff's current and voltage Laws problems. 13. To perform Thevenin's Norton's Theorem.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Symbols And Abbreviations, Units, Electric Circuit & It's Element.
Week 2	The Direct Current Network. Ohms low.
Week 3 and Week 4	Series Circuits (Resistance in Series) Voltage Divider Rule.
Week 5	Parallel Circuits(Resistances in Parallel) Current Divider Rule.
Week 6	Open and Short Circuits, Source Transformation,
Week 7	Series-Parallel Circuits Transformation.
Week 8	Kirchhoff's Laws: - Kirchhoff's current law (KCL) and. Their Use In Network Analysis.
Week 9	Kirchhoff's voltage law (KVL).and Their Use In Network Analysis
Week 10	Midterm exam
Week 11	Conversion Delta To Star Connection And Conversion Star To Delta Connection ,
Week 12	Superposition Method ,
Week 13	Thevenin's Theorem , Norton's Theorem
Week 14	Maximum Power Transfer Theorem
Week 15	Reciprocity Theorem

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	How to use ammeter, voltmeter and ohmmeter.
Week 2	Apply Ohm's Law
Week 3	Apply Kirchhoff's law to measure current
Week 4	Apply Kirchhoff's law to measure voltages
Week 5	Superposition Method
Week 6	Norton's Theorem.
Week 7	Thévenin's Theorem.
Week 8	Delta To Star Connection And Conversion Star To Delta Connection

Module Information معلومات المادة الدراسية				
Module Title	**Mathematics I**		**Module Delivery**	
Module Type	Suport or related learning activity		☒**Theory** ☐**Lecture** ☐**Lab** ☒**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**CET1103**			
ECTS Credits	**5**			
SWL (hr/sem)	**125**			
Module Level	1	**Semester of Delivery**	1	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. This course deals with differential and integral calculus. 2. To develop problem solving skills and understanding of preliminaries to differential calculus. 3. To understand differentiation, and differentiation methods. 4. To perform applications using the derivative. 5. To get a good grasp of Integrals, and Integration methods. 6. To understand the relationship between differentiation and integration.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Line and Circle Equation. Functions (**Domain, Range, Odd, Even, Types.**)**
Week 2	**The Limit and Continuity of a Function (**Laws, At Infinity, Special Limits, Continuity Conditions.**)**
Week 3	**Differentiation (**Definition as limit, Differentiation Rules, Function-Derivative Table.**)**
Week 4	**Differentiation Methods (**Implicit, Logarithmic, The Chain Rule**.)**
Week 5	**Midterm Exam**
Week 6	**Applications of Differentiation (**Curve Sketching, L'Hospital's Rule.**), Applications of Differentiation (**Taylor and Maclaurin Series.**)**
Week 7	**Introduction to Indefinite Integrals, Integration Methods (**u-substitution, By parts.**)**
Week 8	**Integration Methods (**Involving Trigonometric Functions, Trigonometric substitution.**)**
Week 9	**Integration Methods (**Integration of Rational Functions by Partial Fractions.**)**
Week 10	**Midterm Exam**
Week 11	**Integration Methods (**Functions Involving Roots**,** Functions Involving Quadratics.**)**
Week 12	**Midterm Exam**
Week 13	**Definite Integral and Applications (**Definite Integral, Area Under a Curve.**)**
Week 14	**Definite Integral and Applications (**Arc Length, Average Value of a Function.**)**
Week 15	**Definite Integral and Applications (**Areas Between two Curves**)**
Week 16	**Preparatory week before the final Exam**

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

Module Information معلومات المادة الدراسية				
Module Title	**Engineering Drawing**		**Module Delivery**	
Module Type	**Suport or related learning activity**		☐ **Theory** ☐ **Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**CET1104**			
ECTS Credits	**5**			
SWL (hr/sem)	**125**			
Module Level	1	**Semester of Delivery**	1	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	14. To develop spatial visualization skills: Enhance your ability to visualize and mentally manipulate objects in three-dimensional space based on two-dimensional drawings. Strengthen your spatial awareness and improve your understanding of complex engineering design 15. Learn sketching and taking field dimensions. 16. Take data and transform it into graphic drawings. 17. Learn basic engineering drawing formats. 18. Learn basic AutoCAD skills. 19. Learn who draw 2D drawings in AutoCAD.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introducing of Engineering Drawing
Week 2	Drawing settings of AutoCAD
Week 3	Drawing Tools Point, Line ,Multiline, P line, Spline, X line.
Week 4	Rectangle, Donut, Polygon
Week 5	Circle, Arc, Ellipse
Week 6	Modify Tools Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. Display Control Zoom, Pan, Redraw, Clean Screen.
Week 7	Mid exam
Week 8	Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions
Week 9	Annotation Tools Text, Style, M text, Scale text, Spell
Week 10	Hatching Objects
Week 11,12	3D modeling
Week13	Convert 2D To 3D
Week 14	Solid Editing
Week 15	Exercises drawing
Week 16	**Preparatory week before the final Exam**

Module Information

معلومات المادة الدراسية

Module Title	**Engineering Workshops**	**Module Delivery**
Module Type	Suport or related learning activity	☐ **Theory** ☐ **Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**
Module Code	**CET1105**	
ECTS Credits	**6**	
SWL (hr/sem)	**150**	

Module Level	1	**Semester of Delivery**	1

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	The objective of studying Electrical, Electronic, and Mechanical workshops is to enable students to acquire the necessary skills and knowledge to deal with electrical, electronic, and mechanical systems and devices. This subject aims to teach students how to diagnose faults, repair systems, and perform maintenance on these systems and devices. By studying Electrical, Electronic, and Mechanical workshops, students can understand the principles of electricity, electronics, and mechanics, as well as how to read engineering diagrams and use various tools and equipment to work on them. They also learn how to diagnose faults, repair them, and properly maintain different devices in a safe manner. In general, studying this subject aims to prepare students to become skilled technicians in the field of electrical, electronic, and mechanical engineering. They can work in areas such as industrial maintenance and repair, electrical and electronic installations, automation and robotics, medical devices, and other modern technologies

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

Module Information معلومات المادة الدراسية				
Module Title	**English Language I**		**Module Delivery**	
Module Type	**Basic learning activities**		☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**MTU1002**			
ECTS Credits	**2**			
SWL (hr/sem)	**50**			
Module Level	1	**Semester of Delivery**		1

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. know students with essential information in the English language in association with reading, writing and speaking skills, and knowing more English vocabulary. 2. To understand pronouns, questions and short answers, tenses (present, past and future), adjective, adverb, prepositions of place, punctuation marks and practicing writing. 3. This module works towards enhancing students' English language competencies along with their technical or professional knowledge. 4. Enhance students' communication skills in English can result in better job opportunities in the future

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Unit 1:** Grammar: Types of Pronouns Vocabulary: Everyday objects, Plurals Reading and Writing Skill
Week 2	**Unit 2:** Grammar: Pronoun, Questions Vocabulary: Countries, Adjective and Nouns Reading and Writing Skill
Week 3	**Unit 3:** Grammar: Negatives, Questions and short answer Vocabulary: Jobs, Personal Information Reading and Writing Skill
Week 4	**Unit 4:** Grammar: Possessive adjectives, Possessive 's, common verbs (1): has/have, love, like, work. Vocabulary: The family, The alphabet Reading and Writing Skill
Week 5	**Unit 5**: Present Simple, Questions Vocabulary: Sport, Food and Drink, Verb phrase, Languages and nationalities, Adjective + noun. Reading and Writing Skill
Week 6	**Unit 6:** Grammar: Adverbs of frequency (sometimes, always, never), Questions and Negatives. Vocabulary: The Time, Word that go together Reading and Writing Skill
Week 7	**Unit 7:** Grammar: Question words, Pronouns (subject, object, possessive), that and this. Vocabulary: Adjectives Reading and Writing Skill Grammar: There is/There are, Prepositions of place Vocabulary: Rooms and furniture, Place of town Reading and Writing Skill
Week 8	**Mid exam**
Week 9	**Unit 9:** Grammar: Past Simple Tense - regular verbs Vocabulary: years, have, do, go Reading and Writing Skill
Week 10	**Unit 10:** Grammar: Past Simple Tense - irregular verbs, Questions and Negatives, Time expression, ago. Vocabulary: Weekend activities, Sport and leisure Reading and Writing Skill
Week 11	**Unit 11:** Grammar: can/can't, Adverbs, Request and offers. Vocabulary: Verb + noun, Adjective + noun, Opposite adjective Reading and Writing Skill
Week 12	**Unit 12:** Grammar: Would like, some and any, like and would like Vocabulary: Places and town, In cafe Reading and Writing Skill
Week 13	**Unit 13:** Grammar: Present Continuous Tense Vocabulary: Colors, Clothes, Opposite verbs Reading and Writing Skill
Week 14	**Unit 14:** Grammar: Future Tense, going to Vocabulary: Forms of transport Reading and Writing Skill

Week 15	Grammar: Punctuation Marks, Grammar revision Vocabulary: Vocabulary revision Reading and Writing Skill
Week 16	**Preparatory week before the final Exam**

Module Information معلومات المادة الدراسية				
Module Title	**Digital Systems**		**Module Delivery**	
Module Type	**Core**		✔**Theory** **Lecture** ✔**Lab** **Tutorial** **Practical** **Seminar**	
Module Code	**CET1201**			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level	1	**Semester of Delivery**	2	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	20. To understand the flip flop operation. 21. To understand the latches operation. 22. This course deals with the designing of logic systems. 23. To understand the principles of counter circuits. 24. To understand the shift registers. 25. To have a skill to design ADC and DAC.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Flip-flops and laches(SR latch, D latch)
Week 2	Flip-Flops(T-latch, JK)
Week 3	Flip-Flops(edge triggered, master-slave)
Week 4	Flip-flops (conversion from one type to another, flip flop applications)
Week 5	Asynchronous counter
Week 6	Synchronous counter
Week 7	Decade, up-down counter
Week 8	Cascade counter, Counter decoding
Week 9	Shift-registers (serial in/serial out, serial in/parallel out, parallel in/serial out, parallel in/parallel out)
Week 10	Midterm exam
Week 11	Shift-registers (bidirectional , shift register counter), Johnson counter, Ring counter
Week 12	Multivibrators (definition, astable, bistable)
Week 13	Multivibrators (monostable, 555 timer)
Week 14	A/D convertors (flash ADC, tacking ADC, slope ADC ,successive approximation ADC, digital ramp ADC, delta sigma ADC)
Week 15	D/A convertors (R/2R DAC, R/2^nR DAC)
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	SR ff, T ff
Week 2	D ff, JK ff
Week 3	Master-slave ff
Week 4	asynchronous counter (2-bit,3-bit)
Week 5	asynchronous counter(4-bit, modulus counter)
Week 6	synchronous counter (2-bit, 3-bit)
Week 7	synchronous counter (decade, up-down counter)
Week 8	Cascade counter, counter decoding
Week 9	Serial in-serial out, parallel in-parallel out shift register
Week 10	Serial in-parallel out, parallel in- serial out SR
Week 11	Johnson counter, ring counter
Week 12	multivibrator
Week 13	Analogue to digital convertor
Week 14	Digital to analogue convertor

Module Information معلومات المادة الدراسية				
Module Title	Electrical Circuits		**Module Delivery**	
Module Type	**Core**		☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	CET1202			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level	1	**Semester of Delivery**	2	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	26. To develop problem solving skills and understanding of circuit theory through the application of techniques Alternating Waveforms (A .C). 27. To understand voltage, current and power from a (A.C) circuit. 28. Deals with the basic concept of electrical (A C) circuits. 29. This is the basic subject for all electrical and electronic circuits. 30. To understand Kirchhoff's current and voltage Laws problems. 31. To perform Thevenin's Norton's Theorem.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms
Week 2	The Mean Values of Current and Voltage
Week 3	The Effective Vales of Current and Voltage
Week 4	Circuit Elements in the Phasor Domain
Week 5	The Vector Diagram
Week 6	Reviews for Complex Numbers and there mathematical operations
Week 7	Series Ac Circuits (R L C) ,Parallel Ac Circuits(R L C)
Week 8	Mid exam
Week 9	The Instantaneous Power and Mean Power of AC, Reactive and Apparent Power
Week 10	Using Kirchhoff's law's to solve AC circuits
Week 11	Using Superposition's method to solve AC circuits
Week 12	Using Thevenin's theorem, to solve AC circuits
Week 13	Using Norton's theorem to solve AC circuits
Week 14	3- Phase Current, 3- Phase System, Y- Connection Delta Connection.
Week 15	Transformers , The hysteresis losses , The eddy current losses

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: How to use measuring devices for alternating circuits (A.C) Osliscope, voltmeter and ammeter
Week 2	Lab 2: how to measure Alternating Waveforms
Week 3	Lab 3: Apply Ohm's Law
Week 4	Lab 4: Series Ac Circuits (R C)
Week 5	Lab 5: Series Ac Circuits (R L)
Week 6	Lab 6: Series Ac Circuits (R L C)
Week 7	Lab 7: Apply Kirchhoff's law to measure voltages
Week 8	Lab 8: Apply Kirchhoff's law to measure current

Module Information
معلومات المادة الدراسية

Module Title	**Programming Essentials**	**Module Delivery**	
Module Type	**Core**	☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**CET1203**		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	**Semester of Delivery**	2

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

Module Aims أهداف المادة الدراسية	1. To develop problem solving skills and understanding of programming principles. 2. To understand the logic behind programming. 3. This course include using C++ as a programming language. 4. This course include algorithm design. 5. To understand how a programmer should prepare his work and think logically. 6. To perform programming project using control statements, functions, and to deal with the data stored in an array or file.

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Introduction (History of computers). Types of programs (Applications and Systems). Programming languages (Machine, Assembly, and High-level language).
Week 2	Introduction to Compilers, Interpreters, object file, and executable file. Types of programming errors, program development life cycle.
Week 3	Algorithms (Flowchart).
Week 4	Variables, Data Types, Declaration of variables, Constants, Statements, and Operators.
Week 5	Making Decisions (if, if-else statements), flowchart of if-else statement.
Week 6	Making Decisions (switch statement), using break statement with switch statement, flowchart of switch statement.
Week 7	Mid-term Exam
Week 8	Loops (while, do-while), using break and continue statements with loops, flowchart of loops.
Week 9	Arrays (One dimensional)
Week 10	Arrays (Two Dimensional)
Week 11	Functions: Built-in function functions (Library functions), and User-Defined functions), Function prototype (Declaration), function call, Passing arguments to a function, return statement, Local and global variables.
Week 12	Functions (Value-Returning) vs. Void (Non Value Returning) functions, function with no argument and no return value, function with no argument but return value, function with argument but no return value, function with argument and return value. Arguments passed by value and by reference.
Week 13	Character sequences and string handling, ASCII table.
Week 14	Handling and processing text files in C++
Week 15	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Introduction to C++ with a simple program implementation. Header files, Standard Input/output instructions, Comments in C++.
Week 2	Lab 2: Variables and Operators (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator), Precedence of operators.
Week 3	Lab 3: Making Decisions (if, if-else).
Week 4	Lab 4: Making Decisions (switch statements).
Week 5	Lab 5: Loops (for)
Week 6	Lab 6: Loops (while, and do-while)
Week 7	Lab 7: Arrays (1D)
Week 8	Lab 8: Arrays (2D)
Week 9	Lab 9: Functions
Week 10	Lab 10: Function types according to whether it take arguments and/or return a value or not.
Week 11	Lab 11: Character sequences and string handling.
Week 12	Lab 12: Text files

Module Information معلومات المادة الدراسية				
Module Title	**Mathematics II**		**Module Delivery**	
Module Type	**Suport or related learning activity**		☒**Theory** ☐**Lecture** ☐**Lab** ☒**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**CET1204**			
ECTS Credits	**5**			
SWL (hr/sem)	**125**			
Module Level	1	**Semester of Delivery**	2	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	7. To Understand concepts of vectors and vector operations. 8. To Understand concepts of linear algebra. 9. To get a grasp of various methods to solve systems of linear equations. 10. To Compute linear transformations. 11. To be able to determine Eigenvalues and Eigenvectors. 12. To perform matrix diagonalization.

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

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

Module Information
معلومات المادة الدراسية

Module Title	**Arabic Language**	**Module Delivery**	
Module Type	**Basic learning activities**	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**MTU1001**		
ECTS Credits	**2**		
SWL (hr/sem)	**50**		
Module Level	1	**Semester of Delivery**	2

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

Module Aims أهداف المادة الدراسية	أهداف المادة الدراسية هي اني يكون الطالب قادراً على أن : 1. يتعرف على أنواع الأخطاء اللغوية المشتركة وتوضيح أسبابها وكيفية تجنبها. 2. يتعلم القواعد المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة وكيفية كتابتها بشكل صحيح. 3. يتعلم قواعد كتابة الألف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح. 4. التعرف على الضاد والظاء ومعرفة كيفية التمييز بينهما في الكتابة. 5. يتعلم طرق كتابة الهمزة بشكل صحيح وفقًا للقواعد اللغوية. 6. التعرف على علامات الترقيم واستخدامها بشكل صحيح في النصوص. 7. يفهم الفروق بين الاسم والفعل والتمييز بينهما في الجمل. 8. يفهم المفاعيل و كيفية استخدامها بشكل صحيح في النصوص. 9. يتعلم الأرقام والعدد واستخدامها في التعبير عن الكميات. 10. يتجنب الأخطاء اللغوية الشائعة في سياقات عملية لتعزيز فهم القواعد وتحسين المهارات اللغوية. 11. يدرس النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. 12. يركز على الجوانب الشكلية للخطاب الإداري وكيفية كتابته بأسلوب صحيح ومناسب. 13. التعرف على لغة الخطاب الإداري وفهم استخدامها في التواصل الإداري. 14. يفهم نماذج من المراسلات الإدارية لتطبيق المفاهيم والمهارات المكتسبة في الخطاب الإداري.

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

Module Information معلومات المادة الدراسية				
Module Title	**Democracy and Human Rights**		**Module Delivery**	
Module Type	**Basic learning activities**		☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**MTU1006**			
ECTS Credits	**2**			
SWL (hr/sem)	**50**			
Module Level	1	**Semester of Delivery**	2	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. التطور التاريخي لحقوق الإنسان: دراسة التطور التاريخي لفهم حقوق الإنسان من الحضارات القديمة إلى العصور الحديثة. 2. حقوق الإنسان في الشرائع السماوية: التركيز على حقوق الإنسان في الإسلام وكيف تم تضمينها في الشريعة الإسلامية. 3. اعتراف إقليمي بحقوق الإنسان: فحص اعتراف الأقاليم الأوروبي، الأمريكي، الإفريقي، الإسلامي، والعربي بحقوق الإنسان. 4. دور المنظمات غير الحكومية: دراسة دور المنظمات مثل اللجنة الدولية للصليب الأحمر ومنظمة العفو الدولية في حماية حقوق الإنسان. 5. الإطار القانوني الدولي والإقليمي: التركيز على المواثيق الدولية والإقليمية، مثل الاعلان العالمي لحقوق الإنسان. 6. تحليل حقوق الإنسان في التشريعات الوطنية: دراسة كيفية ترجمة حقوق الإنسان في التشريعات الوطنية، مع التركيز على الدستور العراقي. 7. تصنيف حقوق الإنسان وضماناتها: فهم مختلف أشكال حقوق الإنسان والضمانات الدستورية والقضائية والسياسية لحمايتها.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
الأسبوع الأول	التطور التاريخي لحقوق الانسان حقوق الانسان في الحضارات القديمة (حضارة وادي الرافدين، والحضارات القديمة الأخرى)
الأسبوع الثـــــاني	حقوق الانسان في الشرائع السماوية مع التركيز على حقوق الانسان في الاسلام. حقوق الانسان في العصور الوسطى والحديثة.
الاسبوع الثـــالث	الاعتراف الاقليمي بحقوق الانسان على الصعيد الأوربي الأمريكي، الأفريقي، الإسلامي، العربي
الأسبوع الـــرابـع	المنظمات غير الحكومية ودورها في حقوق الانسان اللجنة الدولية للصليب الاحمر، منظمة العفو الدولية، منظمة مراقبة حقوق الانسان المنظمة العربية لحقوق الانسان)
الأسبوع الخـــامس	حقوق الانسان في المواثيق الدولية والاقليمية والتشريعات الوطنية. حقوق الانسان في المواثيق الدولية (الاعلان العالمي لحقوق الانسان العهدين الدوليين الخاصين بحقوق الانسان
الأسبوع الســـادس	حقوق الانسان في المواثيق الاقليمية (الاتفاقية الأوربية لحقوق الانسان الاتفاقية الامريكية لحقوق الانسان الميثاق الأفريقي لحقوق الانسان الميثاق العربي لحقوق الانسان
الأسبوع الســـابع	امتحان منتصف الفصل الدراسي
الأسبوع الثـــامن	حقوق الانسان في التشريعات الوطنية (الدستور العراقي)
الأسبوع التاسع	اشكال واجبال حقوق الانسان: اشكال حقوق الانسان الحقوق الفردية، الحقوق الجماعية اجيال حقوق الانسان الجيل الاول الحقوق المدنية والسياسية)، (الجيل الثاني الحقوق الاقتصادية والاجتماعية)، (الجيل الثالث: حقوق الانسان الحديثة ، الوعي الماني والبيتي
الأسبوع العاشر	ضمانات حقوق الانسان وحمايتها على الصعيد الوطني الضمانات الدستورية والقضائية والسياسية
الاسبوع الحادي عشر	ضمانات حقوق الإنسان وحمايتها على الصعيدين الاقليمي والدولي (دور الامم المتحدة، دور المنظمات الاقليمية جريمة الإبادة الجماعية.
الاسبوع الثاني عشر	تصنيف الحريات العامة الحريات الأساسية والفردية حرية الامن والشعور بالاطمئنان حرية الذهاب والاياب، الحرية الشخصية
الأسبوع الثالث عشر	الحريات الفكرية والثقافية حرية الرأي حرية المعتقد حرية التعليم
الأسبوع الرابـــع عشر	حرية الصحافة حرية التجمع حرية تشكيل الجمعيات
الأسبوع الخامس عشر	الحريات الاقتصادية والاجتماعية حرية العمل، حرية التملك حرية التجارة والصناعة