

Academic Program Description Form

University Name: Al-Turath University.....

Faculty/Institute: Engineering Technical.....

Scientific Department: Computer Engineering Technique.....

Academic or Professional Program Name: Computer Engineering Technique

Final Certificate Name: Bachelor of Engineering Technique.....

Academic System: Bachelor

Description Preparation Date: Annual

File Completion Date: 2025/6/29

Signature: Dr. Laith S. Ismail

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 23/8/2024

Signature:

Approval of the Dean

1. Program Vision

The College of Engineering Technology vision to prepare graduates in the field of computer engineering technology to work in government departments and benefit from their expertise in practical and applied fields.

2. Program Mission

Striving to prepare and graduate pioneering scientific and leadership competencies in the field of Computer Technical Engineering, while advancing the knowledge base in scientific research related to economics. The aim is to serve the local, regional, and international community, in addition to educating and intellectually refining students, reinforcing social and cultural values, and responding to the needs of the local job market

3. Program Objectives

Academic program objective is to graduate students majoring in technical architecture of computers and prepare them for the following:

1. To be able to work in areas that require linking computer networks as companies and communication technology companies and educational institutions.
2. To work on the infrastructure for e-government development and assistance to overcome the technical problems that may occur.
3. To work of industrial enterprises, especially in the areas that require computerized control operations.
4. To work on the renovation greeting structure of the old plants productivity and modernize operations to control the output used previously to modern processes
controlling them with computers and remote

4. Program Accreditation

The college accreditation from the ministry of higher education and scientific research

5. Other external influences

Labor market: where many seminars and meetings held to discuss academic and applied content with employers Universities and colleges that have majors debate: through the joint mechanisms work allows communication between the teaching staff and students for the purpose of going out a shared vision for the development and the development of academic content plans.

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	90			
College Requirements	Yes			
Department Requirements	Yes			
Summer Training	Yes			
Other				

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
	Computer Networks Simulators	6	/	/
	Engineering Analysis	6	/	/
	Control Engineering	6	/	/

Yearth 3 Computer Communication Network	Fundamental			
	Computer Networks Fundamentals	6	/	/
	Real Time Systems Design	6	/	/
	Digital Signal Processing	6	/	/
	Digital Communications	6	/	/
	Elective Course	6		
	Training	-		
	English	2	/	-
Yearth4 Computer Communication Network	Computer Networks Protocols	6	/	/
	Information Theory and Coding	6	/	/
	Mobile Communications	6	/	/
	Security of Computer and Networks	6	/	/
	Project Management	6	/	-
	Multimedia Computing	6	/	/
	Project	4	/	-
	English	2	/	-

8. Expected learning outcomes of the program	
Knowledge	
1– Knowledge of the different stages of the development of electronic sense.	2-knowledge of different types of electronic calculator and parts for major
3– knowledge of the structural core of the memory and the various classifications of memory from the main memory and secondary memory	4-knowledge of the structural core CPU
5– know how data is represented inside the electronic calculator	6- knowledge of the processor of the type 8085
Skills	
1-Ability to diagnose faults in the electronic calculator	2 - The ability to use meta own processor 8085
3 -The ability to know different types of electronic calculator	4- The ability to program processor 8085
Ethics	
Able to deal with different types of computer networks	Able to deal with different types of computer networks

9. Teaching and Learning Strategies

Academic lectures: providing a solid foundation upon which to develop cognitive balance for students

Practical laboratory: which provides each student the expertise to help develop practical skills side and consolidate the principles necessary to carry out the projects correctly

10. Evaluation methods

Homework, exams and quizzes.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Lect	1	4			3	2
Asst lect	2	18			12	7

Professional Development

Mentoring new faculty members

The new staff members in their first year usually work as T.A. to the senior staff members, they also help in the lab-work where they gain hands-on experience.

Professional development of faculty members

The department holds lots of workshops, orientation sessions which the new hires are required to attend

12. Acceptance Criterion

The admission criteria are annually determined by the specialized committees of the Ministry of Higher Education

13. The most important sources of information about the program

- 1.Specialized scientific textbooks
- 2.Academic research papers
- 3.The information web network (Internet)
- 4.The accumulated scientific expertise of the department staff
- 5.Feedback from the labor market

14. Program Development Plan

1. Aligning the program with labor market requirements.
2. Enhancing the practical and applied aspects of the curriculum.
3. Developing learning outcomes in accordance with quality standards and academic accreditation criteria.
4. Integrating modern technologies such as Artificial Intelligence, Cybersecurity, and the Internet of Things.
5. Developing students' skills in entrepreneurship and innovation.
6. Enhancing the competency of the academic staff.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
Year th 3 Computer Communication Network	Core	Computer Network Simulators		/					/			/			
	Core	Engineering Analytics		/				/				/			
	Core	Fundamentals of Control Engineering		/				/				/			
	Elective	Fundamentals of Computer Networks		/				/				/			
	Elective	Real-Time System Design		/				/				/			
	Core	Digital Signal Processing		/					/			/			
	Core	Digital Communications		/					/			/			
	--	Summer Training		/					/			/			
	Elective	English Language		/					/			/			
	Core	Computer Network Protocols		/				/				/			
	Core	Information Theory and coding		/				/				/			

Yearth 4 Computer Communication Network	Core	Mobile Communication Systems		/							/			/	
	Core	Computer and Network Security		/				/				/			
	Core	Project Management		/				/				/			
	Elective	Multimedia Computing		/				/				/			
	--	Project		/					/			/			
	Elective	English Language		/					/			/			

- Please tick the boxes corresponding to the individual program learning outcomes under evaluation.

Course Description Form

1. Course Name:	
Computer Engineering Techniques (networks)	
2. Course Code:	
Engineering Analysis	
3. Semester / Year:	
2025/2024	
4. Description Preparation Date:	
2025/6/28	
5. Available Attendance Forms:	
Lecture , Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Ahmed Ail Hussein Email: ahmed.hussein@uoturath.edu.iq	
8. Course Objectives	
Course Objectives The course aims to provide student of the 4th stage of the two branches with information and	prepare them to be able to: 1– Solve complex mathematical equations using several methods. 2– Know the process of converting terrestrial functions from the time domain to the frequency domain. 3– Know the process of converting terrestrial functions from the frequency domain to the time domain. 4– Know and understand how to analyze and solve complex functions. 5– Know how to solve derivatives using various analytical methods. 6– Know and understand how to solve matrices.
9. Teaching and Learning Strategies	
Strategy	Article to aim that the student be able to 1. solving equations sports complex in several ways 2. knowledge of mathematical functions to convert from the time domain to the frequency domain process

	3. knowledge of mathematical functions to convert from the field to the deterioration of the time domain process This Course Specification provides a concise summary of the main features of th course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programmer specification. 4. knowledge and understanding of how the complex functions analysis and resolution 5. know how to solve the derivatives different analytical methods 6. knowledge and understanding of how to solve matrices
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Academic lectures: providing a solid foundation upon which to develop cognitive balance for students

Practical laboratory:, which provides each student Maihtaj him the expertise to help develop practical sk.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	1- Higher Engineering Mathematics by Dr. B.S. Grewal 2- An introduction to Numerical analysis by David F. Mayers
Main references (sources)	Higher Engineering Mathematics by Dr. B Grewal
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	www.ocw.mit.edu www.math.uiowa.edu

1. Course Name:	
Computer Engineering Techniques (networks)	
2. Course Code:	
Control Engineering Fundamentals	
3. Semester / Year:	
2025/2024	
4. Description Preparation Date:	
2025/6/28	
5. Available Attendance Forms:	
Lecture , Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Hamid Alshareefi Email: hamid.alshareefi@uoturath.edu.iq	
8. Course Objectives	
The course aims to provide students of the third stage of two branches with information and prepare them to be able to:	1. system analysis in the time domain by using differential equations in the Laplace transform 2. System analysis in the frequency domain 3 working on the design of controllers designed using control theory which is PID 4. study and analysis of different systems for different entries response 5. study and analysis of the system stability
9. Teaching and Learning Strategies	
Strategy	Knowledge and Understanding 1. knowledge and understanding of system analysis in the time domain by using differential equations in the lumpy field using Laplace transform 2. knowledge and understanding of system analysis in the frequency domain in the lumpy field 3. study and analysis of different systems for different entries response 4. knowledge and understanding of the stability of different systems 5. knowledge and understanding the work of controllers

designed using control theory					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
11. Course Evaluation					
Academic lectures: providing a solid foundation upon which to develop students' knowledge Laboratory and practical workshops: that provide everything needed by student's experiences to help develop practical skills side and consolidate the principles necessary to carry out practical projects correctly and follow the occupational safety steps to reduce the damage caused to people and property.					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Modern Control Engineering by Ogata		
Main references (sources)			Control Systems by Bakshi Modern Control Systems by Dorf Control Systems Engineering by Nise		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			Control Systems by Bakshi		

1. Course Name:
Computer Engineering Techniques (networks)
2. Course Code:
Computer Networks Fundamentals
3. Semester / Year:
2025/2024
4. Description Preparation Date:
2025/6/28

5. Available Attendance Forms:					
Lecture , Lab					
6. Number of Credit Hours (Total) / Number of Units (Total)					
120					
7. Course administrator's name (mention all, if more than one name)					
Name: Maan Aameid Email: maanhameid34@gmail.com					
8. Course Objectives					
Course Objectives		1. Know the types of computer networks 2. Know the types of devices of Computer Networks 3. Learn methods of linking computer networks 4. Know how to relay information through computer networks 5. Know the types of protocols and programs that is appropriate for computer networks depending on the desired application.			
9. Teaching and Learning Strategies					
Strategy		1- The student gains experience in the field of computer networks 2- Keep pace with developments in the field of computer curriculum 3- Strengthen the link between the department and the various segments of society .			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
11. Course Evaluation					
Academic lectures: This a design class hence, the teaching is based on the active participation principle where the students are faced with a problem formulation, and a pool of suggested answers is collected. The suggestions are then discussed one by one from practicality perspective. A candidate solution is chosen. The process is repeated for every-topic in the class. Practical laboratory: The students are taught embedded system programming as they					

design, build, and code their own systems.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Data Communications and Networking by McGraw-Hill Forouzan Networking Series
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	COMPUTER NETWORKING by James F. Kurose University of Massachusetts Amherst

1. Course Name:

Computer Engineering Techniques (networks)

2. Course Code:

Real Time Systems Design

3. Semester / Year:

2025/2024

4. Description Preparation Date:

2025/6/28

5. Available Attendance Forms:

Lecture , Lab

6. Number of Credit Hours (Total) / Number of Units (Total)

120

7. Course administrator's name (mention all, if more than one name)

Name: Laith S. Ismail

Email: Laith.sabaa@uoturath.edu.iq

8. Course Objectives

Introduce the student to the concept of Real Time systems Design

1. To know major distinction between systems and real-time systems
2. To introduce the students to the components of real-time systems
3. Familiarize the students with the problem of clock-speed and the need for matching ccts.

	4. To learn on how to think in terms of peripheral interface devices (PIDs). 5. Learn how to do Input/output pin expansion.
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9. Teaching and Learning Strategies

Strategy	Knowledge and Understanding 1- Essence of Real-Time systems 2- Components of a real-time system. 3- Pin scarcity problem 4- Pin expansion (input, output) 5- A/D, D/A circuits: how to deal with real world signals 7- PIDs: solving the clock-speed mis-match. 8- Familiarize the students with the concept of interrupts.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Academic lectures: This a design class hence, the teaching is based on the active participation principle where the students are faced with a problem formulation, and a pool of suggested answers is collected. The suggestions are then discussed one by one from practicality perspective. A candidate solution is chosen. The process is repeated for every-topic in the class. Practical laboratory: The students are taught embedded system programming as they design, build, and code their own systems.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	TIME SYSTEMS BY: John A. Stankovic, 2002
Main references (sources)	
Recommended books and references (scientific journals, reports...)	https://www.ces.tech
Electronic References, Websites	Practical Introduction to RTS for undergraduate engineers. BY: Douglas W. Harder. 2014

1. Course Name:	
Computer Engineering Techniques (networks)	
2. Course Code:	
Digital Signal Processing	
3. Semester / Year:	
2025/2024	
4. Description Preparation Date:	
2025/6/28	
5. Available Attendance Forms:	
Lecture , Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Mustafa Nazar Email: mustafa.nazar@uoturath.edu.iq	
8. Course Objectives	
The course aims to provide students of the third stage of the program with information and prepare them to be able to:	1. To teach students the concepts of discrete-time signals, including mathematical representations, properties, frequency content, and aliasing. 2. To teach students the concepts of linear time-invariant discrete-time systems, including representations, properties, convolution relationship, and analysis techniques based on Fourier and Z transforms. 3. To introduce the concepts of filter design.
9. Teaching and Learning Strategies	
Strategy	Knowledge and Understanding 1. Determine (possibly aliased) digital frequency of a sampled sinusoidal signal. Convert DT signals between different notation representations. 2. Identify basic components of a DSP system (A/D, signal processor, D/A) 3. Identify classes of DT systems: determine whether a DT system is linear, time-invariant, causal, stable, dynamic 4. Perform analytical convolution of two DT signals, either in time domain or

	using Z-transforms, or using Fourier transforms. Apply to determining response of LTI system to given input signal. 5. Convert between the following six representations of linear time invariant discrete time systems represented by constant coefficient difference equations: block diagram, recursive input-output expression, pole-zero diagram, system function in factored or expanded form, impulse response, frequency response. 6. Understand radix-2 derivation of FFT algorithm and its computational savings. 7. Identify basic tradeoffs in digital filter design.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Academic lectures: This a design class hence, the teaching is based on the active participation principle where the students are faced with a problem formulation, and a pool of suggested answers is collected. The suggestions are then discussed one by one from practicality perspective. A candidate solution is chosen. The process is repeated for every-topic in the class. Practical laboratory: The students are taught embedded system programming as they design, build, and code their own systems.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Hayes, Monson H. Digital signal processing Tata McGraw-Hill edition 2009
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	John G. Proakis , Dimitris K Manolopoulos Digital signal processing: principles algorithms and applications. Pearson; 4 edition (April 7, 2006).

1. Course Name:	
Computer Engineering Techniques (networks)	
2. Course Code:	
Computer Networks protocols	
3. Semester / Year:	
2025/2024	
4. Description Preparation Date:	
2025/6/28	
5. Available Attendance Forms:	
Lecture , Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Lara Mwafaq Email: lara.Mwafaq@uoturath.edu.iq	
8. Course Objectives	
	Know the types of computer networks 2. Know the types of devices of Computer Networks protocols 3. Learn methods of linking and layering computer networks 4. Know how to relay information through computer networks protocols 5. Know the types of protocols and programs that is appropriate for computer networks depending on the desired application.
9. Teaching and Learning Strategies	
Strategy	1- Knowledge and understanding of system analysis in the field of networks, network software, and Cisco systems. 2- Knowledge and understanding of system analysis in the field of protocols and the seven OSI layers. 3- Study and analyze the response of different systems to different inputs. 4- Knowledge and understanding of the stability of different systems. 5- Knowledge and understanding of the operation of the most common software and basic network components, such as

	routers and switches.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
11. Course Evaluation					
Academic lectures: providing a solid foundation upon which to develop cognitive balance for students Practical laboratory:, which provides each student the expertise to help develop practical skills side and consolidate the principles necessary to carry out the projects correctly					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			Computer Networking. A. Top-Down. -1 Approach 6th Edition		
Main references (sources)			Computer Networks - A Tanenbaum - 5th -2 edition		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites					

1. Course Name:
Computer Engineering Techniques (networks)
2. Course Code:
Information Theory and coding
3. Semester / Year:
2025/2024
4. Description Preparation Date:
2025/6/28
5. Available Attendance Forms:
Lecture , Lab
6. Number of Credit Hours (Total) / Number of Units (Total)

120

7. Course administrator's name (mention all, if more than one name)

Name: Zainab Jaffer Ali

Email: baneez2014@gmail.com

8. Course Objectives

- To study the important of information system and show its facilities and limitations.
- 1- To analysis all types of communication channels and study its characteristics and capacity calculations.
 - 2- To know the source coding using various theories that transfer the information into digital fo with minimum data rate.
 - 3- To analysis the efficiency of each type of source code.
 - 4- To calculate the efficiency for each type.
 - 5- To study some types of channel coding, its facilities and its limitations

9. Teaching and Learning Strategies

- | | |
|-----------------|--|
| Strategy | 1- The theory lectures using the available training aide.
2- Employ the feedback through questions and answers.
3- Self-training through solving an exercises.
4- Applying the communication systems.
5- Design a coding system. |
|-----------------|--|

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Quizzes, semester tests, Final tests, practical test.

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Coding and Information Theory by Steven
Main references (sources)	Computer Networks - A Tanenbaum - 5th -2 edition
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Elements of information theory by Thomas

1. Course Name:	
Computer Engineering Techniques (networks)	
2. Course Code:	
Mobile Communications	
3. Semester / Year:	
2025/2024	
4. Description Preparation Date:	
2025/6/28	
5. Available Attendance Forms:	
Lecture , Lab	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120	
7. Course administrator's name (mention all, if more than one name)	
Name: Mustafa Mohammed Email: mustafa.zayer@uoturath.edu.iq	
8. Course Objectives	
	It is aimed at students on the fourth stage definition 1 Concepts and terminology used in cellular systems 2 The study of developments in the generation cellular system 3 How to design cells 4 How to cover all the cell by signal and at all spaces 5 Types of modulation signal in Cellular Communications 6 Wireless systems construction, design and processing of interference signals
9. Teaching and Learning Strategies	
Strategy	Ask a scientific problems and the demand from students to find more than a solution to it different scientific methods to stimulate the creative side of students Assessment methods

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
11. Course Evaluation					
Ask a scientific problems and the demand from students to find more than a solution to it different scientific methods to stimulate the creative side of students Assessment methods.					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)					
Main references (sources)					
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			Mischa Schwartz, Mobile Wireless Communications, Cambridge University Press 2005 J. G. Proakis, Digital Communications, 4th ed. NY: McGraw Hill, 2000		

1. Course Name:
Computer Engineering Techniques (networks)
2. Course Code:
Project management
3. Semester / Year:
2025/2024
4. Description Preparation Date:
2025/6/28
5. Available Attendance Forms:
Lecture , Lab
6. Number of Credit Hours (Total) / Number of Units (Total)

120

7. Course administrator's name (mention all, if more than one name)

Name: Mustafa Humadi

Email: mustafa.humadi@uoturath.edu.iq

8. Course Objectives

The course aims to provide students of the fourth stage of computer electronics branch and prepare them to be able to:

The course aims to provide students of the fourth stage of computer electronics branch and prepare them to be able to:

1. study definitions of project management
2. learn methods to draw network diagrams projects
3. The knowledge and understanding of lin programming process
4. learn methods of inventory models management
5. know how to find the break even point
6. know and understand the maintenance

9. Teaching and Learning Strategies

Strategy

Academic lectures: providing a solid foundation upon which develop students knowledge Laboratory and practical worksho that provide everything needed by student's experiences to h develop practical skills side and consolidate the principles necess to carry out practical projects correctly and follow the occupationa safety steps to reduce the damage caused to people and property.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	AutoCAD 2016 Tutorial First Level 2D Fundamentals Randy H. Shih
Main references (sources)	
Recommended books and references (scientific journals, reports...)	S. choudhury" project mangement", tata McGraw hill-2003
Electronic References, Websites	Learning AutoCAD® 2010, Volume 1 Autod Official Training Guide Essentials

1. Course Name:

Computer Engineering Techniques (networks)

2. Course Code:

Advanced Digital Electronics

3. Semester / Year:

2025/2024

4. Description Preparation Date:

2025/6/28

5. Available Attendance Forms:

Lecture , Lab

6. Number of Credit Hours (Total) / Number of Units (Total)

120

7. Course administrator's name (mention all, if more than one name)

Name:

Email:

8. Course Objectives

The course aims to provide students of the fourth stage of computer electronics branch and prepare them to be able to:

1. study and analysis of the work of programmable logic devices
2. various simple and complex using a hardw description language in digital circuits design
3. Implementation of various simple and complex digital circuits using FPGA
4. Work on the implementation of digital circu using FSM
5. studying and analysis simulation results to ensure their validity

9. Teaching and Learning Strategies

Strategy	Academic lectures: providing a solid foundation upon which develop students' knowledge Laboratory and practical worksho that provide everything needed by student's experiences to h develop practical skills side and consolidate the principles necessa to carry out practical projects correctly and follow the occupatio safety steps to reduce the damage caused to people and property.
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation

Ask a scientific problems and the demand of the students to find more than a solution to it different scientific methods to stimulate the creative side of students Form working groups are evaluating the results of its work and change their structure periodically to develop a spirit of cooperation and motivate students to make every effort necessary to work under different conditions and with several people

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Circuit design with VHDL bt pedroni Digital Design with CPLD Application and VHDL by Dueck
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Circuit design with VHDL bt pedroni Digital Design with CPLD Application and VHDL by Dueck

1. Course Name:

Computer Engineering Techniques (networks)

2. Course Code:

Advanced Computer Technology

3. Semester / Year:					
2025/2024					
4. Description Preparation Date:					
2025/6/28					
5. Available Attendance Forms:					
Lecture , Lab					
6. Number of Credit Hours (Total) / Number of Units (Total)					
120					
7. Course administrator's name (mention all, if more than one name)					
Name:					
Email:					
8. Course Objectives					
Course Objectives The course aims to provide student of the 4th stage with information		prepare them to be able to: 1. The μ P and its architecture and the addressing modes 2. Paging mechanism, Segment translation and Page translation 3 Cache memory, Cache organisation, Fully associative, Direct mapped, and Set associative 4. Cache memory used for 80386 - Direct Maps - Two-way set associative 5. Intel's Pentium and Its Features 6. Pentium pro, Out of order execution 7. Other Pentium processors, Core Processor.....			
9. Teaching and Learning Strategies					
Strategy	Knowledge and Understanding 1. Internal organization of computers 2. Protected mode memory addressing, Selectors and descriptors 3. Descriptor and page table entries 4. Paging mechanism 5. Major changes in the 80386 6. Cache memory used for 80386 7. Pipelining design Techniques 8. Pentium processors				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

11. Course Evaluation					
Academic lectures: providing a solid foundation upon which to develop students' knowledge Laboratory and practical workshops: that provides everything needed by student's experiences to help develop practical skills side and consolidate the principles necessary to carry out practical projects correctly and follow the occupational safety steps to reduce the damage caused to people and property					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			The 80386, 80486 and Pentium Processor By: Walter A. Triebel		
Main references (sources)			The 80x86 IBM Pc and Compatible Computers (Volumes I & II) By: Mohammed Ali Mazidi		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites			Intel Microprocessors By: Barry B. Brey		