



Ministry of Higher Education and Scientific Research
Al-Farabi University
College of Technical Engineering
Department of Computer Engineering Techniques

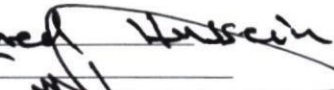
Academic Program and Course Description Guide

Department of Computer Engineering Techniques

Academic Year 2025-2026

Academic Program Description Form

University Name	Al-Farabi University
College / Institute	College of Technical Engineering
Scientific Department	Department of Computer Engineering Technologies
Academic or Professional Program Name	Bachelor of Computer Engineering Technologies
Final Certificate Name	Bachelor in Computer Engineering Technologies
Academic System	Bologna System
Description Preparation Date	26 March 2026
File Completion Date	26 March 2026

Head of Department Name: <u>Dr. Akram Hatem</u> Signature: <u></u> Date: <u>22 / 6 / 2026</u> Quality Assurance and University Performance Division Reviewed by: <u>Prof. dr. Hanaa Hammood</u> Division Manager Name: <u></u> Signature: <u></u> Date: <u> / / 2026</u>	Scientific Associate Name: <u>Dr. Ahmed Hussein</u> Signature: <u></u> Date: <u>22 / 6 / 2026</u> Dean's Approval <u>approval</u> Dean of the College: <u>Assoc. Prof. Dr. Hanaa Hammood</u> Signature: <u></u> Date: <u>20 / 6 / 2026</u>
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1. Program Vision

To qualify distinguished scientific competencies capable of practical innovation in computer technologies, while developing high professional and ethical skills that enable graduates to keep pace with developments in the field.

2. Program Mission

The Department of Computer Engineering Technologies supports the mission of the College of Technical Engineering at Al-Farabi University by preparing technical engineers able to respond to scientific and technological challenges in computer systems, communication networks, control systems, and applied computing.

3. Program Objectives

- Prepare technical engineers who understand and work with electronic systems and computer-based control systems.
- Build knowledge in computer engineering, communication networks, digital systems, programming, and applied mathematics.
- Develop practical laboratory, workshop, design, and problem-solving skills.
- Promote ethical practice, professional behavior, and readiness for labor-market needs.

4. Program Accreditation

Under conformity / matching process.

5. External Influences / Factors

Twinning with the Middle Technical University / Electrical Engineering Technical College / Department of Computer Engineering Technologies.

6. Program Structure

Structure	Courses	Study Units	Percentage	Notes
Institution Requirements	6	12	8%	Core requirement
College Requirements	8	12	10%	
Department Requirements	55	120	82%	
Summer Training	2	2		
Other				

7. Program Description - First Stage Modules

Year / Level	Code	Module	Hours	Units	Type
First Stage / Semester 1	CETFU1102	Fundamentals of Electrical Engineering	150	6	Core
First Stage / Semester 1	CETFU1101	Digital Logic Design	150	6	Core
First Stage / Semester 1	CETFU1103	Mathematics I	125	5	Core
First Stage / Semester 1	CETFU1104	Engineering Drawing	125	5	Core
First Stage / Semester 1	CETFU1105	Engineering Workshops	150	6	Core
First Stage / Semester 1	FUTE1002	English Language (1)	50	2	Institution Requirement
First Stage / Semester 2	CETF1202	Electrical Circuits	150	6	Core
First Stage / Semester 2	CETF1201	Digital Systems	150	6	Core
First Stage / Semester 2	CETF1203	Programming Essentials	150	6	Core
First Stage / Semester 2	FUTE1004	Computer Fundamentals	75	3	Institution Requirement
First Stage / Semester 2	CETF1204	Mathematics II	125	5	Core
First Stage / Semester 2	FUTE1001	Arabic Language	50	2	Institution Requirement
First Stage / Semester 2	FUTE1006	Democracy and Human Rights	50	2	Institution Requirement

8. Expected Program Learning Outcomes

Knowledge

- Understand the theoretical and practical concepts of the program modules.
- Analyze the structure of each module and relate it to computer-engineering applications.
- Understand computer systems, digital logic, circuits, programming, networks, and engineering foundations.

Skills

- Design and analyze digital systems, circuits, programs, and basic computer-based solutions.
- Use engineering tools, laboratory procedures, workshops, and software resources effectively.
- Apply problem-solving, communication, documentation, and teamwork skills.

Values

- Recognize the importance of computing technologies in society and industry.
- Strengthen confidence, ethical behavior, responsibility, and professional discipline.
- Participate positively in academic and professional activities.

9. Teaching and Learning Strategies

Blended learning through in-person and electronic instruction, scientific videos, laboratories, summer and professional training, practical projects, interactive tutorials, discussions, and assignments.

10. Assessment Methods

Weekly, monthly, daily, practical, and final examinations, with assignments, laboratory activities, projects, and class participation according to module requirements.

11. Teaching Staff

Academic Rank / Count	General Specialization	Specific Specialization	Status
Assistant Professor (2)	Mathematics and Computer Science / History Education	Computer Applications / International Relations History	Permanent staff
Assistant Lecturer (3)	Computer Engineering Technologies	Communication Networks / Artificial Intelligence	Permanent staff
Assistant Professor (2)	Computer Engineering	Communication Networks	Lecturer
Assistant Lecturer (2)	Computer Engineering	Artificial Intelligence	Lecturer

12. Admission Criteria

Central admission.

13. Main Program Information Sources

Engineering and computing textbooks and references, including MATLAB for Engineering Applications, Getting Started with MATLAB, Digital Fundamentals, and other current computing, electrical, and programming references.

14. Program Development Plan

- Update laboratory software and technical resources.
- Use modern academic and professional references.
- Continue improving practical training, laboratory work, and project-based learning.

15. Course Description Summaries

CETFU1102 - Fundamentals of Electrical Engineering

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Furqan Abdulmunim
Email	furqan.abdalMunim@alfarabiuc.edu.iq

Course Objectives

- Develop problem-solving skills in circuit theory.
- Understand voltage, current, power, Kirchhoff laws, Thevenin and Norton theorems.
- Understand alternating-current waveforms and basic series and parallel AC circuits.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	4	Symbols And Abbreviations, Units, Electric Circuit & its Element , Ohms law.	Theory and practical	All exam types
2	4	Series Circuits (Resistance in Series) Voltage Divider Rule.	Theory and practical	All exam types
3	4	Parallel Circuits (Resistances in Parallel) Current Divider Rule.	Theory and practical	All exam types
4		Open and Short Circuits, Source Transformation,	Theory and practical	All exam types
5	4	Series-Parallel Circuits Transformation.	Theory and practical	All exam types
6	4	Kirchhoff's Laws: Kirchhoff's current law (KCL) and its use in Network Analysis.	Theory and practical	All exam types
7	4	Kirchhoff's voltage law (KVL) and its use in Network Analysis	Theory and practical	All exam types
8	4	Conversion Delta to Star Connection and Conversion Star to Delta Connection	Theory and practical	All exam types
9	4	Mid Term Exam + Superposition Method	Theory and practical	All exam types
10	4	Thevenin's Theorem	Theory and practical	All exam types
11	4	Norton's Theorem	Theory and practical	All exam types
12	4	The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms	Theory and practical	All exam types
13	4	The Mean and Effective Values of Current and Voltage	Theory and practical	All exam types
14	4	Series and Parallel AC Circuits (R L C)	Theory and practical	All exam types
15	4	Preparing for final Exam	Theory and practical	All exam types

CETFU1101 - Digital Logic Design

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Noor Naseer Mahdi
Email	noor.naseer@alfarabiuc.edu.iq

Course Objectives

- Work with number systems and digital codes.
- Understand logic gates and use them to design digital circuits.
- Simplify Boolean expressions and apply Karnaugh maps, adders, encoders, decoders, multiplexers, and comparators.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	4	Number systems (decimal, binary, octal, conversions, operations)	Theory and practical	All exam types
2	4	Number systems (hexadecimal, BCD, conversions, operations)	Theory and practical	All exam types
3	4	Number systems (excess-3, gray code, conversions, operations, complements)	Theory and practical	All exam types
4		Logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR)	Theory and practical	All exam types
5	4	Logic simplification (Boolean theorem)	Theory and practical	All exam types
6	4	Logic simplification (Demorgan's theorem)	Theory and practical	All exam types
7	4	Karnaugh maps (2-variables, 3-variables)	Theory and practical	All exam types
8	4	Karnaugh maps (4-variables (SOP, POS, don't care))	Theory and practical	All exam types
9	4	Karnaugh maps (5-variables, (SOP, POS, don't care))	Theory and practical	All exam types
10	4	Arithmetic operations (adder, parallel binary adder)	Theory and practical	All exam types
11	4	Arithmetic operations (subtractor, adder-subtractor circuit)	Theory and practical	All exam types
12	4	Arithmetic operations (decoder, encoder)	Theory and practical	All exam types
13	4	Arithmetic operations (Multiplexer, Demultiplexer)	Theory and practical	All exam types
14	4	Flip-flop types and operation	Theory and practical	All exam types
15	4	Synchronous and Asynchronous Counter	Theory and practical	All exam types

CETFU1103 - Mathematics I

Academic Year	2025-2026
Attendance	Required
Total Study Hours	125
Units	5
Course Coordinator	Asst. Lect. Ibrahim Salman
Email	furqan.abdalMunim@alfarabiuc.edu.iq

Course Objectives

- Study differential and integral calculus.
- Build problem-solving skills in limits, differentiation, derivative applications, and integration methods.
- Understand the relationship between differentiation and integration.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

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

CETFU1104 - Engineering Drawing

Academic Year	2025-2026
Attendance	Required
Total Study Hours	125
Units	5
Course Coordinator	Asst. Lect. Maryam Jabbar
Email	furqan.abdalMunim@alfarabiuc.edu.iq

Course Objectives

- Develop spatial visualization and engineering drawing skills.
- Convert field dimensions and design data into graphic drawings.
- Build basic AutoCAD skills for two-dimensional engineering drawings.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	3	Introducing of Engineering Drawing	Practical	All exam types
2	3	Drawing settings of AutoCAD	Practical	All exam types
3		Drawing Tools: Point, Line, Multiline, P line, Spline, X line.	Practical	All exam types
4	3	Rectangle, Donut, Polygon	Practical	All exam types
5	3	Circle, Arc, Ellipse	Practical	All exam types
6	3	Modify Tools Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet.	Practical	All exam types
7	3	Kirchhoff's voltage law (KVL) and its use in Network Analysis	Practical	All exam types
8	3	Conversion Delta to Star Connection and Conversion Star to Delta Connection	Practical	All exam types
9	3	Mid Term Exam + Superposition Method	Practical	All exam types
10	3	Thevenin's Theorem	Practical	All exam types
11	3	Norton's Theorem	Practical	All exam types
12	3	The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms	Practical	All exam types
13	3	The Mean and Effective Values of Current and Voltage	Practical	All exam types
14	3	Series and Parallel AC Circuits (R L C)	Practical	All exam types
15	3	Preparing for final Exam	Practical	All exam types

CETFU1105 - Engineering Workshops

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Dhulfiqar Abdulstar
Email	dhialfuqar.abdulstar@alfarabiuc.du.iq

Course Objectives

- Acquire practical skills for electrical, electronic, and mechanical systems.
- Read engineering diagrams and use workshop tools and equipment safely.
- Diagnose faults, repair systems, and conduct basic maintenance.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1,2	4	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.	Practical	All exam types
3,4	4	How to use irons, types of soldering used, and how to use absorbent soldering irons 1- Electric Circuits and Transformer Operation. 2- Electrical Installations and Types of Wiring (Surface and Concealed).	Practical	All exam types
5,6,7	4	Electronic components (resistor, inductors, capacitors) 1- ONE LAMP CONTROLLED BY ONE SWITCH Parallel Wiring of Two Lamps with a Switch and Socket Drawing a Staircase Lamp (Two-Way Switch) Circuit	Practical	All exam types
8	4	Mid-term Exam	Practical	All exam types
9,10	4	Electronic components (Battery, jumper, fuse, push button, switch, rotary switch) 1- Introduction to Workshop Safety 2- Turning Process and Instrumentation Measures	Practical	All exam types
11,12	4	Electronic components (Diode, Transistor, Transformer) 1- Cutting Tools 2- Practical Exercise - Horizontal Turning	Practical	All exam types
W 13,14	4	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)	Practical	All exam types
15	4	Preparatory week before the final Exam	Practical	All exam types
16	4	Final Exam	Practical	All exam types

FUTE1002 - English Language (1)

Academic Year	2025-2026
Attendance	Required
Total Study Hours	50
Units	2
Course Coordinator	Asst. Lect. Ibrahim Salman
Email	ibrahim.salman@alfarabiuc.edu.iq

Course Objectives

- Build beginner-level vocabulary and core language structures.
- Develop listening, speaking, reading, and basic writing skills.
- Use English in practical everyday situations.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	2	Hello!	Theory	All exam types
2		Your world.	Theory	All exam types
3	2	All about you.	Theory	All exam types
4	2	Family and friends.	Theory	All exam types
5	2	The way I live.	Theory	All exam types
6	2	Every day	Theory	All exam types
7	2	My favorites.	Theory	All exam types
8	2	Where I live. Times past.	Theory	All exam types
9	2	We had a great time! I can do that!	Theory	All exam types
10	2	Please and thank you. Here and now.	Theory	All exam types
11	2	It's time to go! Getting to know you.	Theory	All exam types
12	2	The way we live. It all went wrong.	Theory	All exam types
13	2	Let's go shopping!	Theory	All exam types
14	2	What do you want to do?	Theory	All exam types
15	2	Tell me! What's it like?	Theory	All exam types

CETF1202 - Electrical Circuits

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Sara Ahmad
Email	sara.ahmad@alfarabiuc.edu.iq

Course Objectives

- Develop circuit-analysis skills through applied techniques.
- Understand voltage, current, power, Kirchhoff laws, and network theorems.
- Analyze basic AC circuits and alternating-current waveforms.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	4	The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms	Theory and practical	All exam types
2	4	The Mean and Effective Values of Current and Voltage	Theory and practical	All exam types
3	4	Alternating Quantities. Average and R.M.S values of current and voltage	Theory and practical	All exam types
4		The Mean and Effective Values of Current and Voltage	Theory and practical	All exam types
5	4	Representing AC Voltages and Currents by Complex Numbers.	Theory and practical	All exam types
6	4	Ohm's Law for AC Circuits. Resistors Inductors Capacitors	Theory and practical	All exam types
7	4	A.C Series Circuit:	Theory and practical	All exam types
8	4	Mid-term Exam	Theory and practical	All exam types
9	4	Parallel AC Circuits (R L C)	Theory and practical	All exam types
10	4	Alternating Quantities. Phasor diagram	Theory and practical	All exam types
11	4	Single - phase of AC Circuits. AC in resistive circuits , current and voltage in inductive circuits, current and voltage in capacitive circuits.	Theory and practical	All exam types
12	4	Single - phase of AC Circuits. Concept of complex impedance and admittance , AC series and parallel circuits .	Theory and practical	All exam types
13	4	Single - phase of AC Circuits. RL , RC and RLC circuit analysis and phasor representation	Theory and practical	All exam types
14	4	Power in AC circuits. Power in resistive circuits ,power in inductive and capacitive circuits ,power in circuit with resistance and reactance	Theory and practical	All exam types
15	4	Preparing for final Exam	Theory and practical	All exam types

CETF1201 - Digital Systems

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Saba Abdulmunim
Email	sabba.abbas.sa@gmail.com

Course Objectives

- Apply number systems and codes in digital-system design.
- Use logic gates to design and simplify digital circuits.
- Understand common combinational circuits such as adders, encoders, decoders, and multiplexers.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	4	Number systems (decimal, binary, octal, conversions, operations)	Theory and practical	All exam types
2	4	Number systems (hexadecimal, BCD, conversions, operations)	Theory and practical	All exam types
3	4	Number systems (excess-3, gray code, conversions, operations, complements)	Theory and practical	All exam types
4		Logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR)	Theory and practical	All exam types
5	4	Logic simplification (Boolean theorem)	Theory and practical	All exam types
6	4	Logic simplification (Demorgan's theorem)	Theory and practical	All exam types
7	4	Karnaugh maps (2-variables, 3-variables)	Theory and practical	All exam types
8	4	Karnaugh maps (4-variables (SOP, POS, don't care))	Theory and practical	All exam types
9	4	Karnaugh maps (5-variables, (SOP, POS, don't care))	Theory and practical	All exam types
10	4	Arithmetic operations (adder, parallel binary adder)	Theory and practical	All exam types
11	4	Arithmetic operations (subtractor, adder-subtractor circuit)	Theory and practical	All exam types
12	4	Arithmetic operations (decoder, encoder)	Theory and practical	All exam types
13	4	Arithmetic operations (Multiplexer, Demultiplexer)	Theory and practical	All exam types
14	4	Flip-flop types and operation	Theory and practical	All exam types
15	4	Synchronous and Asynchronous Counter	Theory and practical	All exam types

CETF1203 - Programming Essentials

Academic Year	2025-2026
Attendance	Required
Total Study Hours	150
Units	6
Course Coordinator	Asst. Lect. Maryam Jabbar
Email	Mariam.jabbar@alfarabiuc.edu.iq

Course Objectives

- Develop programming logic and problem-solving skills.
- Use C++ and algorithm design principles.
- Complete programming tasks using control statements, functions, arrays, and files.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	4	Introduction. Types of programs (Applications and Systems). Computer Components. How computers store Data.	Theory and practical	All exam types
2	4	Programming languages (Machine, Assembly, and High-level language). Introduction to Compilers, Interpreters, object file, and executable file. Types of programming errors, program development life cycle.	Theory and practical	All exam types
3	4	Algorithms (Flowchart).	Theory and practical	All exam types
4		Variables, Data Types, Declaration of variables, Constants, Statements, and Operators.	Theory and practical	All exam types
5	4	Making Decisions (if, if-else statements), flowchart of if-else statement.	Theory and practical	All exam types
6	4	Making Decisions (switch statement), using break statement with switch statement, flowchart of switch statement.	Theory and practical	All exam types
7	4	Mid-term Exam + Loops (for loop)	Theory and practical	All exam types
8	4	Loops (while, do-while), using break and continue statements with loops, flowchart of loops.	Theory and practical	All exam types
9	4	Arrays (One dimensional)	Theory and practical	All exam types
10	4	Arrays (Two Dimensional)	Theory and practical	All exam types
11	4	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.	Theory and practical	All exam types
12	4	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.	Theory and practical	All exam types

		Arguments passed by value and by reference.		
13	4	Character sequences and string handling.	Theory and practical	All exam types
14	4	Handling and processing text files in C++	Theory and practical	All exam types
15	4	Preparing for the final Exam	Theory and practical	All exam types

FUTE1004 - Computer Fundamentals

Academic Year	2025-2026
Attendance	Required
Total Study Hours	75
Units	3
Course Coordinator	Asst. Lect. Noor Naseer Mahdi
Email	noor.naseer@alfarabiuc.edu.iq

Course Objectives

- Study computer principles and basic input devices.
- Understand memory, disk drives, and operating-system basics.
- Use Windows accessories and basic computer applications.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1st	2	Introducing to the Computer System Including: What is Computer? Computer System, Functions of Computer Input Storage Process & Output, Classification of Computers and Computer Units	Theory and practical	All exam types
2nd, 3rd, 4th	2	Explaining Types of Computer Keyboards and Types of Keyboard Keys	Theory and practical	All exam types
5th	2	Explaining Types of Computer Mice and Mouse Functions	Theory and practical	All exam types
6th	2	Explaining Different Plugs and Ports for Some Computer Parts	Theory and practical	All exam types
7th	2	Illustrating Computer Discs and Drives	Theory and practical	All exam types
8th	2	Illustrating RAM, Non-Volatile and Cache Memories	Theory and practical	All exam types
9th, 10th, 11th	2	Demonstrating Computer Hardware Parts and Definitions	Theory and practical	All exam types
12th, 13th	2	Presenting Windows, Windows Desktop and Windows Taskbar	Theory and practical	All exam types
14th, 15th	2	Illustrating Start Menu and Windows Accessories	Theory and practical	All exam types

CETF1204 - Mathematics II

Academic Year	2025-2026
Attendance	Required
Total Study Hours	125
Units	5
Course Coordinator	Asst. Lect. Ibrahim Salman
Email	ibrahim.salman@alfarabiuc.edu.iq

Course Objectives

- Understand vectors, vector operations, and linear algebra.
- Solve systems of linear equations using different methods.
- Determine eigenvalues, eigenvectors, and matrix diagonalization.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	3	Vectors (Definition, notation (Ordered set, Matrix, Unit vector), Magnitude, Unit, Zero, negative, Direction, Operations on vectors (addition, subtraction, scalar multiplication).)	Theory	All exam types
2	3	Vectors (Operations on vectors (dot product, cross product), Orthogonal, orthonormal vectors.)	Theory	All exam types
3		Matrices (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.)	Theory	All exam types
4	3	Matrices (operations (addition, subtraction, scalar multiplication, multiplication).)	Theory	All exam types
5	3	Matrices (Determinant, Inverse (Nonsingular).)	Theory	All exam types
6	3	System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.)	Theory	All exam types
7	3	System of Linear Equations (Row operations, row-echelon form "triangular", Rank of a Matrix, reduced row-echelon form, Augmented Matrix.)	Theory	All exam types
8	3	Midterm Exam + System of Linear Equations (Gaussian elimination.)	Theory	All exam types
9	3	System of Linear Equations (Gauss-Jordan elimination, Solving Systems with Inverses.)	Theory	All exam types
10	3	System of Linear Equations (Cramer's Rule.)	Theory	All exam types
11	3	Vector Spaces (Linear Combinations of Vector, span.)	Theory	All exam types
12	3	Vector Spaces (Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix.)	Theory	All exam types
13	3	Vector Spaces (Linear Transformations.)	Theory	All exam types
14	3	Diagonalization (Polynomials of Matrices, Characteristic Polynomial, Cayley-Hamilton	Theory	All exam types

		Theorem.)		
15	3	Diagonalization (Eigenvalues and Eigenvectors, Diagonalizing Matrices.)	Theory	All exam types

FUTE1001 - Arabic Language

Academic Year	2025-2026
Attendance	Required
Total Study Hours	50
Units	2
Course Coordinator	Asst. Lect. Nasreen Ahmed Faiq
Email	nasreen.rahim@alfarabiuc.edu.iq

Course Objectives

- Improve Arabic writing accuracy and avoid common language errors.
- Apply spelling, punctuation, grammar, and administrative-writing rules.
- Practice formal correspondence and administrative communication.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1	2	Introduction to common linguistic errors: taa marbuta, long taa, and open taa.	Theory	All exam types
2		Rules for writing long and short alif; solar and lunar letters.	Theory	All exam types
3	2	The letters daad and dhaad and how to distinguish them.	Theory	All exam types
4	2	Writing hamza correctly.	Theory	All exam types
5	2	Punctuation marks.	Theory	All exam types
6	2	Nouns, verbs, and distinguishing between them.	Theory	All exam types
7	2	Objects in Arabic grammar.	Theory	All exam types
8	2	Numbers and numerals.	Theory	All exam types
9	2	Applications on common linguistic errors.	Theory	All exam types
10	2	Noon, tanween, and the meanings of prepositions.	Theory	All exam types
11	2	Formal aspects of administrative correspondence.	Theory	All exam types
12	2	Language of administrative correspondence.	Theory	All exam types
13	2	Models of administrative correspondence.	Theory	All exam types
14	2	Rules for writing long and short alif; solar and lunar letters.	Theory	All exam types
15	2	The letters daad and dhaad and how to distinguish them.	Theory	All exam types

FUTE1006 - Democracy and Human Rights

Academic Year	2025-2026
Attendance	Required
Total Study Hours	50
Units	2
Course Coordinator	Asst. Lect. Abbas Obaid Dawood
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Course Objectives

- Introduce human rights and fundamental freedoms.
- Explain democracy, elections, and civic participation.
- Develop civic awareness and knowledge of laws protecting rights and freedoms.

Teaching Strategy: lectures, tutorials, laboratories or practical exercises as appropriate, interactive tasks, assignments, and guided discussion to strengthen critical thinking and applied skills.

Weekly Course Structure

Week	Hours	Topic / Unit	Teaching Method	Assessment
1-15	2	Why human rights, the concept of human rights The history of human rights in ancient civilizations Human rights in monotheistic religions, Islam as a model Human rights in the Middle Ages The role of revolutions and thinkers in human rights Human rights in the modern era, the League of Nations, the United Nations Mid term Exam + The Universal Declaration and international human rights covenants and instruments Human rights in regional agreements Human rights in international non-governmental organizations International guarantees for human rights and the role of the High Commissioner Financial and administrative corruption and its role in obstructing the enforcement of human rights Terrorism Public freedoms, concept, types Democracy, its types, implementation mechanisms, elections Preparing for the final exam	Theory	All exam types