Republic of Iraq
Ministry of higher education & scientific research Supervision and scientific evaluation directorate
Quality assurance and academic accreditation

Academic Program Specification Form
For The Academic

University :Northern Technical University

Institute: Tchnical college of managment

Department: information techniques managment

Date of form completion: 7/4/2025

Head of Department
Dr. Ahmed Sabeeh Yousif
Date: 10/7/2025
Signature

Dean`s Assistant for Scientific Affairs
Assit.Prof Dr. Ahmed Najim Sheet
Date:10/7/2025
Signature

Quality Assurance and University performance manager
Assit.Prof.Dr. Wijdan Hassan Hamoody
Date:10/7/2025
Signature

Dean`s Name
Dr. Raafat Assi Hussein
Date:10/7/2025
Signature

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This description of the academic program provides a necessary summary of the most important characteristics of the program and the learning outcomes expected of the student to achieve, demonstrating whether he has made the most of the available opportunities. It is accompanied by a description of each course within the program .

1. Teaching Institution	**Northern Technical University**
2. University Department/Centre	**Technical College of Management / Mosul**
3. Programme Title	**Information Techniques Management Department.**
4. Title of Final Award	**Information technology assistant**
5. Modes of Attendance offered	**Determinant (first, second, third stage)** **Courses (fourth stage)**
6. Accreditation	**AACSB**
7. Other external influences	**Central admission / labor market**
8. Date of production/revision of this specification	**7/4/2025**
9. Aims of the Programme	
1. Providing society with scientific outputs capable of planning and organizing using electronic systems that keep pace with the labor market. 2. Preparing qualified students who are able to interact and communicate with society and who have the ability to deal with modern technologies in information management using modern technologies in a way that is compatible with the labor market.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1- Developing students' cognitive abilities and developing the basic concepts of the information technology specialization.

A2- Enhancing students' theoretical and applied knowledge that qualifies them to work in various types of institutions.

A3- Developing students' cognitive abilities in the field of identifying the latest technologies and tools used in storing, processing and retrieving information.

A4- A comprehensive understanding of the concepts, theories, foundations and philosophy of the information systems specialization.

A5- Providing a high-level scientific, professional and technical environment to graduate high-quality cadres in a manner consistent with the needs of the labor market.

B. Subject-specific skills

B1- Using programming skills and investing them in the field of providing services and simplifying procedures.

B2- Dealing with beneficiaries and studying their information needs.

B3- Scientific research and writing of scientific, administrative and technical reports.

B4- The possibility of managing databases available on local servers or available on the Internet in terms of entering and processing data, retrieving information and presenting it to beneficiaries.

B5- Contributing to the design, implementation and management of systems and programs to serve various institutions and achieve their goals.

Teaching and Learning Methods

1- Direct indoctrination (lecture) with the use of educational technology tools

2- Classroom discussion and interaction through assigning assignments

3- Teaching by practical application of the materials that require the department's laboratories

4- Education strategy based on research projects

5- E-learning strategy using Internet resources

Assessment methods

a. Periodic tests

B. Snap tests

T. Classroom interaction and participation

Th. Research assignments and reports

C. Practical and applied tests.

C. Thinking Skills

C1- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

C2- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best.

C3- Enhancing the desire for self-development and keeping pace with everything new in the field of institutional work.

C4- Enhancing the desire to compete to raise efficiency and productivity.

Teaching and Learning Methods

1. Periodic field visits to administrative and technical institutions
2. Coexistence, actual practice, and mingling with workers through practical application (summer training), which the student carries out in coexistence with the beneficiaries.
3. Psychological and emotional stimulation through open and direct discussions with students
4. Academic or scientific supervisor

Assessment methods

1. Periodic reports of the scientific supervisor
2. Direct and indirect follow-up and monitoring
3. Self-evaluation surveys

D. General and Transferable Skills (other skills relevant to employability and

D1- Teaching the student the skills of writing research and reports

D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work

D3- Teaching the student how to deal with information sources, analyze them, and derive and write down a summary of the information he obtains as a result of the objective analysis of these sources.

D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields

Teaching and Learning Methods

1- Continuous guidance of students by the professor during the daily lecture
2-Open discussions between students and teachers
3-Scientific trips to learn about successful experiments
4- Using the Internet in education through special websites that publish topics and complete texts

Assessment Methods

1- Excellence in good research and reports
2-Student interaction with the lecture
3-Continuous observation of the student by the teacher

11. programme structure				
stage	Course name	Course name	theoretical	practical
Second stage	ELM	Department of Information Technology Management	14 Hours a week	11 Hours a week
Third stage	ELM	Department of Information Technology Management	١٥ Hours a week	١٦ Hours a week
Fourth stage	ELM	Department of Information Technology Management	١٤ Hours a week	١٣ Hours a week

12. personal development Planning
1. Annual plans developed by the department's scientific committee and the department council to develop the performance of both the teaching and the course and its use of more modern vocabulary at a rate ranging between 15-20% of the subject. 2. Enrolling in training programs and courses and participating in distinguished scientific discussions, seminars and conferences 3. Urging teachers to communicate with their colleagues in corresponding departments, as this is of great benefit.
13. Admission criteria
1- Standards set by the Ministry of Higher Education and Scientific Research 2- The general average of preparatory school is not less than..... 3- Free from physical and mental disabilities 4- Good conduct and behavior.
14. Key sources of information about the programme
1- Corresponding departments and colleges in local Arab and international universities 2- Scientific methodological books in the field of specialization 3- Specialized practical books 4- General and specialized computer programs.

Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

Year/ level	Course Code	Course Title	Core (C) Title or Option (O)	Programme Learning Outcomes: Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills relevant to employability and personal development			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
Second stage		English language 2	Core		✓						✓			✓					✓
		Professional ethics	Core				✓			✓				✓			✓		
		Human resources management	Core			✓			✓				✓			✓			
		Operation management	Core				✓		✓				✓					✓	
		Markting management	Core				✓			✓				✓					✓
		Data base management	Core		✓			✓				✓					✓		
		Visual basic	Core		✓				✓				✓					✓	
		Organizational behavior	Core	✓			✓				✓				✓				✓
		Organizational management	Core				✓				✓				✓				✓

		multimedia	Core	✓			✓				✓				✓				✓
		E- marketing	Core			✓			✓				✓				✓		
		Image processing management	Option		✓						✓				✓				✓
		Numerical analysis	Option			✓		✓						✓			✓		
		sport	Option	✓						✓				✓				✓	
		French language	Option		✓				✓					✓					✓
Third stage		Training	Core				✓				✓				✓				✓
		English language	Core		✓					✓					✓				✓
		Financial management	Core				✓		✓				✓					✓	
		Web design	Core			✓				✓			✓					✓	
		E - business	Core		✓			✓				✓					✓		
		Information systems management	Core				✓		✓				✓					✓	
		Data base management	Core				✓		✓				✓					✓	
		Operating systems	Core		✓			✓				✓					✓		
		Visual programming	Core		✓			✓				✓					✓		
		Internet technology 1	Core	✓						✓				✓			✓		

		Commercial law	Core		✓			✓				✓							✓
		Strategy management	Core			✓				✓				✓				✓	
		Internet technology 2	Core		✓			✓					✓			✓			
		Image processing	Core	✓						✓				✓				✓	
		Network security	Option				✓			✓				✓					✓
		Projects management	Option		✓				✓						✓			✓	
		Mobile programming techniques	Core	✓				✓					✓					✓	
		Knowledge management	Core				✓				✓				✓				✓
Fourth stage		Electronic governments management	Core		✓			✓				✓						✓	
		Total quality management	Core		✓			✓				✓						✓	
		Entries administrative approaches	Core	✓			✓				✓				✓				✓
		Expert system	Core		✓			✓				✓						✓	
		System analysis	Core	✓			✓				✓				✓				✓
		Software engineering 1	Core		✓			✓				✓						✓	
		English language	Core		✓			✓				✓						✓	

		Research project	**Core**				✔				✔				✔				✔
		Electronic management	**Core**		✔						✔			✔					✔
		Quality control management	**Core**	✔			✔				✔				✔				✔
		Artificial intelligence	**Core**			✔			✔				✔					✔	
		Software engineering 2	**Core**	✔				✔									✔		
		Business ethics	**Core**		✔						✔			✔					✔
		English language	**Core**		✔					✔			✔						✔
		Methodology of scientific research	**Core**				✔		✔						✔			✔	

Course Description Form

Reviewing the performance of higher education institutions (Academic Program Review)

Course description

This course description provides a necessary summary of the most important characteristics of the course and the learning outcomes expected of the student to achieve, demonstrating whether he has made the most of the available learning opportunities.

1. The educational institution	Northern Technical University
2. The university department/center	Information Techniques Management Department
3. Course name/code	System analysis / ELM405
4. programs that are included in it	Software Development, Data Management, Project Management, Tech Support, Infrastructure Management
5. Attendance forms available	weekly
6. season/year	Courses (fourth Semester)
7. Study hours (total)	56 hours
8. The date this description was prepared	7/4/2025

9. Course objectives

This material aims to give a clear vision of how to analyze systems, whether they are old, ineffective systems or new systems, and whether the system is manual, automated, or semi-automatic. This requires the student to study the following stages: the planning stage, the analysis stage, the design stage, the application and testing stage, and the operation and maintenance stage. This course provides the student with an opportunity to do a set of practical exercises in various sectors, enabling him to acquire systems analysis skills at different stages.

١0. Learning outcomes and methods of teaching, learning and assessment

A- Knowledge and understanding

A1- Familiarity with the concept of systems analysis and the duties of a systems analyst

A2- Knowing the levels of information in the organization and how to collect, analyze and document it.

A3- Knowing the steps and requirements of systems design

A4- Knowing the basis on which the available alternatives are evaluated and the best alternative is chosen from them.

b- Subject-specific skills

B1-Familiarity with the importance and components of communication in systems analysis and design.

B2- The ability to choose and then employ appropriate analytical tools to study a specific system.

B3 - The ability to understand and read systems analysis tools such as:

- Decision tables.
- Flow charts.
- Gantt model.
- Class model.
- Business network model.

B4- Giving the student the ability to analyze systems and track administrative problems using scientific and applied means and methods.

B5-Teaching the student to discover different alternatives and compare between them, and then choose the optimal alternative .

B6-Introducing the student to ways to communicate with others at various levels inside and outside the system.

B7-Accustom the student to establishing working relationships with those concerned with the system.

B8-To accustom the student to preparing a research project, providing a detailed presentation, and being able to answer questions related to it.

B9-Accustoming the student to performing the required tasks through his active participation in a work team.

Methods of teaching and learning

1- Direct indoctrination (lecture) with the use of educational technology tools.

2- Class discussion and interaction through assignment of duties.

3- Teaching by practical application of the subjects that require the department's laboratories.

4- Research project-based education strategy.

Evaluation modalities

A. Regular testing

B. Quiz

T. Classroom interaction and participation

Th. Research assignments and reports C. Practical and practical tests
C- thinking skills C1- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best C2- Enhancing the desire to compete to raise the educational level C3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

Methods of teaching and learning
1.Periodic field visits to administrative and technical institutions 2. Coexistence, actual practice, and mingling with workers through practical application (summer training), which the student carries out in coexistence with the beneficiaries. 3.Psychological and emotional stimulation through open and direct discussions with students
Evaluation modalities
1.The scientific supervisor's periodic reports 2.Direct and indirect follow-up and monitoring 3. Self-evaluation questionnaires
D - General and transferable skills (other skills related to employability and personal development). D1- Teaching the student the skills of writing research and reports D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work D3- Teaching the student how to deal with information sources, analyze them, and derive and write down a summary of the information he obtains as a result of the objective analysis of these sources. D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields.

11. Course structure					
the week	**hours**	**required learning outcomes**	**Name of the unit/course or topic**	**education method**	**Evaluation method**
the first	**4**	Show a clear idea of the vocabulary of the subject	Present the material, divide into groups	Lectures and discussion	Interaction and participation
second The	**4**	The student's knowledge of the concept of systems: - Introduction to the system and its characteristics Definition of systems levels	Systems concept	Lectures and discussion	Interaction and participation

Third	**4**	-Defining the system's boundaries -Introducing the system's tasks	Components, boundaries and tasks of systems	Lectures and discussion	Interaction, participation and daily testing
the fourth	**4**	-Systems levels - System relations	Systems relationships	Lectures and discussion	Interaction, participation and surprise quiz
Fifth	**4**	Systems analysis: - The nature of systems analysis - Systems analysis procedures - Forming a systems team - Duties and responsibilities of the systems team (team leader and members)	Systems analysis	Lectures and practical implementation	Interaction, participation and semester testing
Sixth	**4**	Systems analysis tools: - Organizational structures - Gantt model - Network model - Class model - Decision tables - Flow maps	Analysis tools: structures	Lectures and discussion	Interaction, sharing and reporting
Seventh	**4**	Systems analysis tools: - Organizational structures - Gantt model - Network model - Class model	Analysis tools: Gantt and grid	Lectures and practical implementation	Interaction, participation and duties
Eighth	**4**	Systems analysis tools: - Class model - Decision tables - Flow maps	Analysis tools: classes and decisions	Lectures and practical implementation	Interaction, participation and duties
ninth	**4**	Systems analysis tools: - Network model - Class model - Flow maps	Midterm, presenting diagrams	Lectures and practical implementation	Giving and explaining reports through presentation
The tenth	**4**	Systems analysis tools: - Flow maps	Analysis tools: flow charts	Lectures and practical implementati	Interaction, participation and duties

				on	
eleventh	**4**	The importance of communication in systems analysis and design: - The concept of communication - Types of communication (formal - informal(- Forms of communication (vertical - horizontal - lateral(- Essentials of effective communication - Information flow - Feedback - Sources of information	Connection	Lectures and discussion	Daily testing
twelveth	**4**	Tenders and offers: - Evaluating the needs of the library or information center - Preparing the tender request brochure - Forms and contents of request for bids - Invitation to tender - Receiving and evaluating offers	Tenders and offers	Lectures and discussion	Interaction and participatio n
Thirteenth	**4**	Model design: - Basics of preparing models - Model elements - Uses of the model - The most important defects in designing models	Model design	Practical application	Reports
fourteenth	**4**	Codes and coding: - Definition of code - Code shapes - Types of code - Fundamentals of code design	Codes and coding	Practical application	Giving and explaining reports through presentation

12. Infrastructure	
Required reading: **· CORE TEXTS** **· COURSE MATERIALS** **· OTHER**	
Special requirements (include for example workshops, periodicals, IT software, websites).	**Saad Ghaleb Yassin. Analysis and design of information systems. Cairo: Dar Al-Manhaj for Publishing and Distribution, 2000, 1st edition.**
Community-based facilities (include for example, guest Lectures , internship , field Studies.	**Scientific journals in the fields of information technology.**

١٣.Course development plan
1. pre-requisites. 2. minimum number of students. 3. maximum number of students.

Course Description Form

1. Course Name:
Math1
2. Course Code:
ITM 108
3. Semester / Year:
first Semester −2025
4. Description Preparation Date:
30−7−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
105- hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr Ahmed sabeeh yousif Email:ahmedsabeeh123@ntu.edu.iq
8. Course Objectives

Course Objectives	1.Demonstrate proficiency in fundamental mathematical operations, including algebra, calculus, and trigonometry. 2.Solve mathematical problems using appropriate techniques and methods. Mathematical Reasoning: 3.Apply logical reasoning and critical thinking to analyze and solve mathematical problems. 4.Construct and evaluate mathematical arguments and proofs.

9. Teaching and Learning Strategies

Strategy	

	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic components of math and identify their vital role in supporting the information managrment. Th includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire t ability to link the theoretical concepts of SE to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and Big Data Analytics, and how they can be employed to achieve organizational strategic objectives. B. Course Skill Objectives - Problem-Solving Skills Using math: The student will develop the ability to identify problems that can be solved or mitigate using system engineering, and to propose innovative technology-based solutions, with a focus on operational efficiency and improved decision-making. - Systems Analysis and Design Skills: The student will acquire the ability to analyze different methods Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring department laboratories - Project-Based Learning Strategy -Google classroom for blended learning Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests

	C- Affective and Value-Based Objectives C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions Teaching and Learning Methods 1. Periodic field visits to administrative and technical institutions 2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries 3. Psychological Motivation and emotionally through open an direct discussions with students. D - General and transferable skills (other skills related to employability and personal development). D1 - Teaching students research and report writing skills. D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work. D3 - Teaching students how to access and analyze information sources, and how to derive and document a summary of the information obtained through objective analysis of these sources. D4 - Teaching students how to design databases and websites and implement programs to serve various scientific fields.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduct	Introduction to math	Lectures	Interaction and participation
2	4	demonstrate	Relation and function	Lectures and Discussion	test

3	4	Knowledge and Practical Application	limits	Lectures and Discussion	Interaction
4	4	demonstrate	Rules for Differentiation	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	demonstrate	Chain rule	Lectures and Discussion	Interaction, Participation, ar Quarterly Quiz
6	4	demonstrate	Trigonometric functi	Lectures and Discussion	Interaction, Participation, ar Repot
7	4	demonstrate	Inverse Trigonometr function and Logarith	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
8	4	ppt	assigments	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
9	4	demonstrate	Increasing and decreasing functions	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	demonstrate	Matrix	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
11	4	demonstrate	Operations of matrix	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	demonstrate	Integral	Lectures,Discuss and Practical Application	Interaction and Participation
13	4	Paper test	tests	Lectures, Discussion, and Practical Application	Reports
14	4	demonstrate	Review and discuss project	Lectures, Discussion, and Practical Application	Presenting and explaining repo through a presentation
15	4	review	review	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	Linear Algebra and Its Applications" by David C. Lay, Steven R. Lay, and Judi J. McDonald
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites

Course Description Form

1. Course Name:
IT Essential
2. Course Code:
ITM112
3. Semester / Year:
Fall Semester −2025
4. Description Preparation Date:
20−7−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: ahmed samir Email:ahmed.samir @ntu.edu.iq
8. Course Objectives

Course Objectives	• **Understand Core IT Concepts:**
	  • Introduce fundamental concepts of hardware, software, data, and digital systems.
	• **Develop Practical IT Skills:**
	  • Enable students to use productivity software (e.g., Word, Excel, PowerPoint) and basic operating systems effectively.
	• **Use Internet and Online Services Safely:**
	  • Equip students with skills to browse, communicate, and research information online securely and ethically.
	• **Enhance Problem-Solving with Technology:**

	• Teach students to apply IT tools to solve real-world problems in academic and professional contexts. • **Understand Data and Information Management:** • Provide basic understanding of data organization, storage, and simple database concepts. • **Promote Cybersecurity Awareness:** • Develop awareness of threats, safe practices, and ethical issues in digital environments. • **Explore Emerging IT Trends:** • Introduce modern trends such as cloud computing, artificial intelligence, and IoT. • **Foster Digital Citizenship and Ethics:** • Encourage responsible and legal use of technology, including respecting digital rights and intellectual property.

9. Teaching and Learning Strategies

Strategy	**Understand Core Concepts and Components of Information Technology** **Objective:** To provide students with foundational knowledge of IT systems including hardware, software, data processing, and digital communication. **Details:** • Define key IT terms: data, information, hardware, software, network. • Identify types of computers and their components (CPU, RAM, storage devices). • Understand the role of operating systems and application software. • Explain how data is represented, stored, and transmitted in digital form.

2. Develop Proficiency in Using Productivity Software Tools

Objective:
To equip students with hands-on skills in using widely-used software tools for academic and business productivity.

Details:

- Create, format, and manage documents using word processors (e.g., MS Word or Google Docs).
- Perform calculations, create charts, and analyze data using spreadsheets (e.g., Excel).
- Design and deliver presentations using tools like PowerPoint or Google Slides.
- Apply formatting, file management, printing, and collaboration features in these applications.

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3. Use Internet and Web Services Effectively and Securely

Objective:
To enable students to navigate the web for communication, research, and information sharing while following safe and ethical practices.

Details:

- Use web browsers efficiently for academic and personal research.
- Understand how search engines work and apply search strategies.
- Use email and cloud-based communication tools.
- Recognize safe browsing practices, identify phishing attempts, and avoid malware threats.

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4. Understand the Role of IT in Society and Everyday Life

Objective:
To explore how IT transforms industries, education, communication, and daily activities.

Details:

- Discuss applications of IT in healthcare, business, government, and education.
- Examine the digital divide and accessibility issues.
- Understand IT's impact on communication, collaboration, and decision-making.

- Analyze case studies showing real-world uses of IT.

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5. Apply IT Tools to Solve Problems and Support Decision-Making

Objective:
To develop critical thinking and problem-solving skills using IT systems and applications.

Details:

- Use software tools to collect, organize, and interpret information.
- Solve real-life scenarios using basic IT tools (e.g., budgeting in Excel).
- Understand algorithmic thinking and simple logic behind programming or automation.
- Utilize basic troubleshooting techniques for software/hardware issues.

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6. Demonstrate Awareness of Cybersecurity Principles

Objective:
To introduce students to the importance of data security and safe online behavior.

Details:

- Identify common threats (e.g., viruses, phishing, social engineering).
- Understand the importance of passwords, firewalls, and antivirus software.
- Learn safe data sharing and cloud storage practices.
- Discuss privacy concerns and how to manage digital identities.

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7. Explore Emerging Technologies and Trends in IT

Objective:
To provide students with insights into current and future directions in the IT field.

Details:

- Introduction to cloud computing, AI, IoT, blockchain, and big data.
- Understand how these technologies are reshaping industries.
- Discuss ethical and legal implications of emerging technologies.
- Encourage curiosity and ongoing learning in the field of IT.

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8. Promote Ethical and Responsible Use of Technology

Objective:
To instill values of digital citizenship and encourage legal and ethical behavior when using technology.

Details:

- Understand issues of intellectual property, copyright, and software licensing.
- Discuss cyberbullying, misinformation, and online etiquette.
- Learn the importance of respecting others' digital rights.
- Promote environmental sustainability in IT usage (e-waste, energy efficiency)

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1		Knowledge and Practical Application	Introduction to Personal Computer Hardware	Lectures and Discussion	Interaction and participation
2		Knowledge and Practical Application	PC Assembly	Lectures and Discussion	Interaction and participation
3		Knowledge and Practical Application	Advanced Computer Hardware	Lectures and Discussion	Interaction, participation, an daily testin
4		Knowledge and Practical Application	Preventive Maintena and Troubleshooting	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5		Knowledge and Practical Application	Networking Concepts	Lectures and Discussion	Interaction, Participation, an Quarterly Quiz
6		Knowledge and Practical Application	Applied Networking	Lectures and Discussion	Interaction, Participation, an Repot

7		Knowledge and Practical Application	Laptops and Other Mobile Devices	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
8		Knowledge and Practical Application	Printers	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
9		Knowledge and Practical Application	Virtualization and Cloud Computing	Lectures, Discussion, and Practical Application	Presenting and Explaining Reports Through Presentatic
10		Knowledge and Practical Application	Windows Installation	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
11		Knowledge and Practical Application	Windows Configurati	Lectures, Discussion, and Practical Application	Daily Quiz
12		Knowledge and Practical Application	Mobile, Linux, and macOS Operating Systems	Lectures,Discuss and Practical Application	Interaction and Participation
13		Knowledge and Practical Application	Security	Lectures, Discussion, and Practical Application	Reports
14		Knowledge and Practical Application	The IT Professional	Lectures, Discussion, and Practical Application	Presenting and explaining reports through a presentati
15		Knowledge and Practical Application		Lectures, Discussion, and Practical Application	Interaction and participation

11. Course Evaluation

12. Learning and Teaching Resources

Required textbooks (curricular books, if ar	CISCO ACADEMY
Main references (sources)	Cisco Networking Academy Program
Recommended books and references (scientific journals, reports…)	CISCO
Electronic References, Websites	https://community.cisco.com/t5/networking-academy/ct-p/Netacad

	▪ https://community.cisco.com

Course Description Form

Object Oriented Programing

1. Course Name:
Principles of Programming
2. Course Code:
ITM 110
3. Semester / Year:
Modular System (Courses)
4. Description Preparation Date:
29/07/2024
5. Available Attendance Forms:
Weekly – In-Person / Online
6. Number of Credit Hours (Total) / Number of Units (Total)
200
7. Course administrator's name (mention all, if more than one name)
Name: Harith Hamoodat Email: hhamoodat@ntu.edu.iq
8. Course Objectives

Course Objectives	1. **Understanding Object-Oriented Concepts**: o Introduce students to the fundamental principles of object-oriented programming, including classes, objects, inheritance, polymorphism, encapsulation, and abstraction. 2. **Development of Programming Skills**: o Develop students' ability to design and implement object-oriented solutions to programming problems using an object-oriented programming language. 3. **Application of OOP Principles**: o Enable students to apply OOP principles to solve real-world problems and develop scalable and maintainable software applications. 4. **Enhancement of Problem-Solving Skills**: o Improve students' problem-solving abilities by teaching them how to break down complex problems into smaller, manageable objects and classes.

	5. **Introduction to Advanced OOP Concepts**: o Provide an overview of advanced OOP topics such as design patterns, interfaces, and abstract classes to prepare students for more complex programming challenges.

9. Teaching and Learning Strategies

Strategy

1. Use Real-World Analogies

- Relate OOP concepts to everyday examples (e.g., a **"Car"** class with **"drive()"** and **"brake()"** methods).
- Helps students grasp abstraction and encapsulation easily.

2. Code-Along and Live Demonstrations

- Instructors write and explain code in real time.
- Encourages active learning and helps students see how OOP works in practice.

3. Project-Based Learning

- Assign small projects (like building a banking system or student record system).
- Reinforces class design, inheritance, and object interaction through hands-on experience.

4. Use of Visual Tools

- Integrate UML diagrams and flowcharts to illustrate relationships between classes.
- Supports understanding of inheritance, association, and polymorphism.

5. Peer Programming and Code Review

- Students work in pairs or groups to solve problems and review each other's code.
- Promotes collaboration, critical thinking, and exposure to diverse coding styles.

By employing these strategies, you can create an engaging and effective learning environment for teaching Object-Oriented Programming, helping students develop both theoretical knowledge and practical coding skills.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	8	1	**Introduction to Object-Oriented Programming**	Lecture, Discussion, Practice	Participation
2	8	1/2	**Classes and Objects**	Lecture, Discussion, Practice	Participation
3	8	2/4	**Encapsulation and Data Hiding**	Lecture, Discussion, Practice	Participation, Daily Quiz

4	**8**	**2/3/6**	**Inheritance**	**Lecture, Practice**	**Participation, Pop Quiz**
5	**8**	**3**	**Polymorphism**	**Lecture, Discussion, Practice**	**Midterm Exam**
6	**8**	**3/6**	**Abstraction**	**Lecture, Discussion, Practice**	**Reports**
7	**8**	All (Review)	**Mid-Term Review and Exam Preparation**	**Lecture, Discussion, Practice**	**Assignments**
8	**8**	**All**	**Mid-Term Exam**	**Lecture, Discussion, Practice**	**Assignments**
9	**8**	**5**	**Design Patterns**	**Lecture, Discussion, Practice**	**Presentation**
10	**8**	**5/6**	**Advanced – Part 2**	**Lecture, Discussion, Practice**	**Assignments**
11	**8**	**5**	**Exception Handling**	**Lecture, Discussion, Practice**	**Daily Test**
12	**8**	**5**	**Unit Testing and Debugging**	**Lecture, Discussion, Practice**	**Participation**
13	**8**	**5/6**	**Refactoring and Code Optimization**	**Practice**	**Presentation**
14	**8**	**6**	**Project Work Review**	**Theory & Practice**	**Participation**

11. Course Evaluation

- Periodic tests

• Pop quizzes • Class participation • Research assignments, reports, and projects • Practical and applied tests

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	" The Object-Oriented Thought Process" by Matt Weisfeld
Main references (sources)	Python 3 Object Oriented Programming by “Dusty Phillips”
Electronic References, Websites	https://indico.ictp.it/event/a01167/material/1/4.pdf

Course Description Form 2024-2025 (Computer)

1. Educational Institution: Mosul Technical College of Administration

2. Academic Department/Center: Department of Information Technology Management/Level One

3. Course Title/Code: NTU 102 Computer

4. Available Attendance Formats: Weekly

5. Semester/Year: Spring semester/2025/Bologna Track

6. Number of Class Hours (Total): 75

7. Date of Preparation: June 30, 2025

8. Course Objectives:

This course aims to provide students with fundamental knowledge of computer usage and its various applications in both academic and practical fields, while developing logical thinking and problem-solving skills using modern software and technological tools. The course also seeks to equip students with the ability to employ computers in scientific research, report preparation, and presentations, thereby enhancing digital competence and employability skills.

9. Course Outcomes, Teaching, Learning, and Evaluation Methods

A. Cognitive Objectives:

- Introduce students to computer components (hardware and software) and their basic functions.
- Provide students with knowledge of operating systems and file management.
- Enable students to understand computer applications in education, scientific research, and management.
- Introduce students to the fundamentals of information security and data protection.

B. Course-Specific Skills:

- Master the use of word processing, spreadsheets, and presentation software.
- Apply online research skills and analyze digital data.
- Design professional academic reports using computer tools.
- Use software to solve practical problems and small-scale projects.

C. Affective and Value-Based Objectives:

- Promote teamwork values through collaborative digital projects.
- Instill the importance of ethical technology use and intellectual property protection.
- Develop a sense of responsibility towards cybersecurity and personal data.

D. General and Transferable Skills (Other Employability and Personal Development Skills):

- Enhance digital communication skills and electronic report preparation.
- Strengthen self-learning abilities using online resources.
- Provide students with the digital competence required by the job market.
- Develop planning and organizational skills using supportive software.

E. Teaching and Learning Methods:

- Theoretical lectures supported by presentations.
- Practical applications in computer labs.
- Collaborative learning and problem-solving in groups.
- Self-learning through e-learning platforms and online resources.

F. Assessment Methods:

- Theoretical exams (midterm and final).
- Practical assessment via lab tests.
- Individual and group assignments/projects.
- Class participation and interactive activities.

10. Theoretical Course Structure					
Week	**Hours**	**Intended Learning Outcomes**	**Unit / Topic**	**Teaching Method**	**Assessment Method**
1	2	Understand the basic principles of computers and their historical development	**Introduction to Computer Principles** • Course overview • History of computers • Basic computer terminology • Computer generations	Lecture + Presentation	Quiz + Class Participation
2	2	Differentiate between data and information and identify computer types	**Introduction to Computer Principles** • Data and information • Features and uses of computers • Types and classifications of computers	Interactive Lecture + Discussion	Written Assignment + Quiz
3	2	Identify computer hardware components	**Hardware** • Physical components: Input and output devices	Lecture + Lab Demonstration	Practical Quiz
4	2	Recognize system unit parts and types of memory	**Hardware** • Computer case: External and internal parts • Types of memory • Ports • Bits and bytes • BIOS	Lecture + Lab Work	Lab Report + Test
5	2	Distinguish between software, operating systems, and application programs	**Software** • Overview of operating systems • Application programs	Lecture + Presentation	Practical Assignment
6	2	Understand programming languages, number systems, and computer platforms	**Software** • Programming languages • Number systems • Computer platforms	Lecture + Exercises	Quiz
7	2	Identify factors to consider when purchasing a personal computer	**Your Personal Computer** • Specifications and purchasing considerations	Lecture + Case Study	Practical Assignment
8	2	Learn the basics of computer security and software licensing	**Computer Security and Software Licenses** • Introduction to computer security • Ethics in the digital world • Software licenses and types • Intellectual property	Lecture + Discussion	Quiz + Participation
9	2	Understand types of hacking and malware	**Electronic Hacking** • Types and sources of hacking • Malware	Lecture + Video	Short Research Assignment
10	2	Learn protection steps and understand computer health hazards	**Electronic Hacking** • Protection against hacking • Computer-related health issues	Lecture + Practical Activity	Quiz
11	2	Understand operating systems and their classifications	**Operating Systems** • Definition of operating systems • Classification • Examples	Lecture + Lab	Practical Test
12	2	Explore Windows OS and its components	**Windows Operating System** • Installation requirements • New features • Desktop components and Start menu	Lecture + Practical Work	Lab Report
13	2	Manage files, folders, and Control Panel	**Using the Computer** • Task Manager • Files, folders, and icons • Control Panel and categories	Lab Session	Practical Test
14	2	Manage printers, software, and basic settings	**Using the Computer** • Printer management • Setting time and date • Mouse customization • Installing and removing programs	Lab Session	Practical Assignment + Test
15	2	Comprehensive review and final project presentations	**Review** • Key concepts revision • Final project presentations • Student feedback and course evaluation	Discussion + Presentations	Project Presentation + Practical Evaluation
16	2	Final assessment of learning outcomes	**Final Exam**	Comprehensive Exam	Final Exam

10. Practical Course Structure					
Week	**Hours**	**Intended Learning Outcomes**	**Unit / Topic**	**Teaching Method**	**Assessment Method**
1	2	Identify the lab environment and perform basic computer operations	**Lab Introduction and Basic Computer Operations**	Practical demonstration + Individual application	Short practical quiz + Student performance monitoring
2	2	Understand binary number system and data representation	**Binary Numbers and Data Representation**	Brief theoretical explanation + Practical exercises	Practical assignment + Short quiz
3	2	Identify computer hardware components	**Exploring Computer Hardware**	Practical demonstration + Assembling and disassembling parts	Practical lab evaluation
4	2	Understand CPU functions and memory	**CPU and Memory**	Hands-on practice + Discussion	Practical test
5	2	Learn operating systems and their basic functions	**Operating Systems**	Practical implementation + OS experimentation	Lab assignment
6	2	Write simple programs in C++	**Introduction to C++**	Practical explanation + Writing basic codes	Practical programming test
7	2	Compare and analyze computer specifications to choose the best option	**Buying the Right Computer – Compare and Analyze**	Group activity + Case study	Practical report
8	2	Understand the fundamentals of cybersecurity	**Cybersecurity (1)**	Practical demonstration + Simulated attacks	Practical test
9	2	Apply concepts of system and data protection	**Cybersecurity (2)**	Hands-on practice + Discussion	Practical assignment
10	2	Learn about digital health protection and the impact of computers on humans	**Cybersecurity and Health Care**	Practical activity + Video presentation	Short quiz
11	2	Install and configure Windows OS	**Installing and Configuring Windows System**	Explanation + Hands-on practice	Individual practical evaluation
12	2	Learn how to format the hard disk	**Hard Disk Formatting (Format)**	Direct practical implementation	Practical test
13	2	Perform system cleaning and computer maintenance	**Windows Cleaning and Computer Care**	Practical implementation + Maintenance guidelines	Lab assignment
14	2	Install and configure the printer	**Installing and Configuring the Printer**	Practical application	Practical test
15	2	Conduct comprehensive review and present practical projects	**Review and Project Presentations**	Discussion + Presentations	Practical project presentation
16	-	Final evaluation of lab skills	**Final Practical Exam**	Comprehensive practical exam	Final practical assessment

11. Infrastructure	
Required Textbooks	*Essentials of Computer and Its Applications*, Ziyad Mohammed Aboud et al., 2014.
Main References (Sources)	*Essentials of Computer and Its Applications*, Ziyad Mohammed Aboud et al., 2014.
Recommended Books and References (Scientific Journals, Reports)	Kevin Hare. (2022). *Computer Science Principles: The Foundational Concepts of Computer Science*.
Electronic References and Websites	Websites related to *Computer Fundamentals*.

12. Course Development Plan

The course content is periodically updated to align with modern technological advancements by incorporating new topics such as information security and cloud computing, and by enhancing the practical component with applications on multiple operating systems and modern programming languages. The plan also emphasizes integrating e-learning and applied projects while linking the course to labor market requirements, with regular reviews based on feedback from students and faculty members.

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
2- University Department/Centre
Northern Technical University/ Department of Information Technology Management/Level One
3-Course title/code
Human rights and democracy / NTU100
4- Available forms of attendance
presence
5- Semester/Year
Fall semester /2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
15/6/2025
8-(Course Objectives)General Course Objectives
1 .Providing students with basic concepts related to democracy and human rights. 2 .Understanding political systems, electoral methods, and public freedoms. 3. Developing students' legal and constitutional culture.

1– Course outcomes, teaching, learning and assessment methods		
Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
1The student learns about the nature of human rights and democracy	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests
2-To explain the difference between kinds of human rights and democracy and political regimes	Theoretical lectures	management Solving exercises within the lecture and assigning external homework
3–To apply everything he	View the companies' work and achievements	Discussions and dialogues

has learned to his Rights and duties		

2- Course steuctuer (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	Human rights, th definition, th objectives, hun rights in anci civilizations divine laws	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	Human Rights Contemporary a Modern History	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	NGOs and hun rights (IC Amnesty International, Human Rig Watch, natio human rig organizations	Lecture	Daily and monthly tests
fourth	2	Student understanding the lesson	Human Rights Iraqi Constitutio Between Theory a Reality / T Relationship between Hun Rights and Pul Freedoms	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	Economic, social a cultural hun rights, civil a political hun rights / New hun rights: the right development, right to a cl environment,	Lecture	Daily and monthly tests

			right to peace.		
Sixth	2	Student understanding the lesson	Guarantees respect for a protection of hum rights at the natio level, guarantees the constitution a laws, guarantees the principle of rule of la guarantees constitutional oversight, guarantees freedom of the pr and public opini the role of n governmental organizations respecting a protecting hum rights / guarante respect a protection of hum rights at international level	Lecture	Daily and monthly tests
Seventh	2	Student understanding the lesson	The General The of Liberties: T origin of rights a liberties, legislator's posit on public rights a liberties, the use the term pul liberties.	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	Regulating pul freedoms. T historical development of concept of equal The mod development of concept of equal Gender equal Equality amo	Lecture	Daily and monthly tests

			individuals.		
Ninth	2	Student understanding the lesson	Freedom education, freed of the press, freed of assembly, freed of associati freedom of wo right to o property.	Lecture	Daily and monthly tests
tenth	2	Student understanding the lesson	edom of trade l industry edom of security l peace of mind edom of vement and urn edom of trade l industry Freedom of wome	Lecture	Daily and monthly tests
Eleventh	2	Student understanding the lesson	The future of pul freedoms	Lecture	Daily and monthly tests
Twelfth	2	Student understanding the lesson	The crime genocide	Lecture	Daily and monthly tests
Thir teenth	2	Student understanding the lesson	Human rights in Iraqi constitution	Lecture	Daily and monthly tests
Four teenth	2	Student understanding the lesson	Democracy, characteristics types, elections, th definition and types	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	Contemporary political systems	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning, brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure	
Classrooms, laboratories and workshops	Available
Required books and curriculum	Dr. Muhammad Yunus Al-Sayegh, Human Rights a Democracy.
Main references (sources)	Publications on democracy and human rights availa in the college library and the university's central libra
Recommended books and references (scientific journals, reports،.....)	Scientific and Applied Research Projects
Electronic references and websites	Human rights websites.

Course description form

Course description:

This course description provides a summary of the most important characteristics of the course and the learning outcomes that the student is expected to achieve, demonstrating whether he or she has made the most of the learning opportunities available. It must be linked to the program description.

1. Educational institution	Northern Technical University / Administrative Technical College, Mosul
2. Scientific department/center	Department of Information Technology Management/Level One
3. Course name/code	Principles of Statistics/TCMM105
4. Available attendance forms	Mandatory / Face to face
5. Semester/year	Fall semester/2025
6. Number of study hours (total)	75 hours
7. Date this description was prepared	26/06/2025
8. Course objectives	

The course aims to enable the student to become familiar with the vocabulary and concepts of the principles of statistics because of its importance in practical life in general and its prominent role in completing the research that the student seeks to complete through learning about arithmetic means, frequency tables, standard deviation, correlation, regression, and other related topics, and also getting to know Types of statistics, data collection methods, and comparison between them so that the researcher can choose the best method that helps him in completing the work.

10. Course outcomes and teaching, learning and evaluation methods

A- Cognitive objectives

A1- Learn everything related to the basics of statistics.

A2- Learn about statistical topics and their branches.

B- Course-specific skills objectives.

B1- The ability to deal with data and know how to analyze it correctly and to serve administrative work.

C- Emotional and value goals

C1- Developing the student's research skills.

D- Transferable general and qualifying skills (other skills related to employability and personal development).

D1- Trying to make the student rely on his personal skills in analyzing data and choosing statistical methods appropriate to research topics.

11. Course structure					
The week	hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	hours4	Introduction to statistics	A historical overview of statistics, what statistics are.	Theoretical presentation and clarification	Student participation and daily oral exam
Second	hours4	Statistical terminology	Statistical variables, data sources, data collection methods, research population, samples.	Theoretical presentation and clarification	Student participation and daily oral exam
Third	hours4	Statistical tables	Frequency distribution, double frequency distribution.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Fourth	hours4	Statistical frequencies	Relative frequency, ascending clustered frequency, descending clustered frequency.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam

Fifth	hours4	Data graphs	Bar graphs, rectangle graphs, circle graphs, line graphs, histograms.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Sixth	hours4	Statistical symbols	Addition symbol, multiplication symbol.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Seventh	hours4	Measures of central tendency	Arithmetic mean, harmonic mean.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Eighth	hours4	Measures of central tendency	Harmonic mean, geometric mean, square mean.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Ninth	hours4	Measures of central tendency	Mode, mediator.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
The tenth	hours4	Retail metrics	Segmentation metrics for tabulated	Presentation, theoretical clarification,	Student participation and

			and non-tabulated data	and solving statistical problems	daily oral exam
Eleventh	hours4	Measures of dispersion	Range, mean deviation, standard deviation.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Twelfth	hours4	Measures of dispersion	Coefficient of dispersion based on range, coefficient of dispersion based on interquartile deviation, coefficient of dispersion based on mean deviation, coefficient of variation.	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Thirteenth	hours4	Measures of dispersion	Standard score, correlation, rank correlation	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam
Fourteenth	hours4	Measures of dispersion	Coefficient of fit, coupling coefficient,	Presentation, theoretical clarification, and solving	Student participation and daily oral

			simple linear regression.	statistical problems	exam
Fifteenth	hours 4	Measures of dispersion	Matrices	Presentation, theoretical clarification, and solving statistical problems	Student participation and daily oral exam

10. Infrastructure:

Sources:

- Principles of Statistics, Dr. Taha Hussein Al-Zubaidi.
- Introduction to Statistics, Dr. Khasha Al-Rawi.
- Statistics, Dr. Mahmoud Hassan Al-Mashhadani and Lecturer Amir Hanna Hormuz.
- Principles of Scientific Research, Dr. Azhar Al-Samak, Lecturer Safaa Al-Safawi, and Dr. Fabis Saeed Al-Fahadi.
- Principles of Statistics and Statistical Methods, Dr. Mahmoud Al-Mashhadani.

Course Description Form 2024-2025 (Principles of Management)

1. Educational Institution: Mosul Technical College of Administration
2. Academic Department/Center: Department of Information Technology Management/Level One
3. Course Title/Code: TCMM 104 Principles of Management
4. Available Attendance Formats: Weekly/face to face
5. Semester/Year:/Spring semester/ Bologna Track/2025
6. Number of Class Hours (Total): 75
7. Date of Preparation: June 30, 2025
8. Course Objectives: To introduce students to the principles and functions performed by managers, regardless of their position within the organizational structure of an organization. These functions include planning, decision-making, organizing, leading, motivating, and controlling.
9. Course Outcomes, Teaching, Learning, and Evaluation Methods
A. Cognitive Objectives: To introduce students to management as the process of planning, decision-making, organizing, leading, motivating, and controlling, which involves an organization's acquisition, integration, unification, and efficient transformation of human, material, financial, and information resources into outputs to achieve its goals and adapt to its environment.
B. Course Skill Objectives - The ability to set the organization's basic goals and guide subordinates toward achieving those goals. - The ability to lead the organization toward its established goals according to a plan prepared in a scientific and programmatic manner.
C. Emotional and Value-Based Goals - The ability to interact and understand people. - The manager's knowledge and understanding of the type of work and the ability to visualize and see dimensions.
D. General and Transferable Skills (other skills related to employability and personal development). - The ability to set the organization's basic goals and guide subordinates toward achieving those goals.
E. Teaching and Learning Methods - Direct instruction (lecturing) with the use of educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring departmental laboratories - - Project-Based Learning Strategy
F. Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments, Reports, and Seminars *Practical and Applied Tests

10. Course Structure					
Week	**Hours**	**Intended Learning Outcomes**	**Unit / Topic**	**Teaching Method**	**Assessment Method**
1	5	Introduction to Management	Define the concept of management and its main functions	Lectures and discussions	Interaction and participation
2	5	Historical Development of Management Theories	Explain the historical stages of management thought	Lectures and discussions	Interaction and participation
3	5	Planning: Types and Tools	Distinguish between types of planning (short and long-term) and their tools	Lectures and discussions	Interaction and participation
4	5	Organizational Structures and Culture	Describe types of organizational structures and their relationship to organizational culture	Lectures and discussions	Interaction and participation
5	5	Leadership Theories and Styles	Identify leadership theories and patterns	Lectures and discussions	Interaction and participation
6	5	Motivation and Team Dynamics	Explain motivation theories and the fundamentals of teamwork	Lectures and discussions	Interaction and participation
7	5	Midterm Exam	Assess cognitive and practical understanding of the studied material	Lectures and discussions	Interaction and participation
8	5	Control Processes and Systems	Define the concept of control and its types	Lectures and discussions	Interaction and participation
9	5	Performance Measurement and Management	Explain performance measurement methods	Lectures and discussions	Interaction and participation
10	5	Strategic Planning and SWOT Analysis	Explain strategic planning and the SWOT tool	Lectures and discussions	Interaction and participation
11	5	Strategy Formulation and Implementation	Describe the steps of formulating and implementing strategies	Lectures and discussions	Interaction and participation
12	5	Recruitment and Selection	Define the steps and criteria of the recruitment process	Lectures and discussions	Interaction and participation
13	5	Training and Performance Evaluation	Explain the importance of training and its role in improving performance	Lectures and discussions	Interaction and participation
14	5	Production Planning and Quality Management	Identify the basics of production planning and quality management	Lectures and discussions	Interaction and participation
15	5	Business Ethics and Corporate Social Responsibility	Define managerial ethics and corporate social responsibility	Lectures and discussions	Interaction and participation
16	–	Final Exam	Assess overall understanding of course outcomes	–	–

11. Infrastructure	
Required Textbooks	*Prescribed textbook for the Principles of Management course*
Main References (Sources)	- Khalil Mohammed Hassan, *Principles of Management with Emphasis on Business Administration*, 1991- Sinan Ghaleb Al-Muradhi, *Organization Theory*, University of Science and Technology, 2013- Khalil Al-Shammaa & Khudair Hammoud, *Organization Theory*, 2007
Recommended Books and References (Scientific Journals, Reports)	*Scientific journals, reports, and electronic references*
Electronic References and Websites	*Websites related to Management Information Systems (MIS)*

12. Course Development Plan
The development plan for the *Principles of Management* course aims to update the content in line with the latest management theories and strengthen the practical aspect by integrating case studies and hands-on activities. Educational technologies such as simulations and online assessments will be incorporated, focusing on enhancing leadership and teamwork skills. The plan also includes introducing short projects, conducting SWOT analyses, and connecting topics to real-world institutions. The course will be periodically reviewed based on student feedback and labor market needs.

Course Description Form

Course Description:

This Course Specification provides a concise summary of the main features of the 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 programme specification.

1. Teaching Institution	Administrative Technical College / Mosul
2. University/Department/Centre	Northern Technical University / Information Technology Management Department
3. Course title/code	Principles of Economics /TCMM107
4. Modes of Attendance offered	Weekly/face to face
5. Semester/Year	Spring semester/2025
6. Number of hours tuition (total)	75 hours
7. Date of production/revision of this specification	25/ 06 /2025

8. Aims of the Course:

- Study the principles of economics and help the student understand it.
- Improving the student's level in economics.
- Developing methods of economic thinking and unleashing the latent energies of students. Developing economic thinking among students helps them move towards other sciences.

9. Course Structure

Week ILOs	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
The First	4	Economic Concepts	Economic Concepts	Theoretical	Discussion and Questions
The Second	3	Demand theory	Market equilibrium	Theoretical	Discussion and Questions
	1	Exam.		Exam.	Exam.
The Third	4	Supply and equilibrium theory	Market equilibrium	Theoretical	Discussion and Questions
The Fourth	3	Elasticities of demand and supply	Elasticities	Theoretical	Discussion and Questions
	1	Exam.		Exam.	Exam.
Fifth	4	Consumer demand and utility	Consumer demand theory	Theoretical	Discussion and Questions
VI	1	Exam.		Exam.	Exam.
	3	Production function	Production Theory	Theoretical	Discussion and Questions
seventh	3	Production Costs in the short run	Production Costs	Theoretical	Discussion and Questions
	1	Exam.		Exam.	Exam.
VIII	3	Production Costs in the long run	Production Costs	Theoretical	Discussion and Questions
	1	Exam.		Exam.	Exam.
ninth	4	Perfectly Competitive Market (aggregate analysis)	Markets	Theoretical	Discussion and Questions
The tenth	4	Perfectly competitive market (at the unit level)	Markets	Theoretical	Discussion and Questions
eleventh	1	Exam.			Exam.
	3	Pure Monopoly Market	Markets	Information economics	Information economics
twelveth	3	Information economics	Information economics	Theoretical	Discussion and Questions
	1	Exam.			Exam.
Thirteenth	3	The general level of prices	Inflation theory	Theoretical	Discussion and Questions
	1	Exam.			Exam.
Fourteenth	3	Aggregate supply and demand	Aggregate Equilibrium	Theoretical	Discussion and Questions
	1	Exam.			Exam.
Fifteenth	1	sustainable development	Sustainable Development	Theoretical	Discussion and Questions
	2	Sustainable development goals			
	1	Exam.			Exam.

11. Infrastructure:

Sources:

* Salvatore, D., & Diulio, E. A. (2011), Schaum's Outline of Principles of Economics, McGraw-Hill
* Salvatore, Dominic (1992), Theories of Unit Economics: Theories and Questions, Schaum's Abstracts Series, Office of University Publications, Algeria..
* Delio, Eugene A., Macroeconomic Theory, Schaum's Outline Series, International House for Publishing and .Distribution, Cairo, Egypt

12. Curriculum development plan:

1. The current century is witnessing economic problems that differ from previous traditional problems due to the changes that have occurred as a result of climate change and the emergence of alternative energy generated from renewable resources such as the sun, air, and wind, and the diminishing role of oil and gas, in addition to information technology. Therefore, it is necessary to develop curricula and courses related to economic studies.

2. Focusing on future studies based on scientific analysis of reality, in order to predict the economic future of the region and the global economy, and to equip students with the skills of analysis, thinking, and creativity in solving current and future problems and making appropriate decisions regarding those problems.

Course Description Form

Principles of Programming

1. Course Name:	
Principles of Programming	
2. Course Code:	
ITM 109	
3. Semester / Year:	
Modular System (Courses)	
4. Description Preparation Date:	
16/07/2025	
5. Available Attendance Forms:	
Weekly – In-Person / Online	
6. Number of Credit Hours (Total) / Number of Units (Total)	
175	
7. Course administrator's name (mention all, if more than one name)	
Name: Harith Hamoodat Email: hhamoodat@ntu.edu.iq	
8. Course Objectives	
Course Objectives	1. Understand the fundamental principles of programming using the C language. 2. Develop problem-solving and algorithmic thinking skills. 3. Learn how to write, compile, and debug C programs. 4. Understand and apply various programming structures such as loops, conditionals, functions, and arrays. 5. Gain hands-on experience through exercises and lab projects.
9. Teaching and Learning Strategies	
Strategy	1. Theoretical Methods (In-Class) • Traditional lectures introducing programming concepts in C. • Explaining control structures, functions, arrays, and pointers. • Use of whiteboard and PowerPoint presentations. • Class discussions encouraging questions and debugging code collaboratively. • Weekly quizzes and in-class assignments to reinforce learning. 2. Practical Methods (In the Lab)

	• Hands-on programming in C. • Applying theoretical concepts in realistic scenarios. • Mini projects (e.g., calculator, registration system). • Team-based work to foster collaboration. 3. Technological Methods • Use of development tools like Code::Blocks or Visual Studio Code. • E-learning platforms such as Google Classroom or Moodle. • Sharing useful links like www.learn-c.org and www.geeksforgeeks.org. 4. Problem-Based Learning (PBL) • Presenting real-world problems requiring analytical solutions. • Encouraging logical and algorithmic thinking.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	7	1	Introduction to C Programming	Lecture, Discussion, Practice	Participation
2	7	1/2	Data Types	Lecture, Discussion, Practice	Participation
3	7	2	Control Structures – Part 1	Lecture, Discussion, Practice	Participation, Daily Quiz
4	7	2/6	Control Structures – Part 2	Lecture, Practice	Participation, Pop Quiz
5	7	3	Functions – Part 1	Lecture, Discussion, Practice	Midterm Exam
6	7	3/6	Functions – Part 2	Lecture, Discussion, Practice	Reports

7	**7**	**4**	**Arrays & Strings – Part 1**	**Lecture, Discussion, Practice**	**Assignments**
8	**7**	**4**	**Arrays & Strings – Part 2**	**Lecture, Discussion, Practice**	**Assignments**
9	**7**	**4**	**Pointers – Part 1**	**Lecture, Discussion, Practice**	**Presentation**
10	**7**	**4/6**	**Pointers – Part 2**	**Lecture, Discussion, Practice**	**Assignments**
11	**7**	**5**	**File Handling**	**Lecture, Discussion, Practice**	**Daily Test**
12	**7**	**5**	**Advanced Topics**	**Lecture, Discussion, Practice**	**Participation**
13	**7**	**5**	**Project Presentations**	**Practice**	**Presentation**
14	**7**	**6/7/8**	**Review**	**Theory & Practice**	**Participation**

11. Course Evaluation

- Periodic tests
- Pop quizzes
- Class participation
- Research assignments, reports, and projects
- Practical and applied tests

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	"C Programming: A Modern Approach" by K. N. King - Required
Main references (sources)	C language programming by " Mike Banahan , Declan brady and mark doran"

Recommended books and references (scientific journals, reports…)	"The C Programming Language" by Brian W. Kernighan and Dennis M. Ritchie - Recommended
Electronic References, Websites	• www.learn-c.org www.geeksforgeeks.org/c-programming

Course Description Form

1. Course Name:	
Principles of Accounting	
2. Course Code:	
TCMM106	
3. Semester / Year:	
Fall Semester /2025/Bologna Track	
4. Description Preparation Date:	
30-6-2025	
5. Available Attendance Forms:	
In-person/Face to face	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 hours	
7. Course administrator's name (mention all, if more than one name)	
Name: anas ahsan ahmed **Email: anas_ahsan@ntu.edu.iq**	
8. Course Objectives	
Course Objectives	• **understand the nature of accounting and its role in measuring and communicating financial information.** • Develop skills in recording, classifying, and analyzing financial transactions **and preparing financial statements in accordance with generally accepted accounting principles.** • Enhance students' ability to use financial information **in decision-making and evaluating the financial performance of organizations**
9. Teaching and Learning Strategies	
Strategy	• **Familiarize with accounting terms that govern the accounting process** • **Identify and apply fundamental accounting principles.** • **Classify basic accounting documents.** • **Understand the accounting ledger group**

B. Course Skill Objectives

- **Enable the student to define accounting.**
- **Distinguish the fundamental principles of accounting.**
- **Explain the importance of accounting in the business environment, organizations, and all commercial projects, whether large or small.**
- **Understand the role of accounting in financial decision-making.**
- **Know how to post from documents to the journal and prepare the trial balance**

Teaching and Learning Methods
- Direct instruction (lectures) using educational technology tools
- Classroom discussion and interaction through assignments
- Learning through practical application of materials requiring department laboratories
- Project-Based Learning Strategy

Assessment Methods
***Periodic Tests**
***Surprise Tests**
***Classroom Interaction and Participation**
***Research Assignments and Reports**
***Practical and Applied Tests**

C- Affective and Value-Based Objectives
C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best
C2- Strengthening the desire to compete to raise the educational level
C3- Strengthening the sense of belonging to the specialty and developing the desire to work in Financial Institutions

Teaching and Learning Methods
1. Periodic field visits to Financial Institutions
2. Experience, actual practice, and interaction with staff through practical application (summer training) conducted by the student in close contact with beneficiaries
3. Psychological Motivation and emotionally through open and direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).

	• **D1: Teach the student skills in writing financial research and reports.** • **D2: Teach the student how to link theoretical knowledge with practical application that will be practiced at work.** • **D3: Teach the student how to handle accounting errors and find the legal solution by correcting the entries.** • **D4: Teach the student how to reconcile accounts with documents and the ledger, ensuring there is no manipulation.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Knowledge and Practical Application	General introduction to Accounting Principles and familiarization with key accounting terms	Lectures and Discussion	Interaction and participation
2	4	Knowledge and Practical Application	Introduction to single, double, and compound journal entries	Lectures and Discussion	Interaction and participation
3	4	Knowledge and Practical Application	How to analyze financial transactions and record them in financial documents	Lectures and Discussion	Interaction, participation, and daily testin
4	4	Knowledge and Practical Application	Posting from financial documents to the journal.	Lectures and Practical Application	Interact and Participate, and a Surprise Quiz
5	4	Knowledge and Practical Application	Detailed and in-depth posting to the journal	Lectures and Discussion	Interaction, Participation, and Quarterly Quiz
6	4	Knowledge and Practical Application	Posting from the journal to the ledge	Lectures and Discussion	Interaction, Participation, and Repot
7	4	Knowledge and Practical Application	The ledger and how to create a page for each account	Lectures, Discussion, and Practica	Interaction, Participation, And

				Application	Assignments
8	4	Knowledge and Practical Application	How to prepare the trial balance	Lectures, Discussion, and Practica Application	Interaction, Participation, And Assignments
9	4	Knowledge and Practical Application	Trial balance by totals	Lectures, Discussion, and Practica Application	Presenting and Explaining Reports Through Presentation
10	4	Knowledge and Practical Application	Trial balance by balances	Lectures, Discussion, and Practica Application	Interaction, Participation, and Assignments
11	4	Knowledge and Practical Application	Adjusting entries	Lectures, Discussion, and Practica Application	Daily Quiz
12	4	Knowledge and Practical Application	Handling accounting errors.	Lectures,Dis ssion, and Practical Application	Interaction and Participation
13	4	Knowledge and Practical Application	Preparing the balance sheet.	Lectures, Discussion, and Practica Application	Reports
14	4	Knowledge and Practical Application	Completing the final accounts and presenting financial statements.	Lectures, Discussion, and Practica Application	Presenting and explaining reports through a presentation
15	4	Knowledge and Practical Application	Review of the accounting cycle.	Lectures, Discussion, and Practica Application	PowerPoint Presentatio

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)	
Main references (sources)	Publications on Related to Accounting and Its Fundamental technologies are available in the college library and the university's

	central library.
Recommended books and references (scientific journals, reports…)	Principles of Accounting (Foundations and Procedures)" – Asst. Prof. Ahmed Wajih Al-Dabbagh
Electronic References, Websites	Websites related to Accounting and its various fields

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
2- University Department/Centre
Northern Technical University / Information Technology Management Department
3-Course title/code
Professional ethics/NTU204
4- Available forms of attendance
Presence/face to face
5- Semester/Year
Spring semester /2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
30/6/2025
8-(Course Objectives)General Course Objectives
1. Understand the concept of ethics. 2. Explain the general rules of ethics. 3. Identify the sources of ethics. 4. Clarify the most important ethical values. 5. Distinguish the importance of ethics for the individual and society. 6. Conduct activities related to the concept of ethics and its sources.

1− Course outcomes, teaching, learning and assessment methods

Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
1- The student must be able to understand the basic concepts of professional ethics.	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests
-2 The student must be able to discuss and debate the ethics of various professions.	Theoretical lectures	management Solving exercises within the lecture and assigning external homework

3-The student must be able to analyze professional ethics in public jobs	View the companies' work and achievements	Discussions and dialogues

2- Course structure (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	The Concept a Origin of Ethics	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	Work and Professi	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	Professional Ethic	Lecture	Daily and monthly tests
fourth	2	Student understanding the lesson	Values a Professional Ethic	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	Patterns of unethi behavior in profession/admin rative corruption	Lecture	Daily and monthly tests
Sixth	2	Student understanding the lesson	Professional Eth for Busin Organizations	Lecture	Daily and monthly tests
Sevent h	2	Student understanding the lesson	Professional Cond and Work Relatior	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	The impact employment contracts a administrative wo	Lecture	Daily and monthly tests

Ninth	2	Student understanding the lesson	The concept of pul employee a worker, the finan rights administrative employees, and functional rights administrative employees.	Lecture	Daily and monthly tests
tenth	2	Student understanding the lesson	Examples professional eth according administrative specializations	Lecture	Daily and monthly tests
Elevent h	2	Student understanding the lesson	Ethics of Practic Applied A Professions	Lecture	Daily and monthly tests
Twelft h	2	Student understanding the lesson	Creating Initiative	Lecture	Daily and monthly tests
Thir teenth	2	Student understanding the lesson	The Arti Relationship w the Surround Environment	Lecture	Daily and monthly tests
Four teenth	2	Student understanding the lesson	The surround environment and relationship humans, and artist's culture ethics and th relationship to surrounding environment.	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	Practical models professional ethics	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning, brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure

Classrooms, laboratories and workshops	Available
Required books and curriculum	Methodical book
Main references (sources)	Books, references and research available in t university and college library
Recommended books and references (scientific journals, reports.....)	Scientific and Applied Research Projects
Electronic references and websites	Websites on ethics, professional ethics, public servi

	and administrative work

Course Description Form / Operations Management

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department / Second level
3. Course Name / Code
Operations Management / ITM206
4. Available attendance forms
Weekly/ Face to face in person
5. semester/year
Fall semester
6. Number of study hours (total)
60 Hours
7. Date this description was prepared
1/7/2025
8. Course objectives
The course seeks to enrich students with a set of concepts and theories encompassing diverse implications and connotations, while clarifying the distinctions among these theories.
9. Course outcomes, teaching, learning and assessment methods

A. Cognitive Objectives

- Enable students to understand the principles of operations management and its role in improving operational efficiency.
- Develop knowledge related to the design, planning, and improvement of production and service processes.
- Provide an analytical presentation of operations management theories, focusing on achieving operational effectiveness and competitive advantage.

B. Skills-Based Objectives

- Utilize course applications as a foundation for graduation projects focused on improving and developing operational processes.
- Formulate a student perspective on operations management theories from a behavioral standpoint, analyzing differences among models and their implications in production and service environments.

Learning Outcomes

- Explain the fundamental concepts of operations management and its main functions (design, planning, operations and control).
- Analyze internal and external factors affecting operational efficiency and effectiveness using tools such as SWOT and PESTEL.
- Distinguish among strategies for process design and evaluate their suitability for production and service activities.
- Apply decision-making methods in operations management using quantitative and behavioral models.
- Assess the impact of quality culture and continuous improvement on operational performance.
- Develop a simplified operational plan for a production or service project.
- Employ analytical and critical thinking to improve processes and solve operational problems.

Teaching and Learning Methods

- Theoretical lectures.
- Student presentations.
- Case studies.
- Group discussions and applied workshops.
- Individual or group projects.
- Problem-Based Learning (PBL).
- Use of simulations or management games, when available.

10. Course structure

Week	Hours	Intended Learning Outcomes	Topic	Teaching Method	Assessment Method
Week 1	4	Knowledge & Practical Application	Introduction to Production and Operations Management	Theoretical	Exams and Reports
Weeks 2–3	4	Knowledge & Practical	Production and	Theoretical	Exams and Reports

		Application	Operations Management in Organizations, Administrative Functions of the Production and Operations Manager		
Weeks 4–5	4	Knowledge & Practical Application	Production and Productivity, Efficiency and Effectiveness	Theoretical & Practical	Exams and Reports
Weeks 6–7	4	Knowledge & Practical Application	Practical Exercises on Production and Productivity, Efficiency, and Effectiveness	Practical	Exams and Reports
Weeks 8–9	4	Knowledge & Practical Application	Strategic Planning: Corporate Strategy, Business Unit Strategy, and Operations Strategy	Theoretical	Exams and Reports
Weeks 10–12	4	Knowledge & Practical Application	Strategy and Competitive Advantage; Strategic Decisions in Operations; Demand Forecasting	Theoretical	Exams and Reports
Weeks 13–15	4	Knowledge & Practical Application	Demand Forecasting Methods; Product Planning and Development	Theoretical & Practical	Exams and Reports

11. Infrastructure	
1- Required textbooks	
2- Main references (sources)	• Production and Operations Management – Dr. Sabah Majid Al-Najjar

A- Recommended books and references (scientific journals, reports, etc.)	Scientific journals in the fields of information technology
B - Electronic references, websites...	Specialized websites

12. Curriculum Development Plan

- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

- Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

Course Description Form / Organization Management

1. Educational institution

Mosul Technical Administrative College

2. Scientific Department / Center

Information Technology Management Department/Second level

3. Course Name/Code

Organization Management / ITM212

4. Available attendance forms

Weekly/face to face

5. semester/year

Fall semester

6. Number of study hours (total)

60 hours

7. Date this description was prepared

1/7/2025

8. Course objectives

An attempt to enrich students with a set of concepts and theories that include many implications and connotations, while clarifying the differences between these theories.

9. Course outcomes, teaching, learning and assessment methods

A- Cognitive objectives

- Enabling students to learn about organizational management
- Developing cognitive aspects related to organizational management
- Providing a cognitive presentation of organizational theories from an analytical perspective.

B- **Course skill objectives**.

1 - Adopting material applications as a basis for preparing graduation projects

2- The students' vision depends on the vocabulary of organizational theory from a behavioral perspective, while trying to clarify the differences between the implications of organizational theory.

Learning outcomes

By the end of this course, the student is expected to be able to: Explaining the basic concepts of management its main functions are (planning, organizing, directing, and controlling).

1. **Analysis of the organization's internal and external environment** Using analysis tools such as SWOT and PESTEL.

2. **Distinguish between different types of organizational structures.** Moreover, evaluate its suitability to the nature of the organization.
3. **Interpretation of administrative decision-making methods** and apply appropriate models in practical situations.
4. **Organizational culture assessment** and its impact on the performance and behavior of employees.
5. **Design a simple management plan** for a project or business case.
6. **Employing modern management skills** (such as leadership, change management, time management).
7. **Using analytical and critical thinking tools** to solve real management problems.

Teaching and learning methods

- Theoretical lectures.
- Presentations by students.
- Case studies.
- Group discussion and practical workshops.
- Individual or group projects.
- Problem-based learning (PBL).
- Use simulations or management games if available.

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10. Course structure

Evaluation method	Teaching method	Topic name	Required learning outcomes	Hours	week
Tests and reports	**theoretical**	**Introduction to the study of the organization: the nature and concept of the organization**	**Knowledge and practical application**	**4**	**first**
Tests and reports	**Theoretical**	**Types of Organizations Classification of Organizations / Traditional Theories of Organization**	**Knowledge and practical application**	**4**	**Second & third**
Tests and reports	**Theoretical**	**Organizational thought and organization science**	**Knowledge and practical application**	**4**	**Fourth & fifth**
Tests and reports	**Theoretical**	**Organizational effectiveness and organizational**	**Knowledge and practical**	**4**	**Sixth & seventh**

		change	**application**		
Tests and reports	**Theoretical**	**Organizational behavior**	**Knowledge and practical application**	**4**	**Eighth & ninth**
Tests and reports	**Theoretical**	**Environmental analysis of organizations**	**Knowledge and practical application**	**4**	**tenth, eleventh & twelfth**
Tests and reports	**Theoretical**	**Social Responsibility and Business Ethics**	**Knowledge and practical application**	**4**	**thirteenth, fourteenth & fifteenth**

11. Infrastructure	
1- Required textbooks	
2- Main references (sources)	Organizational Management - Theories and Concepts Author: Dr. Ahmed Maher Organizational Management - A Contemporary Analytical Approach Author: Dr. Bashar Abdullah Al-Khafaji
A- Recommended books and references (scientific journals, reports, etc.)	Scientific journals in the fields of information technology
B - Electronic references, websites...	Specialized websites

12. Curriculum Development Plan

- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

- Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

Course Description Form

1. Course Name:
Human Resources Management
2. Course Code:
ELM 207
3. Semester / Year:
Fall Semester/ 2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person/face to face
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Buthainah Luqman Ahmed Email:buthainah_y65@ntu.edu.Iq
8. Course Objectives

Course Objectives	**− Understanding and Analyzing Systems: The student will be able to understand the basic principles of human resource management and identify its vital role in attracting and selecting human resources, then work to evaluate employees and the training needs required to increase efficiency and effectiveness.** **− Applying Technological Concepts: The stude will acquire the ability to link the theoretical concepts of human resource management with contemporary technological applications. This includes understanding modern technologies, such as digital human resource management, and how they can be employed to achieve the strategic objectives of organizations.**

	B – Course Skill Objectives. **– Problem–solving skills using training skills: The student will develop the ability to identify organizational problems that can be solved.**
9. Teaching and Learning Strategies	
Strategy	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic principles of human resource management and identify its vital role in attracting and selecting human resources, then work to evaluate employees and the training needs required to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire t ability to link the theoretical concepts of human resource management with contemporary technological applications. This includes understanding modern technologies, such as digital human resource management, and how they can be employed to achieve the strategic objectives of organizations. B. Course Skill Objectives - Problem-solving skills using training skills: The student will develop the ability to identify organizational problems that ca be solved or mitigated using employee management decision and propose innovative technology-based solutions, with a focus on operational efficiency and improving the decision-making process. - Job Analysis and Design Skills: The student will acquire the ability to analyze the functional and non-functional requirements of human resource management and design appropriate solutions using tools and techniques to break dov the job to analyze it and then develop a job design model. Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments

	- Learning through practical application of materials requirin department laboratories - Project-Based Learning Strategy Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions Teaching and Learning Methods 1. Periodic field visits to administrative and technical institutions 2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries 3. Psychological Motivation and emotionally through open an direct discussions with students. D - General and transferable skills (other skills related to employability and personal development). D1 - Teaching students research and report writing skills. D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work. D3 - Teaching students how to access and analyze informatio sources, and how to derive and document a summary of the information obtained through objective analysis of these sources. D4 - Teaching students how to prepare a job analysis and description template for use in recruitment.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	4	Knowledge and Practical Application	General Introduction, Basic Concepts, and Human Resource Management	Lectures and Discussion	Interaction and participation
2	4	Knowledge and Practical Application	Importance and Objectives of Human Resource Management and its Relationship with Other Departments	Lectures and Discussion	Interaction and participation
3	4	Knowledge and Practical Application	Job Analysis and Description	Lectures and Discussion	Interaction, participation, an daily testin
4	4	Knowledge and Practical Application	Human Resource Management Strategies	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	Knowledge and Practical Application	Human Resource Planning	Lectures and Discussion	Interaction, Participation, an Quarterly Quiz
6	4	Knowledge and Practical Application	Human Resource Needs Assessment	Lectures and Discussion	Interaction, Participation, an Repot
7	4	Knowledge and Practical Application	Initial Preparation	Lectures, Discussion, and Practical	Interaction, Participation, an Assignments

				Application	
8	4	Knowledge and Practical Application	Human Resource Development	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
9	4	Knowledge and Practical Application	Human Resource Evaluation	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	Knowledge and Practical Application	Human Resource Training	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
11	4	Knowledge and Practical Application	Organizational Development	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	Knowledge and Practical Application	Career Path	Lectures,Discuss and Practical Application	Interaction and Participation
13	4	Knowledge and Practical Application	Occupational Safety	Lectures, Discussion, and Practical Application	Reports
14	4	Knowledge and Practical Application	Industrial Security	Lectures, Discussion, and Practical Application	Presenting and explaining repor through a presentation
15	4	Knowledge and Practical Application	Human Resource Management Information System	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	Publications on human resources management are available in the college library and the university's central library..
Recommended books and references	Dr. Mu'ayyad Saeed Al-Salem, Human

(scientific journals, reports…)	Resources Department
Electronic References, Websites	Human Resources Management websites

Course Description Form

1. Educational Institution
Technical College of Management / Mosul
2. Academic Department
Department of Information Technology Management/second level
3. Course Title / Code
Numerical Analysis/ITM216
4. Available Attendance Modes
Presence/FACE TO FACE
5. Semester / Year
Spring Semester / 2025
6. Total Credit Hours
75 Hours
7. Date of Description Preparation
30/6/2025
8. Course Objectives (General Objectives of the Course)
1- To enable the student to acquire mathematical skills to solve problems that cannot be solved analytically, including understanding the types of errors and how to calculate them. 2- To provide fundamental knowledge of a wide range of problem-solving techniques (e.g., algorithms, reasoning). 3- To save time and effort, especially in equations that require extensive iterations to reach a solution. 4- To develop different thinking methods and the ability to judge the validity and plausibility of solutions.

9. Course Outcomes, Teaching & Learning Methods, and Evaluation Methods

Outcomes	Teaching & Learning Methods	Evaluation Methods
Understanding concepts of different numerical methods, their characteristics, and applications. Recognizing the importance of these concepts in practical life. Developing and discovering new numerical concepts.	- Theoretical lectures - Interactive explanations with real-life examples	- Short written quizzes - Assignments

Ability to summarize and comprehend class material. Ability to engage in classroom discussions.	- Visual presentations - Classroom discussions	- Midterm exam - Reports
Motivation to engage with and understand the course. Ability to read course material and complete homework enthusiastically.	- In-class practical exercises - Manual problem-solving using formulas	- Homework - Final exam

10. Course Structure (Theoretical and Practical Topics)

Week	Hours	Learning Outcomes	Unit / Topic	Teaching Method	Evaluation Method
Week 1	4 hours	Introduction to Number Systems		Lecture	Presentation, Explanation, Q&A, Discussion
Week 2	4 hours	Sources and Types of Errors		Lecture	Presentation, Explanation, Q&A, Discussion
Week 3	4 hours	Computer-Based Calculations		Lecture	Presentation, Explanation, Q&A, Discussion
Week 4	4 hours	Problem Solving Exercises		Lecture	Presentation, Explanation, Q&A, Discussion
Week 5	4 hours	Rolle’s Theorem and General Rolle’s Theorem		Lecture	Presentation, Explanation, Q&A, Discussion
Week 6	4 hours	Mean Value Theorem and Integral Mean Value Theorem		Lecture	Presentation, Explanation, Q&A, Discussion
Week 7	4 hours	Minimum Value Theorem Intermediate Value Theorem		Lecture	Presentation, Explanation, Q&A, Discussion
Week 8	4 hours	Taylor’s Theorem and Cauchy’s Theorem		Lecture	Presentation, Explanation, Q&A, Discussion
Week 9	4 hours	Problem Solving and Midterm Exam		—	—
Week 10	4 hours	Bisection Method		Lecture	Presentation, Explanation, Q&A, Discussion
Week 11	4 hours	False Position Method		Lecture	Presentation, Explanation, Q&A, Discussion
Week 12	4 hours	Newton-Raphson Method		Lecture	Presentation, Explanation, Q&A, Discussion
Week 13	4 hours	Secant Method		Lecture	Presentation, Explanation, Q&A, Discussion

Week 14	4 hours	Fixed-Point Iteration Method		Lecture	Presentation, Explanation, Q&A, Discussion
Week 15	4 hours	Order of Convergence		Lecture	Presentation, Explanation, Q&A, Discussion

11. Course Development Plan

1- Regular curriculum updates to align with labor market developments (Curriculum Update Committee, Scientific Committee), including:

2- Organizing scientific seminars and conferences aimed at curriculum development.

3- Following up on scientific advancements in the field of specialization.

12. Infrastructure

- **Classrooms, Labs, and Workshops**: Available
- **Required Textbooks**: *(To be specified)*
- **Main References (Sources)**: *(Reference name to be specified)*
- **Recommended References**: (e.g., scientific journals, reports, etc.): *(Reference name to be specified)*
- **Electronic Resources (Websites, etc.)**: Include electronic links (e.g., department's YouTube page)

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
2- University Department/Centre
Northern Technical University/Information techniques management
3-Course title/code
English Language/ NTU200
4- Available forms of attendance
Presence/face to face
5- Semester/Year
Fall semester/ Second Level /2024-2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
30/6/2025
8-(Course Objectives)General Course Objectives
1 .Provide students with basic concepts related to the use of English language 2. Provide students with basic vocabulary 3 .Enable the students to construct simple sentences. 4 .Enable the students to communicate effectively. 5. Provide students with the basic culture and literature of English.

1− Course outcomes, teaching, learning and assessment methods

Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
1The student learns about the nature of English language.	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests
2-To explain to construct sentences in English.	Theoretical lectures	management Solving exercises within the lecture and assigning external homework

3–Developing students' ability to communicate effectively. Provide student with the basic knowledge of culture and literature.	View the companies' work and achievements	Discussions and dialogues

2- Course steuctuer (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	Parts of speech: bas	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	Main verbs a model verbs	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	Auxiliary verb a linking verb	Lecture	Daily and monthly tests
fourth	2	Student understanding the lesson	Present simple ter	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	Short story 1	Lecture	Daily and monthly tests
Sixth	2	Student understanding the lesson	Short story 2	Lecture	Daily and monthly tests
Seventh	2	Student understanding the lesson	Past simple tense	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	Future simple	Lecture	Daily and monthly tests

Ninth	2	Student understanding the lesson	Short story 3	Lecture	Daily and monthly tests
tenth	2	Student understanding the lesson	Short story 4	Lecture	Daily and monthly tests
Eleventh	2	Student understanding the lesson	Basic tips of writin	Lecture	Daily and monthly tests
Twelfth	2	Student understanding the lesson	Basic tips conversation	Lecture	Daily and monthly tests
Thirteenth	2	Student understanding the lesson	Providing words	Lecture	Daily and monthly tests
Fourteenth	2	Student understanding the lesson	Review of Material	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	General Exam	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning, brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure	
Classrooms, laboratories and workshops	Available
Required books and curriculum	Publications on English Language available in t college library and the university's central library
Main references (sources)	
Recommended books and references New Headway Plus (Beginner) , John and Liz Soars, Oxford (Student's Book) (Scientific journals, reports،.....)	Scientific and Applied Research Projects
Electronic references and websites	English language websites.

Course Description Form

1. Course Name:
Database Design
2. Course Code:
ITM209
3. Semester / Year:
Spring Semester/ 2025
4. Description Preparation Date:
30-6-2025
5. Available Attendance Forms:
In-person/face to face
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor Nabeel Hazim Email: noor.nabeel@ntu.edu.iq
8. Course Objectives

Course Objectives	**• Understanding Database Design Principles: To provide students with a comprehensive understanding of database concepts, including the theoretical foundations of database systems and their practical applications.** **•Developing Competence in Database Design and Implementation: To provide students with the skills necessary to design, implement, and manage relational databases using industry-standard tools and techniques.** **•Enhancing Problem-Solving Skills: To enable students to apply database**

	management principles to real-world situations, including problem identification, systems analysis, and solution design. **•Familiarization with Database Technologies: To introduce students to various database technologies and trends, including cloud database solutions.**
9. Teaching and Learning Strategies	
Strategy	After successfully completing this course, students should be able t - Understand relational databases (RDBMS) and the concepts of tables and relationships. - Convert entity diagrams (ERDs) to tables in Oracle. - Create tables and define data types and constraints (Primary Key Foreign Key, etc.). - Write SQL queries (SELECT, INSERT, UPDATE, DELETE). - Use functions and grouping (COUNT, AVG, GROUP BY). - Create relationships between tables using JOIN. - Design a practical database project (such as a library or student administration). Teaching and Learning Methods Learning Strategies - 1. Practical Training: - Create projects: Start with small projects, such as designing a marketplace database or a simple inventory system. - Use interactive tools: Platforms like Oracle APEX provide an ideal environment for practicing SQL queries and database design. 2. Understanding the Basics: - Studying Data Models: Identifying different types of data models (relational, hierarchical, and object-oriented) and understanding their uses. - Learning SQL: Focusing on mastering SQL (Structured Query Language) as it is essential for interacting with relational database

	- 3. Using Real-World Examples: - Analyzing Current Databases: Reviewing the design of common databases, such as those used in social media platforms or e-commerce sites, to understand practical applications. - Case Studies: Case studies of database management problems and solutions, to learn how to apply concepts in real-world scenarios. Assessment Methods: * Periodic Quizzes * Pop Quizzes * Classroom Interaction and Participation * Research Assignments and Reports * Practical and Applied Tests

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	-Define and give example about RDBMS -Identify table key terms	Relational Database Management System (RDBMS)	Lectures and Discussion	Interaction and participation
2	4	-Concatenation operator -Column Aliases -Define and use distinct	Columns, Characters, and rows	Lectures and Discussion	Interaction and participation
3	4	-Apply the comparison operator to return a desired result -Between, like, and in condition	Comparison operators	Lectures and Discussion	Interaction, participation, and quiz
4	4	-Restrict the returned rows -Apply the rules of precedence	Logical comparisons and precedence rules	Lectures and Practical Application	Interaction, participation, and a Quiz
5	4	-Construct a	Sorting rows	Lectures and	Interaction,

		query to sort results -Construct a query to sort results according to column alias		Discussion	Participation, and exam
6	4	-Identify appropriate applications of single-row functions -Classify function as a single-row or multi-row function	Introduction to functions	Lectures and Discussion	Interaction, Participation, and Report
7	4	–Selecting and applying case conversion and/or character manipulation functions	Case and character manipulation	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignment
8	4	- Selecting and applying number and date functions	-Number functions -Date functions	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
9	4	-Cross join -Natural join	Joins	Lectures, Discussion, and Practical Application	Presenting and Explaining Reports Through Presentation
10	4	–Self join –Hierarchical queries	Joins	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments

11	4	Oracle equijoin and cartesian product	Joins	Lectures and Discussion	Daily Quiz
12	4	Non equijoin and outer joins	Joins	Lectures, Discussion, and Practical Application	Interaction and Participation
13	4	Define, construct, and execute SQL query using group functions	Group functions	Lectures, Discussion, and Practical Application	Reports
14	4	-Insert data -update data - Create tables	-Data Manipulation Language -Data Definition Language	Lectures, Discussion, and Practical Application	Presenting and explaining repor through a presentation
15	4	Projects discussion	Presenting students' projects	Discussion	Interaction and participation

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)	
Main references (sources)	Publications on Oracle database design available in the college library and the university's central library.
Recommended books and references (scientific journals, reports…)	Database SQL Certified Associate
Electronic References, Websites	https://www.coursera.org/ https://docs.oracle.com/en/database/

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
2- University Department/Centre
Northern Technical University / **Department of Information Technology Management/second level**
3-Course title/code
Department of Business Administration Technologies
4- Available forms of attendance
IN- Person/face to face
5- Semester/Year
Fall semester/ 2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
15/6/2025
8-(Course Objectives)General Course Objectives
1 .Provide students with basic concepts related to the definition, types, and categories of crimes. 2 .Define the crimes and violations of the former regime and the types of international crimes. 3 .Define the crimes of mass graves and violations of Iraqi laws. 4 .Address environmental crimes, the destruction of cities, demographic change policies, and extrajudicial detention. 5. Explain the role of the Supreme Criminal Court in dealing with the crimes of the Ba'ath regime.

1− Course outcomes, teaching, learning and assessment methods

Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
1The student learns about the nature of The concept of crime and types of national and international crimes.	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests

2-To explain the constitution, the rule of law, and human rights guarantees	Theoretical lectures	management Solving exercises within the lecture and assigning external homework
3–Developing students' ability to distinguish between crimes and human rights violations and how to confront them	View the companies' work and achievements	Discussions and dialogues

2- Course steuctuer (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	Crimes of the Ba regime according the Iraqi H Criminal Court L of 2005 -The concept crimes and their typ - Definition of cri in terms of langu and terminology	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	mes Sections Ba'ath regi crimes, documented by Iraqi High Crimi Court Law of 2005	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	es of ernational Crimes Decisions Issued the Supre Criminal Court	Lecture	Daily and monthly tests

fourth	2	Student understanding the lesson	chological and ial crimes and eir effects chological - mes chanisms of - chological crimes - Effects psychological crim	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	ial crimes - itarization of - iety - The Ba'ath regim stance on religion	Lecture	Daily and monthly tests
Sixth	2	Student understanding the lesson	lations of Iraqi - s - Images of hum rights violations a crimes of power	Lecture	Daily and monthly tests
Sevent h	2	Student understanding the lesson	Some decisions the political a military violations the Baath regime	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	-Prison a detention centers the Baath regime	Lecture	Daily and monthly tests
Ninth	2	Student understanding the lesson	Environmental crimes of the Ba regime in Iraq	Lecture	Daily and monthly tests
tenth	2	Student understanding the lesson	For war polluti radiation and m explosions	Lecture	Daily and monthly tests
Elevent h	2	Student understanding the lesson	struction of cities d villages Scorched ea policy	Lecture	Daily and monthly tests
Twelft	2	Student understanding the lesson	ining marshes Destruction of pa groves, trees, a crops	Lecture	Daily and monthly tests

h					
Thir teenth	2	Student understanding the lesson	ss Grave Crimes Definition of M Graves	Lecture	Daily and monthly tests
Four teenth	2	Student understanding the lesson	Mass graves genocide commit by the Ba'ath regim	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	Chronological classification genocide graves Iraq	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning, brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-

learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure	
Classrooms, laboratories and workshops	Available
Required books and curriculum	Publications on crimes, penal law, and human rig available in the college library and the universit central library
Main references (sources)	
Recommended books and references (Scientific journals, reports،……)	Scientific and Applied Research Projects
Electronic references and websites	Human rights websites.

Course Description Form/Organization Management

.1 Educational institution
Mosul Technical Administrative College
.2 Scientific Department / Center
Information Technology Management Department/Second Stage
.3 Course Name/Code
Organization behavior/ITM211
.4 Available attendance forms
Weekly/face to face
.5 semester/year
Spring semester
.6 Number of study hours (total)
60 hours
.7 Date this description was prepared
30/6/2025
.8 Course objectives

It concerns understanding and analyzing the behavior of individuals and groups within organizations in order to improve organizational performance and effectiveness. The following is a list of typical learning objectives for this course:

- **Understanding the basic concepts of organizational behavior:**
  - Definition of organizational behavior, its fields and levels (individual, group, organizational).
  - Realizing the importance of studying behavior in the workplace.
- **Analysis of individual behavior within organizations:**
  - Identify the factors that influence individual behavior, such as personality, perception, attitudes, and motivation.
- **Study group behavior and understand team dynamics:**
  - Analysis of group behavior, team roles, group decision making, and intragroup conflicts.
- **Understanding the impact of leadership and organizational culture on performance:**
  - Understanding leadership theories and styles, and the impact of organizational culture on employee behavior.
- **Understanding internal organizational processes:**

Such as organizational communication, organizational change, and conflict and stress management.

- **Developing interpersonal skills within the workplace:**
  - Building effective professional relationships, working within a team, and solving behavioral problems.
- **Linking behavioral theories to practical application:**
  - Using organizational behavior models and concepts to analyze real-life situations within organizations.

9. Course outcomes, teaching, learning and assessment methods

A-Course cognitive objectives and learning outcomes

ChatGPT said:

Of course, here you go.**Cognitive objectives of the organizational behavior course**In addition to**Educational learning outcomes**According to popular educational fields (especially Bloom's Taxonomy):

· First: The cognitive objectives of the organizational behavior course

These are the goals that focus on what**The student knows and understands it.**After studying the course, it includes:

1. **Knowledge:**
   - The student should mention the basic concepts of organizational behavior, such as perception, motivation, leadership, and organizational culture.
2. **Comprehension:**
   - The student should explain the factors influencing the behavior of individuals within the work environment.
3. **Application:**
   - To apply behavioral concepts in analyzing realistic organizational situations.
4. **Analysis:**
   - To analyze the causes of behavioral problems within different teams or departments.
5. **Synthesis:**
   - To integrate organizational behavior theories to provide integrated solutions to improve performance.
6. **Evaluation:**
   - To evaluate the impact of leadership, communication or motivational styles on

teamwork efficiency.

☐ Second: Student Learning Outcomes

Learning outcomes describe what the student will be able to do.**his performance or achievement**After completing the course, it includes:

· On the cognitive level:

- Identifies the main concepts and theories of organizational behavior.
- Explains the relationship between individual behavior and group behavior within an organization.
- Analyzes behavioral problems in the workplace and suggests appropriate solutions.
- Compares different leadership and motivation models and their impact on employees.

· Skill-Based:

- Applies analytical skills to interpret employee behavior.
- Designs organizational approaches to resolve conflicts or improve communication.

· On the affective level:

- Shows respect for diversity in work environments.
- Committed to work ethics and human relations within the organization.
- Appreciates the importance of positive relationships between individuals and groups within the organization.

ʙTeaching and learning methods

1. ☐ Interactive Lectures:

- Presenting concepts and theories in an interactive manner with real-life examples.
- Use of PowerPoint presentations and multimedia.

2. ☐ Class Discussions:

- Encourage students to exchange views on behavioral issues such as leadership or motivation.
- Discussing everyday situations within work environments.

3. ☐ Case Studies:

- Analyze real or hypothetical cases related to organizational and behavioral problems.

- Develop critical thinking and problem-solving skills.

4. ☐ Cooperative learning and group work:

- Divide students into small groups to analyze a situation or prepare a group presentation.
- Enhance communication and teamwork skills.

5. ☐ Role Play & Simulations:

- Performing job roles such as manager or employee in organizational situations.
- A deeper understanding of individual and group behavior through direct experience.

6. ☐ Brainstorming:

- Generating ideas to solve behavioral problems in organizations.
- Promoting creativity and innovation in dealing with human behavior.

7. ☐ Self-Learning:

- Assign students to read scholarly articles or prepare individual reports.
- Use educational platforms or relevant videos.

8. ☐ Problem-Based Learning (PBL):

- Present a real-life organizational problem, ask for it to be analyzed, and propose solutions from a behavioral perspective.

Course structure .10

Evaluation method	Teaching method	Topic name	Learning outcomesRequired	watches	week
Tests and reports	theoretical	What is human behavior? Types of human behavior/Objectives of studying human behavior	Knowledge and practical application	3	the first
Tests and reports	My theory	The concept of organizational	Knowledge and practical	3	the secondThe

		behavior / the importance of studying organizational behavior / characteristics, levels and determinants of organizational behavior and the relationship of organizational behavior to other sciences	application		third
Tests and reports	My theory	The concept of perception, types of perception, characteristics of the perception process, factors affecting perception / obstacles to perception, the importance of the perception process in management	Knowledge and practical application	3	Fourth and fifth
Tests and reports	My theory	Trends and values. The concept of trends. Characteristics of trends, elements of	Knowledge and practical application	3	Sixth and seventh

		trends, components of trends, and functions of trends. Changing trends.			
Tests and reports	**My theory**	**The concept of values, the formation of values, the characteristics of values, the types of values, the sources of values, the impact of values on organizational behavior, values and individual behavior**	**Knowledge and practical application**	**3**	**The eighthThe ninth**
Tests and reports	**My theory**	**Personality/concept, factors affecting personality, personality views**	**Knowledge and practical application**	**3**	**tenth, eleventh and twelfth**
Tests and reports	**My theory**	**Personality dimensions, personality characteristics**	**Knowledge and practical application**	**3**	**The thirteenth, fourteenth and fifteenth**

infrastructure .11	
1- Required textbooks	
2- Main references (sources)	
Mohamed Fawzy Awad – *Introduction to Organizational Behavior*	

Dr. Mohamed Mustafa Abu Bakr – *Organizational Behavior - An Integrated Approach* Covers individual, group, and organizational behavior extensively.	
Scientific journals in the fields of information technology	A- Recommended books and references (scientific journals, reports, etc.)
Specialized websites	B - Electronic references, websites...
	Curriculum Development Plan .12
- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website. Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.	

Course Description Form – Visual Programming(2025)

1. Educational Institution:
Technical Administrative College / Mosul
2. Department / Level:
Information Technology Management Department / Second level
3. Course Name / Code:
Visual Basic/ITM210
4. Attendance Mode:
Weekly/face to face
5. Semester / Academic Year:
Spring Semester /2025
6. Total Course Hours:
60 hours
7. Date of Course Description Preparation:
30/06/2025
8. Course Objectives: This course aims to teach the fundamentals of programming, problem-solving algorithms, and their translation into structured procedural programming using C#. It enables students to: Firstly: Understand basic programming concepts including computer programs, algorithms, operating systems, compilers, encoding formats, and programming languages. Students are introduced to the .NET development environment and C# fundamentals, focusing on core commands like input/output, assignment, arithmetic expressions, conditional statements, loops, strings, tables, and arrays. Secondly: Practice basic and applied algorithms and C# programming through general classical examples, solved and unsolved problems, training exercises, and practical activities.

9. Course Outcomes, Teaching, Learning, and Assessment Methods

Cognitive Objectives:

- A1: Provide comprehensive knowledge of C# programming fundamentals.
- A2: Understand Microsoft .NET concepts, the .NET Framework, and C# beginner level.
- A3: Master general syntax and constructs in C#, including blocks, variable scope, assignment, conditionals, while loops, and the five essential algorithmic operations in C.#

B. Practical and Skill-Based Objectives:

- B1: Master control statements derived from core syntax, various loop types, breaking structured flow, and branching including the use of continue in C.#
- B2: Understand and apply complex data types, string types, tables, and arrays (including multidimensional and dynamic arrays).
- B3: Understand and master the structure of C# code, functions/methods, declaration, invocation, parameter passing, return values, class variables, and method parameters.

Teaching and Learning Methods:

- Present course material and applications using computer, LCD projector, and interactive whiteboard.
- Deliver the instructional content using PowerPoint presentations.
- Conduct live teaching sessions via Google Meet.

Assessment Methods:

To achieve the intended learning outcomes, the course applies Brainstorming techniques Cooperative learning Problem-solving Individual and group discussions Self-directed learning Additionally, assessments include Daily or semester exams Individual and group activities to promote collaborative learning

C. Affective and Value-Based Objectives:

- C1: Student engagement with the subject
- C2: Interest and emotional connection to the subject
- C3: Motivation toward self-development
- C4: Continuous practice and application of course content

- Assessment Tools:

- Semester and final exams, quizzes, assignments

D. Transferable and Employability Skills:

- D1: Improve computer and communication skills
- D2: Develop independent learning skills
- D3: Ability to transfer knowledge to others
- D4: Handle practical challenges in real work environments

10. Course Structure

Assessment Method	Teaching Method	Unit / Topic	Learning Outcome	Hours	Week(s)
Tests and practical work	Theory + Practice	Fundamentals of C#	Knowledge & Practice	4	Week 1–2
Tests and practical work	Theory + Practice	Commands in C#	Knowledge & Practice	4	Week 3–4
Tests and practical work	Theory + Practice	Additional algorithm syntax	Knowledge & Practice	4	Week 5–6
Tests and practical work	Theory + Practice	Data structures (composite types)	Knowledge & Practice	4	Week 7–8
Tests and practical work	Theory + Practice	Introduction to Functions and Methods	Knowledge & Practice	4	Week 9
Tests and practical work	Theory + Practice	Exercises and problem solving	Knowledge & Practice	4	Week 10

1. Required Textbooks:	**Available at the college library**
2. Main References (Sources):	**Available at the college library**
3. Recommended Readings (Scientific Journals, Reports, etc.):	
4. Online Resources:	**Internet resources**

11. Course Development Plan:

- Develop curricula aligned with labor market needs
- Organize scientific seminars and conferences to update the curriculum
- Follow scientific developments in the field of specialization

Course Description Form 2024-2025 (Computer)

1. Educational Institution: Technical Administrative College/ Mosul

2. Scientific Department/Center: Information Technology Management Department / Second level

3. Course Name/Code: Computer/NTU 201

4. Available attendance forms: Weekly/face to face

5. Semester/Year: Spring semester/2025/ Bologna Pathway

6. Number of study hours (total): 30 hours

7. Date of preparation of this description: 6/30/2025

8. Course objectives:

This course aims to provide students with basic knowledge in the use of computers and their various applications in academic and practical fields, while developing logical thinking and problem-solving skills using modern software and technical tools. It also seeks to equip students with the ability to employ computers in scientific research and prepare reports and presentations, enhancing digital proficiency and employability..

9. Course outcomes, teaching, learning and assessment methods

A- Cognitive objectives:

- The student is able to understand the basics of computers.
- Using models in daily life
- Enabling the student to know how to apply the material in practical life
- It involves realizing the relationship or relationships contained intheData, interpretation of relationships and their components, interpretation of figures and graphs, interpretation of tablesStatistics

B - Course specific skill objectives.

- Proficiency in using word processing, spreadsheets, and presentation programs.
- Applying online research and digital data analysis skills.
- Ability to design professional academic reports using computer tools.
- Using software to solve practical problems and small projects.

C- Emotional and value-based goals

- Enhancing the value of teamwork through collaborative projects using digital tools.
- Instilling the importance of adhering to the ethics of using technology and protecting intellectual property.
- Developing a sense of responsibility towards cybersecurity and personal data.

D - General and transferable skills (other skills related to employability and personal development).

- Developing digital communication skills and preparing electronic reports.
- Enhance the ability to engage in continuous self-learning using Internet resources.
- Providing students with the digital proficiency required for the labor market.
- Develop planning and organizing skills using supporting software.

e. Teaching and learning methods

- Theoretical lectures supported by presentations.
- Practical applications in computer laboratories.
- Cooperative learning and problem solving in groups.
- Self-learning via electronic platforms and internet resources.

Evaluation methods

- Theoretical exams (midterm and final).

- Practical assessment through laboratory tests.
- Individual and group assignments and projects.
- Classroom participation and interactive activities.

10. Theoretical structure of the course

week	watches	Required learning outcomes	Unit name/topic	Teaching method	Evaluation method
the first	2	Student understanding of the lesson	programPOWER POINT	Theoretical lecture + presentation	Short quiz + class participation
the second	2	Student understanding of the lesson	Components of the main interface of the program	Interactive lecture + discussion	Written assignment + short test
the third	2	Student understanding of the lesson	Information about the presentation	Lecture + lab demonstration	Short practical test
Fourth	2	Student understanding of the lesson	Tabs	Lecture + practical lab	Practical report + test
Fifth	2	Student understanding of the lesson	Insert slides	Lecture + Presentation	Application duty
Sixth	2	Student understanding of the lesson	Presentation Views	Lecture + exercises	Short test
Seventh	2	Student understanding of the lesson	PowerPoint keyboard shortcuts	Lecture + Case Study	Application duty
The eighth	2	Student understanding of the lesson	Exams	Lecture + Discussion	Short quiz + sharing
Ninth	2	Student understanding of the lesson	Internet	Lecture + explanatory video	Short research assignment
tenth	2	Student understanding of the lesson	e-mail	Lecture + practical activity	Short test
eleventh	2	Student understanding of the lesson	Excel concept	Lecture + practical lab	practical control
twelfth	2	Student understanding of the lesson	Open and create a file	Lecture + practical application	Laboratory report
thirteenth	2	Student understanding of the lesson	Insert data, rows and columns	Practical lab	practical control
fourteenth	2	Student understanding of the lesson	Organizational structure of operations	Practical lab	Homework + Test
fifteenth	2		semester exam	Discussion + Presentations	Project presentation +

					practical evaluation
sixteenth				Comprehensive exam	Final exam

11.infrastructure	
1- Required textbooks	Computer Fundamentals and its Applications, Ziad Mohammed Abboud et al., 2014.
2- Main references (sources)	Computer Fundamentals and its Applications, Ziad Mohammed Abboud et al., 2014.
A- Recommended books and references (scientific journals, reports)	Kevin Hare. (2022).Computer Science Principles The Foundational Concepts of Computer Science
B - Electronic references, websites...	Computer basics websites
12.Curriculum Development Plan	
The course content is updated periodically to keep pace with recent technological developments, introducing new topics such as information security and cloud computing. The practical side is also enhanced by adding applications for multiple operating systems and modern programming languages. E-learning and applied projects are also enhanced, linking the course to labor market requirements, and are periodically reviewed based on feedback from students and faculty.	

New Course Description Form / Multimedia

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/Second Level
3. Course Name/Code
Multimedia/ITM213
4. Available attendance forms
Weekly/Face to Face
5. semester/year
Spring semester/2025
6. Number of study hours (total)
60 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
-Providing students with basic conceptswith multimedia applications. -Knowing the different types of systems that serve the levelsTechnical. -Learn the mechanism of analysis and designVideos, texts, audio, and graphics.
9. Course outcomes, teaching, learning and assessment methods
A- Cognitive objectives - Understanding and Analyzing Multimedia: Students will be able to understand the basic components of multimedia and identify their vital role in supporting organizational decision-making. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest improvements to increase efficiency and effectiveness. - Applying Technological Concepts: Students will acquire the ability to connect the theoretical concepts of administrative multimedia with contemporary technological applications. This includes understanding modern technologies such as Google's digital applications and Canva applications, and how they can be employed to achieve organizational

strategic goals.

B - Course specific skill objectives.

- Problem solving skills using the Internet**:**The student will develop the ability to identify organizational problems that can be solved or mitigated using information systems, and to propose innovative technology-based solutions, with a focus on operational efficiency and improved decision-making.

- Systems analysis and design skills**:**The student will acquire the ability to analyze the functional and non-functional requirements of a new information system, and design appropriate solutions using systems modeling tools and techniques such as data flow diagrams (DFD) and entity-relationship diagrams (ERD), which qualifies him to be an effective link between business and technical teams.

Teaching and learning methods

- Direct instruction (lecture) with the use of educational technology tools
- Class discussion and interaction through assignment of homework
- Education by practical application of subjects that require department laboratories
- Project-based learning strategy

Evaluation methods

*Periodic tests

*Surprise tests

*Classroom interaction and participation

*Research assignments and reports

*Practical and applied tests

C- Emotional and value-based goals

A1- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best.

A2- Enhancing the desire to compete to raise the educational level

A3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

Teaching and learning methods

1. Periodic field visits to administrative and technical institutions.

2. Coexistence, actual practice, and interaction with workers through practical application (summer training) that the student undertakes by living with the beneficiaries.

3. Psychological and emotional stimulation through open and direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).

D1- Teaching the student the skills of writing research and reports.

D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work.

D3- Teaching the student how to deal with information sources, analyze them, and deduce and record a summary of the information he obtains as a result of the objective analysis of these sources.

D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields.

10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Interaction and participation	Lectures and discussion	General introduction, basic concepts	Knowledge and practical application	4	the first
Interaction and participation	Lectures and discussion	**Multimedia production tools and equipment**	Knowledge and practical application	4	the second
Interact, participate and test daily.	Lectures and discussion	**Material components**	Knowledge and practical application	4	the third
Interaction, engagement, and	Lectures and practical	Software components	Knowledge and practical	4	

pop-up testing	application		application		Fourth
Interaction, participation, and semester testing	Lectures and discussion	Texts	Knowledge and practical application	4	Fifth
Interaction, Participation, and Reports	Lectures, discussion and practical application	connections, linksTramifications	Knowledge and practical application	4	Sixth
Interaction, participation, and duties	Lectures, discussion and practical application	Art and animation	Knowledge and practical application	4	Seventh
Interaction, participation, and duties	Lectures, discussion and practical application	Camera, pan, rotation and angle levels	Knowledge and practical application	4	The eighth
Delivering and explaining reports throughpresentation	Lectures, discussion and practical application	Lines and decoration	Knowledge and practical application	4	Ninth
Interaction, participation, and duties	Lectures, discussion and practical application	Pictures and their types, black and white and color	Knowledge and practical application	4	tenth
Daily test	Lectures and discussion	Sound, its elements, tools and devices	Knowledge and practical application	4	eleventh
Interaction and participation	Lectures and discussion	Sound waves and their types	Knowledge and practical application	4	twelfth

	Reports	Lectures and discussion	Craves	Knowledge and practical application	4	thirteenth
	Delivering and explaining reports throughpresentation	Practical application	The video	Knowledge and practical application	4	fourteenth
	Interaction and participation	Lectures and discussion	Digital formats and their features	Knowledge and practical application	4	fifteenth
Multimedia	Knowledge and practical application		11. infrastructure			

Multimedia	1- Required textbooks
Private publicationsFor multimediaAvailable at the college library and the university's central library	2- Main references (sources)
	A- Recommended books and references (scientific journals, reports, etc.)
websites	B - Electronic references, websites...
12. Curriculum Development Plan	
The development plan for this course aims to update the content by incorporating the latest developments in networking and communications technology, such as the type of multimedia, associated devices, capacity, speed, and pros and cons, to enhance students' understanding of basic concepts and their practical applications. The plan will focus on adding real-life case studies and practical exercises to train students in analyzing and solving problems using Internet installation and management software, while developing their skills.The teaching methods used will also be evaluated to ensure they align with the desired learning outcomes and provide a more interactive and engaging learning experience for students.	

Course Description Form – Project Management (2025)

1. Educational Institution:
Technical Administrative College / Mosul
2. Department / Level:
Information Technology Management Department / Third Year
3. Course Name / Code:
Project Management/ELM315
4. Attendance Mode:
Weekly/FACE TO FACE
5. Semester / Academic Year:
Fall Semester /2025
6. Total Course Hours:
60 hours
7. Date of Course Description Preparation:
2025/6/30
8. Course Objectives:
This course aims to introduce the concepts, strategies, and skills necessary for managing projects according to the methodology of the Project Management Institute (PMI). It contributes to enhancing the efficiency and effectiveness of participants in the field of professional project management.

9. Course Outcomes, Teaching, Learning, and Assessment Methods

Cognitive Objectives:

- A1: Provide comprehensive knowledge on all project management topics.
- A2: Understand how to initiate projects.
- A3: Understand different project selection methods.
- A4: Understand types of contracts, contracting mechanisms, supervision, and project delivery.

B. Practical and Skill-Based Objectives:

- B1: Understand how to define project tasks and form work teams.
- B2: Practice scheduling and budgeting.
- B3: Practice monitoring and controlling the project.

Teaching and Learning Methods:

- Present course content and activities using a computer, LCD projector, and interactive whiteboard.
- Deliver learning materials through PowerPoint presentations.
- Use Google Meet for online teaching sessions.

Assessment Methods:

To achieve the course goals, specific evaluation methods are used such as: Brainstorming techniques Cooperative learning Problem-solving Individual and group discussions Self-directed learning Students are also evaluated through Daily or mid-term exams Individual and group activities that promote collaborative learning

C. Affective and Value-Based Objectives:

- C1: Student engagement with the course
- C2: Student interest and attachment to the subject
- C3: Developing self-capabilities
- C4: Continuous practice of the course content

Assessment Tools:

Homework, quizzes, reports, and exams

D. Transferable and Employability Skills:

- D1: Enhance computer and communication skills
- D2: Develop self-reliance in acquiring knowledge
- D3: Ability to share knowledge with others
- D4: Handle practical challenges in the workplace

10.Course Structure

Assessment Method	Teaching Method	Unit / Topic	Learning Outcomes	Hours	Week(s)
Tests & Reports	Theory + Practice	Project Management Framework (PMP)	Knowledge & Practice	4	1
Tests & Reports	Theory + Practice	What is a project? What is project management? Domains/Context	Knowledge & Practice	4	2
Tests & Reports	Theory + Practice	Project life cycle, stakeholders, organizational influence	Knowledge & Practice	4	3
Tests & Reports	Theory + Practice	Project management processes	Knowledge & Practice	4	4
Tests & Reports	Theory + Practice	Process interactions, project process map	Knowledge & Practice	4	5
Tests & Reports	Theory + Practice	Project integration management, initiating document, preliminary scope, project plan	Knowledge & Practice	4	6
Tests & Reports	Theory + Practice	Execution and control, integrated control, project closure	Knowledge & Practice	4	7
Tests & Reports	Theory + Practice	Scope management: planning & defining scope	Knowledge & Practice	4	8
Tests & Reports	Theory + Practice	Work Breakdown Structure (WBS), scope verification and control	Knowledge & Practice	4	9–11
Tests & Reports	Theory + Practice	Time management: task identification & sequencing	Knowledge & Practice	4	12–13
Tests & Reports	Theory + Practice	Task resource & duration estimation, schedule development	Knowledge & Practice	4	14–15
Tests & Reports	Theory + Practice	Cost management: cost estimation, budgeting, cost control	Knowledge & Practice	4	16–18
Tests & Reports	Theory + Practice	Quality management: planning & assurance	Knowledge & Practice	4	19
Tests & Reports	Theory + Practice	Quality control and monitoring	Knowledge & Practice	4	20–21
Tests & Reports	Theory + Practice	Human Resource Management: HR planning	Knowledge & Practice	4	22
Tests & Reports	Theory + Practice	Team formation, development, and management	Knowledge & Practice	4	23
Tests & Reports	Theory + Practice	Project communication: planning, reporting, stakeholder management	Knowledge & Practice	4	24–25
Tests & Reports	Theory + Practice	Risk management: planning, risk identification, qualitative & quantitative analysis	Knowledge & Practice	4	26
Tests & Reports	Theory + Practice	Risk response and risk control	Knowledge & Practice	4	27

Tests & Reports	Theory + Practice	Procurement & contracting: planning, proposals, selection, management	Knowledge & Practice	4	28–29

11.Infrastructure

1. Required Textbooks:	Available in the Free Education Repository and the College Library
2. Main References (Sources)	Available in the Free Education Repository and the College Library
3. **Recommended Materials (Journals, Reports, etc.):**	
4. Online References:	Internet resources

12. Course Development Plan:

- Develop curricula aligned with job market needs
- Organize scientific seminars and conferences aimed at updating the curriculum
- Track scientific advancements in the field of specialization

Course Description Form / Knowledge management

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/ third stage
3. Course Name / Code
Knowledge management / ELM317
4. Available attendance forms
Weekly/face to face
5. semester/year
Level 3/Spring Semester/2025
6. Number of study hours (total)
45 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
An attempt to enrich students with a set of concepts and theories that include many implications and connotations, while clarifying the differences between these theories.
9. Course outcomes, teaching, learning and assessment methods
A- Cognitive objectives - Enabling students to understand complex concepts by providing multiple sources of information. - Developing cognitive aspects related to knowledge management. - Providing a knowledge presentation on critical thinking. B- **Course skill objectives**. 1. Encourage self-directed learning to enhance students' ability to independently search for knowledge and utilize available resources. 2. Promote collaboration through teamwork and knowledge sharing among students to enhance shared learning. 3. Facilitate access to information and provide tools and platforms that facilitate access to relevant knowledge and information.

Learning outcomes: By the end of this course, students are expected to be able to explain the basic concepts of knowledge management.
Learning outcomes for the Knowledge Management course include:
1. Understanding basic concepts, i.e., the student's ability to explain the basic concepts of knowledge management and their importance in organizations.
2. The ability to apply knowledge management strategies and models in different contexts.
3. Data and information analysis skills to identify opportunities and challenges in knowledge management.
4. Developing knowledge management systems and the ability to design and develop systems and tools that facilitate knowledge management within organizations.
5. Evaluating performance and the ability to assess the effectiveness of knowledge management strategies through clear performance indicators.
6. Effective communication and communication skills to clearly convey knowledge and ideas between individuals and teams.
7. Encouraging innovation and the ability to use knowledge to enhance innovation and develop new solutions to problems.
8. Teamwork and skills to work within multidisciplinary teams to promote knowledge sharing and best practices.
These outcomes help students develop their skills and knowledge in the field of knowledge management.

Teaching and learning methods

- Theoretical lectures.
- Presentations by students.
- Case studies.
- Group discussion and practical workshops.
- Individual or group projects.
- Problem-based learning (PBL).
- Use simulations or management games if available.

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10. Course structure

Evaluation method	Teaching method	Topic name	Required learning outcomes	Hours	week
Tests and reports	**Theoretical**	**The emergence and development of knowledge**	**Knowledge and practical application**	**3**	**first**
Tests and reports	**Theoretical**	**The concept of knowledge and the relationships between data, information, and**	**Knowledge and practical application**	**3**	**second & third**

		knowledge			
Tests and reports	**Theoretical**	**The importance of knowledge, characteristics of knowledge, and objectives of knowledge**	**Knowledge and practical application**	**3**	**Fourth & fifth**
Tests and reports	**Theoretical**	**Sources of knowledge, knowledge pyramid, and types of knowledge**	**Knowledge and practical application**	**3**	**Sixth & seventh**
Tests and reports	**Theoretical**	**What is knowledge management, the concept of knowledge management, and the knowledge management life cycle?**	**Knowledge and practical application**	**3**	**Eighth & ninth**
Tests and reports	**Theoretical**	**The importance of knowledge management, the objectives of knowledge management, the dimensions of knowledge management, and the elements of knowledge management, along with the axes and approaches to knowledge management.**	**Knowledge and practical application**	**3**	**tenth, eleventh & twelfth**
Tests and reports	**Theoretical**	**The relationship between information**	**Knowledge and practical**	**3**	**thirteenth, fourteenth & fifteenth**

		management and knowledge management, the relationship between knowledge management and knowledge management systems, knowledge mapping, knowledge management processes, knowledge management requirements, and knowledge management success factors	**application**		

11. Infrastructure	
1- Required textbooks	
2- Main references (sources)	Knowledge Management - Knowledge Management Basics Author: Mr. Sayed El-Nashar Knowledge Management - Introduction to Knowledge Management Author: Prof. Dr. Abdul Sattar Al-Ali and others
A- Recommended books and references (scientific journals, reports, etc.)	Scientific journals in the fields of information technology
B - Electronic references, websites...	Specialized websites

12. Curriculum Development Plan
- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

- Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

Course Description Form

1. Course Name:
Database Administration
2. Course Code:
ELM305
3. Semester / Year:
Fall Semester /2025
4. Description Preparation Date:
30-6-2025
5. Available Attendance Forms:
Face to Face/In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor Nabeel Hazim Email: noor.nabeel@ntu.edu.iq
8. Course Objectives

Course Objectives	**• Understanding Database Management Principles: To provide students with a comprehensive understanding of databa concepts, including the theoretical foundations of database systems and th practical applications.** **• Developing competency in database design and implementation: To provide students with the skills necessary to design, implement, and manage relation databases using industry-standard tool and techniques.** **• Enhancing problem-solving skills: To**

	enable students to apply database management principles to real-world situations, including problem identification, systems analysis, and solution design. **• Familiarization with database technologies: To introduce students to various database technologies and trend including cloud database solutions.**
9. Teaching and Learning Strategies	
Strategy	After successfully completing this course, students should be able to: 1. Install, create, and manage an Oracle database 2. Configure the database for an application 3. Use basic monitoring procedures 4. Implement a backup and recovery strategy 5. Move data between databases and files Teaching and Learning Methods Learning Strategies - 1. Practical Training: - Creating Projects: Start with small projects, such as designing a personal contact database or a simple inventory system. - Using Interactive Tools: Platforms like SQLFiddle, DB-Fiddle, and others provide an ideal environment for practicing SQL queries and database design. - 2. Understanding the Fundamentals: - Studying Data Models: Learn about different types of data models (relational, hierarchical, and object-oriented) and understand their uses. - Learning SQL: Focus on mastering SQL (Structured Query Language) as it is essential for interacting with relational databases. 3. Use Real-World Examples: - Analyze Current Databases: Review the design of

	popular databases, such as those used in social media platforms or e-commerce websites, to understand practical applications. - Case Studies: Study case studies of database management problems and solutions to learn how concepts are applied in real-world scenarios. - 4. Join Study Groups: - Collaboration: Working with others can help clarify concepts and offer different perspectives. - Discussions: Participate in discussions or forums (suc as Stack Overflow or Reddit) to resolve your doubts an learn from others' experiences. - 5. Apply Theoretical Knowledge Practical: - Simulate Database Scenarios: Use tools to simulate re world database scenarios and solve problems. - Optimize Queries: Practice optimizing queries to improve performance. Teaching Strategies 1. Use Real-World Applications: Project-Based Learning: Design assignments and projects based on real-world scenarios that students might encounter in work settings. Case Studies: Incorporate case studies to illustrate how database management concepts are applied in various industries. 2. Interactive Teaching Methods: Live Programming Sessions: Apply concepts through li programming to demonstrate how to execute queries, design databases, and troubleshoot problems. 3. Gradual Learning Approach:

	Start with the Basics: Ensure basic concepts are well understood before moving on to advanced topics. Build Complexity: Gradually introduce more complex topics and problems as students deepen their understanding. 4. Encourage Collaboration and Discussion: Group Work: Facilitate group projects where students can work together on database design and managemer tasks. Peer Review: Implement peer review sessions where students critique and improve each other's work. 5. Use of Diverse Resources: Use videos, graphs, and interactive charts to explain complex concepts. 6. Integrate Technology: Database Administration Tools: Introduce students to various database administration tools and platforms (such as MySQL, PostgreSQL, and MongoDB) to give them an opportunity to become familiar with different technologies. Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests

10. Course Structure

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

1	4	Oracle database Architecture	Exploring the Oracle Database Architecture	Lectures and Discussion	Interaction and participation
2	4	Be familiar with the memory structures (SGA components)	Exploring the Oracle Database Architecture	Lectures and Discussion	Interaction and participation
3	4	Be familiar with: 1-the memory structures (SGA)components) 2-Private Global Area	Exploring the Oracle Database Architecture	Lectures and Discussion	Interaction, participation, and daily testing
4	4	Be familiar with the Process Architecture	Exploring the Oracle Database Architecture	Lectures and Practical Application	Interact and Participate, and a Surprise Quiz
5	4	Be familiar with the Process Architecture2	Exploring the Oracle Database Architecture	Lectures and Discussion	Interaction, Participation, and Quarterly Quiz
6	4	Be familiar with Logical and Physica Database Structure	Exploring the Oracle Database Architecture	Lectures and Discussion	Interaction, Participation, and Repot
7	4	physical implementation	Planning the Database	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
8	4	•Delete a Database •Using the DBCA for Additional Tasks	Oracle Database Using DBCA	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
9	4	• Start and stop the Oracle database an components -Use Oracle Enterpı Manager •Access a database with SQL*Plus -Initialization Parameter Files • Modify database initialization parameters	Managing the Database Instance	Lectures, Discussion, and Practical Application	Presenting and Explaining Reports Through Presentation
10	4	•Changing initialization parameter values	Managing the Database	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignmer

		•Describe database shutdown options •View the alert log	Instance		
11	4	•Access dynamic performance views •Access Data dictionary	Managing the Database Instance	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	• Describe the stora of table row data in blocks • Create and manage tablespaces • Obtain tablespace information	Managing the Database Instance	Lectures,Discussion, a Practical Application	Interaction and Participation
13	4	-Create and manage database user accounts: – Authenticate users – Assign default storage areas (tablespaces) • Grant and revoke privileges • Create and manage roles • Create and manage profiles • Backup	Administering User Security and Backup	Lectures, Discussion, and Practical Application	Interaction And Participation
14	4	Export and import databases among different RDBMs	SQL Loader	Lectures, Discussion, and Practical Application	Interaction And Participation
15	4	Students' projects discussion	Students' projects discussion	Lectures, Discussion, and Practical Application	Presenting and explaining reports through a presentation

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)	

Main references (sources)	Publications on Oracle database administration available in the college library and the university's central library.
Recommended books and references (scientific journals, reports…)	Brian Peasland, Oracle DBA Mentor: Succeedi as an Oracle Database Administrator
Electronic References, Websites	https://www.coursera.org/

Course Description Form/ Financial management

1. Course Name:
Financial management
2. Course Code:
ELM303
3. Semester / Year:
Fall Semester /2025
4. Description Preparation Date:
30-6-2025
5. Available Attendance Forms:
Weekly / In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Zahida Ali Yassin Email:zahidaay@ntu.edu.iq
8. Course Objectives

Course Objectives	**Understanding Financial Concepts**: Equip students with the ability to understand and interpret concepts of financial management and recognize their importance in a business context. • **Financial Data Analysis**: Enable students to analyze financial data, extract key information from financial statements, and assess the financial performance of companies. • **Strategic Financial Decision-Making**: Provide students with the ability to make sound and strategic financial decisions based on financial analysis, forecasts, and economic factors. • **Budgeting and Financial Planning**: Help students acquire the necessary skills to create budgets, engage in financial planning, and manage financial resources effectively and sustainably.

9. Teaching and Learning Strategies

Strategy	A. Cognitive Objectives Understand concepts such as the time value of money, risk and return, and financial statement analysis. - Be able to read and understand various financial statements (balance sheet, income statement, cash flow statement). -Understand different sources of financing and their costs, and how to make optimal financing decisions. - Understand personal and business financial planning methods, including budget B. Course Skill Objectives - The ability to analyze financial data and use it in decision-making. - Proficiency in using accounting and financial software, such as Excel and other financial software. - The ability to present financial ideas clearly and convincingly to colleagues and management. - Develop critical thinking skills to solve complex financial problems. Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring department laboratories - Project-Based Learning Strategy Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level C3- Strengthening the sense of belonging to the specialty and

	developing the desire to work in information institutions Teaching and Learning Methods - Promote the value of integrity and transparency in financial transactions. - Understand the importance of social responsibility in financial decision-making and its impact on society. - Promote the value of teamwork and collaboration with others to achieve financial goals. - Appreciate the importance of sustainability in financial decisions and how they impact the future. D - General and transferable skills (other skills related to employability and personal development). 1. Project-based learning: Assigning students practical projects related to financial concepts. 2. Case studies: Analyzing real-life cases of companies or projects to apply financial concepts. 3. Cooperative learning: Organizing students into small groups to work together on tasks or projects. This promotes knowledge sharing and interaction among students. 4. Interactive lectures: Using techniques such as brainstorming or surveys during lectures. 5. Problem-based learning: Presenting complex financial problems that require students to analyze and find solutions. 6. Use of technology: Using tools such as financial analysis software

Week	Hours	Unit or subject name	Teaching method	Learning method	Evaluation method

	or simulations to apply concepts. 7. Workshops: Organizing workshops to teach specific skills such as budgeting or financial analysis. 8. Self-directed learning: Encouraging students to research and explore additional topics on their own. 9. Discussion facilitation: Encouraging discussions about contemporary financial issues or emerging trends. 10. Continuous assessment: Using short tests, homework, and projects to continually assess student understanding.
10. Course Structure	

Week 1,2	4	The concept of financial management	Practical+ Theoretical	Role-play, video presentation, discussion and explanation Questions and answers, presentation	Oral, written and electronic tests
		Its functions and objectives of financial management	Practical+ Theoretical		
	4	The impact of inflation on financial management decisions	Practical+ Theoretical		
		The relationship of other sciences to financial management	Practical+ Theoretical		
Week 3	4	Sources and types of funds	Practical+ Theoretical		
Week 4,5	4	Legal forms of companies	Practical+ Theoretical		
		Agency problem			
Week 6,7	4	Balance sheet	Practical+ Theoretical	Video presentation, explanation, Q&A, discussion, role-playing, workshops, and practical applications for companies using Eacal	Oral, written and electronic tests
		Income statement			
	4	cash flow tatement			
Week 8,9	4	Tax analysis	Practical+ Theoretical	Presentation, explanation, questions and answers, discussion and practical applications for companies	
		Taxes on the ncome of joint-stock companies			
	4	The relationship between extinction and tax savings			

		Methods for calculating the marginal tax rate			
Week 10	4	Financial analysis concept	Practical+ Theoretical	Role-play, video presentation, discussion and explanation Questions and answers, presentation	Oral, written and electronic tests
		The importance of financial analysis	Practical+ Theoretical		
Week11,12, 13	4	Vertical and horizontal analysis		Video presentation, explanation, questions and answers, discussion, practical applications for companies using EACL, workshops, and student solutions.	
	4	Financial ratios	Practical+ Theoretical		
	4	Sources and uses of funds			
Week 14,15	4	Percentage of Sales Entry	Practical+ Theoretical	Discussion and explanation, questions and answers	
	4	Financial planning goals and steps			

11. Course Evaluation

The development plan for this course aims to update the content by incorporating the latest developments in financial systems, using new concepts in the field of financial management, and using electronic devices to present information and issues. The teaching methods used will also be evaluated to ensure they are aligned with the required learning outcomes and provide a more interactive and attractive educational experience for students.

12. Learning and Teaching Resources

Required textbooks (curricula books, if any)	1. Financial Management – Professor Dr. Mohammed Al-Amri, 2011
Main references (sources)	• Financial Management – Professor Dr. Khalil Al-Shamaa • Introduction to Financial Management and Financial

	Analysis, Amman, Jordan: Dar Al-Mustaqbal for Publishing and Distribution, 2000 • Advanced Financial Management, Dr. Adnan Tayeh Al-Naimi + Prof. Dr. Arshad Fouad Al-Tamimi, Al-Yazouri Scientific Publishing and Distribution House, 2019 • Financial and Banking Management, Osama Abdulkhaleq Al-Ansari - Wael Publishing House, 1995 • Scientific Journals in Accounting and Financial Management Specialties • Specialized Websites
Recommended books and references (scientific journals, reports...)	.
Electronic References, Websi	Websites on Management Financial Management

Course Description Form/Strategic Management

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/Third Stage
3. Course Name/Code
Strategic management/ELM310
4. Available attendance forms
Weekly/face to face
5. semester/year
Fall semester/2025
6. Number of study hours (total)
60 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
Introducing the student to the principles, foundations, concepts and terminology of strategic management according to a main model consisting of five axes: (strategic direction, strategic analysis, strategic formulation, strategic implementation, strategic control and evaluation), in addition to informing students of various topics related to these axes.
9. Course outcomes, teaching, learning and assessment methods
A- Cognitive objectives A1-Cognitive objectives 1- Introducing the student to the nature of strategic management and the concept of strategic management.

2- Introducing the student to strategic management models and the main model adopted in the organization.
3- Introducing the student to the importance, principles and foundations of strategic management.
4- Introducing the student to the classification of strategic options at the organizational level, business unit level, and functional level.

B -Course skill objectives.

1 – Teaching the student the scientific methods used to study strategic management.

2- The student learns about the development stages of the study of strategic management and business policies.

Teaching and learning methods

-Explain the scientific material to students in detail.

- Cooperative learning: Students work in groups on strategic projects, such as preparing a comprehensive strategic plan for a virtual organization.

- Discussion and dialogue on vocabulary related to the topic.

- Develops teamwork, communication and group decision-making skills.

- Interactive lectures supported by visual presentations.

Evaluation methods

*Periodic tests

*Surprise tests

*Classroom interaction and participation

*Research assignments and reports

*Practical and applied tests

C-**Affective and value-based goals**

C1- Highlighting the scope of benefiting from the study and analysis of human behavior in the organization.

A2- Providing comprehensive knowledge about organizational behavior, its concepts, characteristics, importance, and related topics, so that the student has the necessary knowledge of this subject.

Teaching and learning methods

1. First: Teaching methods

1. **Interactive lectures**
    - Explain strategic concepts and models (such as SWOT, PESTEL, Porter's Five Forces...).
    - Use presentations and diagrams.
2. **Case Studies**
    - Analysis of real situations of local and international companies.
    - Understand how to apply strategies in different environments.
3. **Brainstorming and class discussions**
    - Discussing realistic strategic challenges.
    - Developing group strategic thinking skills.
4. **Group projects**
    - Preparing a strategic plan for a selected company.
    - Promote teamwork and applied research.
5. **Field visits / hosting lecturers from real life**
    - To link theoretical material with real market experiences.

Second: Learning methods

1. **Problem-based learning (PBL)**
    - Pose a real strategic problem and study how to solve it.
2. **Self-learning**
    - Reading modern strategy books and articles.
    - Preparing individual reports or reviews of recent research.
3. **E-learning / Blended learning**
    - Use learning platforms (such as Moodle or Google Classroom) to share resources.
    - Watch video lectures and discuss them later.
4. **Business Simulations**
    - Experience making strategic decisions in a realistic simulation environment.

Third: Evaluation methods

(To complete the picture, it is preferable to mention it with the teaching and learning methods)

- Theoretical and practical exams
- Case study and project evaluation
- Individual and group presentations
- Classroom participation
- Strategic Analysis Reports

10. Course structure					
Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Interaction and participation	Lectures and discussion	General concepts, concept of management, concept of strategy, concept of strategic management, stages of development of strategic management	What is strategic management?	3 hours	the first
Interaction and participation	Lectures and discussion	Strategic management and strategic planning, components of strategic management, levels of strategic management, principles and foundations of strategic	Recognizing the importance of strategic management for business management	3 hours	the second

		management.			
Interact, participate and test daily.	Lectures and discussion	Approaches to studying strategic management, the strategic management process, the main adopted model (orientation - analysis - formulation - implementation - control - and evaluation)	Learn about strategic management models	3 hours	the third
Interaction, engagement, and pop-up testing	Lectures and practical application	Vision, concept, characteristics - justifications.	Identifying the strategic direction	3 hours	Fourth
Interaction, participation, and semester testing	Lectures and discussion	Concept, contents, characteristics and importance	Message recognition	3 hours	Fifth
Interaction, Participation, and Reports	Lectures, discussion and practical	Concept, characteristics,	goals		Sixth

	application	justifications, mechanisms for formulating goals, contrast between goals and objectives			
Interaction, participation, and duties	Lectures, discussion and practical application	Environmental concept, environmental classification, environmental ambiguity, concept - classification, causes of ambiguity	Environmental Analysis Recognition		Seventh
Interaction, participation, and duties	Lectures, discussion and practical application	General external environment analysis PEST analysis Political factors - socio-economic factors, technological factors	Getting to know the external environment		The eighth
Presenting and explaining	Lectures, discussion	Legislative, legal,	Getting to know the		Ninth

reports through presentation	and practical application	cultural, and educational factors, analysis of financial factors	external environment		
Interaction, participation, and duties	Lectures, discussion and practical application	The concept of organizational structure, dimensions of organizational structure, methods of designing organizational structures, types of organizational structure	Organizational structure analysis		tenth
Daily test	Lectures and discussion	Main activities, supporting activities, strategic formulation, concept of strategic formulation, theories adopted in strategy	Learn about value chain analysis		Eleventh

		formulation.			
Interaction and participation	Lectures and discussion	Planning perspective, logical growth perspective, visionary perspective	Learn about strategic formulation according to management directions		twelfth
Reports	Practical application	The concept of strategic options and its stages, the practical stage of preparing strategic options (setting alternatives, evaluating alternatives, choosing the best alternative).	Identify strategic options		thirteenth
Interaction and participation	Lectures and discussion	Strategic options at the organizational, business unit, and functional levels.	Classification of strategic options		Fourteenth

Presenting and explaining reports through presentation	Practical application	The concept of strategic implementation and its importance, determinants of strategic implementation, prevailing systems for strategic implementation, MacKenzie's model for strategy implementation.	Strategy implementation		fifteenth

11. infrastructure	
	1- Required textbooks
Strategic Management – Concepts and Applications	2- Main references (sources)
Scientific journals in the fields of information technology	A- Recommended books and references (scientific journals, reports, etc.)
Specialized websites	B - Electronic references, websites...
12. Curriculum Development Plan	
- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College	

Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

Course Description Form / E-Business

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department / third Stage
3. Course Name / Code
E-Business / ELM304
4. Available attendance forms
Weekly/face to face
5. semester/year
Spring Semester /2025
6. Number of study hours (total)
60 Hours
7. Date this description was prepared
30/6/2025
8. Course objectives
The course seeks to enrich students with a set of concepts and theories encompassing diverse implications and connotations, while clarifying the distinctions among these theories.
9. Course outcomes, teaching, learning and assessment methods

A. Cognitive Objectives

- Enable students to understand the nature of e-business.
- Develop students' knowledge related to the field of e-business.
- Provide an analytical presentation of e-business theories, exploring their organizational dimensions within the digital environment.

B. Skills-Based Objectives

- Utilize course applications as a foundation for developing graduation projects.
- Reflect students' understanding of e-business concepts and theories through behavioral perspectives, analyzing differences among models and their organizational implications.

Learning Outcomes

- Understand and interpret the fundamental concepts of e-business, including digital business models and their operational mechanisms online.
- Analyze technological, economic, and legal factors influencing the e-business environment and employ strategic analysis tools to assess opportunities and challenges in the digital marketplace.
- Distinguish between various digital platforms and technical infrastructures supporting e-operations, and evaluate their suitability for organizational and operational objectives.
- Comprehend decision-making processes in dynamic electronic environments and utilize digital data and information to support these decisions.
- Assess user and customer experiences in electronic environments and connect them to the performance and marketing strategies of digital organizations.
- Develop proposals for electronic projects or digital solutions that practically and effectively apply e-business principles.
- Apply analytical and critical thinking to address electronic challenges and propose innovative, implementable solutions using modern digital tools and technologies.

Teaching and Learning Methods

- Theoretical lectures.
- Student presentations.
- Case studies.
- Group discussions and applied workshops.
- Individual or group projects.
- Problem-Based Learning (PBL).
- Use of simulations or management games, when available.

10. Course structure

Week	Hours	Intended Learning Outcomes	Topic	Teaching Method	Assessment Method
Week 1	4	Knowledge & Practical Application	Fundamentals of E-Management: Elements and Importance of Electronic Management	Theoretical	Exams and Reports
Weeks 2–3	4	Knowledge & Practical	Concept, Rationale,	Theoretical	Exams and Reports

		Application	and Objectives of E-Government		
Weeks 4–5	4	Knowledge & Practical Application	Principles of Implementing E-Government	Theoretical	Exams and Reports
Weeks 6–7	4	Knowledge & Practical Application	Nature of E-Business: Concept, Importance, and Strategies	Theoretical	Exams and Reports
Weeks 8–10	4	Knowledge & Practical Application	Strategies and Models of E-Business	Theoretical & Practical	Exams and Reports
Weeks 11–12	4	Knowledge & Practical Application	Concept, Importance, and Types of E-Commerce	Theoretical & Practical	Exams and Reports
Weeks 13–15	4	Knowledge & Practical Application	Case Studies in E-Business (Electronic Funds Transfer - EFT, Digital Nervous System - DNS)	Theoretical & Practical	Exams and Reports

11. Infrastructure

1- Required textbooks	
2- Main references (sources)	• E-Business: A Managerial and Technological Perspective – Dr. Muzher Shaban Al-Ani • E-Business – Dr. Saad Ghalib Yassin • E-Commerce – Dr. Saad Ghalib Yassin
A- Recommended books and references (scientific journals, reports, etc.)	Scientific journals in the fields of information technology
B - Electronic references, websites...	Specialized websites

12. Curriculum Development Plan

- Meeting with the faculty at the end of each semester to review the curricula and how to develop them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance

with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

- Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the 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 programme specification.

1. Teaching Institution	Northern Technical University / Technical Administrative College / Mosul
2. University Department/Centre	Department of Information Technology Management
3. Course title/code	Commercial law
4. Programmed(s) to which it contributes	Mandatory
5. Modes of Attendance offered	
6. Semester/Year	Fall semester/2025
7. Number of hours tuition (total)	75 hours
8. Date of production/revision of this specification	1/6/2025
9. Aims of the Course	
Study of the law and the characteristics of the legal base and knowledge of the sources of the law	
Research the theory of trader and business and what is commercial law	
Research the theory of private companies and their composition and public companies in Iraqi law	
Study of commercial papers, commercial transfer, bond for order and instrument	

10· Learning Outcomes, Teaching, Learning and Assessment Methode
A- Knowledge and Understanding A1. Enabling students to know the law and everything related to the legal rule and its sources. A2. Knowledge of business in Iraqi law and distinguishing the trader from other natural persons. A3. Developing students' abilities in the field of commercial companies and public companies and developing their skills around them. A4. Learn about business papers and their role in economic life in detail. A5. A6 .
B. Subject-specific skills B1. The ability to work in the field of trade and commercial companies and dealing with commercial papers in the field of practice. B2. B3.
Teaching and Learning Methods
Periodic reports/periodic tests/practical case study.
Assessment methods
Periodic examinations / direct questions / special reporting.
C. Thinking Skills C1. Development of legal culture. C2. Develop interaction in the field of business and encourage entry into this field. C3. Developing capabilities around companies and how to work in them and deal with their shares. .C4. Develop knowledge about business papers and acquire their own skills
Teaching and Learning Methods
Student totals / case study / special reporting.
Assessment methods

Periodic examinations / direct questions / special reporting.
D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Develop the skills of the students and prepare them for sticky in the field of public service or the private sector. D2. Develop personal skills to develop their own studies and start their own projects. D3. D4.

11. Course Structure					
Week ILOs	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	5hours	Knowledge and practicality	Defining the law and the characteristics of the legal base and distinguishing it from the rules of ethics and the rules of religion Branches of law and types of legal rules	theoretical	Tests and reports
The second	5hours	Knowledge and practicality	Sources of law, legal, sharia, Islamic law, justice rules, court rulings and opinions of jurisprudence Sources of compliance in Iraqi law/contract	theoretical	Tests and reports
the third	٥hours	Knowledge and practicality	The definition of the contract pillars of the contract types of contracts effects of the contract Liability	theoretical	Tests and reports
the fourth	5hours	Knowledge and practicality	Enrichment for no reason, the sole will of the law. Commercial law	theoretical	Tests and reports
Fifth	5hours	Knowledge and practicality	Definition and development of commercial law and business identification Business identification theories	theoretical	Tests and reports
Sixth	5hours	Knowledge and practicality	Business in Iraqi law	theoretical	Tests and reports
seventh	5hours	Knowledge and practicality	Trader theory of trader definition and conditions of acquiring the status of trader Merchant duties	theoretical	Tests and reports
Eighth	5hours	Knowledge and practicality	Corporate theory and development in Iraq Introducing the company and its characteristics	theoretical	Tests and reports
Nine	5hours	Knowledge and practicality Knowledge and practicality	Characteristics of the company's contract and distinguishing it from others Division of companies in Iraqi jurisprudence and law	theoretical	Tests and reports

The tenth	5hours	Knowledge and practicality	Procedures and requirements for establishing the company The company's equity capital	theoretical	Tests and reports
eleventh	5hours	Knowledge and practicality	Distribution of profits and losses in the company Company management and control of the company	theoretical	Tests and reports
twelfth	5hours	Knowledge and practicality	Company and transformation, merger and liquidation Simple company and public companies' definition, characteristics and foundation	theoretical	Tests and reports
Thirteenth	5hours	Knowledge and practicality	Management and control of the public company transformation, merger and liquidation Commercial papers introduced and their characteristics, commercial transfer definition and conditions	theoretical	Tests and reports
fourteenth	5hours	Knowledge and practicality	Data to be made in the trade transfer Endorsement, loyalty, intervention and trading of trade	theoretical	Tests and reports
Fifteenth	5hours	Knowledge and practicality	Support for the order of the bill of identification, characteristics, conditions of construction and data to be returned Instrument definition, construction conditions, types of instruments, distinction between instrument, transfer and billing	theoretical	Tests and reports

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	Literature on law, commercial law, companies and commercial papers available at the College Library and the Central Library of the University
Special requirements (include for example workshops, periodicals, IT software, websites)	

Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions It was suggested that the article be divided into two phases of studies in the second phase, the definition of law, commercial law and trader's theory would be studied, and in the third phase companies and commercial papers would be studied.
Pre-requisites
Minimum number of students
Maximum number of students

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
٢- University Department/Centre
Northern Technical University / Department of Information techniques management
3-Course title/code
English Language /NTU300
4- Available forms of attendance
Presence/face to face
5- Semester/Year
Fall semester/ Third Level /2024-2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
30/6/2025
8-(Course Objectives)General Course Objectives
1 .Provide students with basic concepts related to the use of English language 2. Provide students with basic vocabulary 3 .Enable the students to construct simple sentences. 4 .Enable the students to communicate effectively. 5. Provide students with the basic culture and literature of English.

1- Course outcomes, teaching, learning and assessment methods

Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
١The student learns about the nature of English language.	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests
٢-To explain to construct sentences in English.	Theoretical lectures	management Solving exercises within the lecture and assigning external homework
٣-Developing students'	View the companies' work and achievements	Discussions and dialogues

ability to communicate effectively. Provide student with the basic knowledge of culture and literature.		

2- Course steuctuer (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	Present simple tens	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	Past simple tense	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	Passive and act voices	Lecture	Daily and monthly tests
fourth	2	Student understanding the lesson	Writing	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	Reading	Lecture	Daily and monthly tests
Sixth	2	Student understanding the lesson	Conversation	Lecture	Daily and monthly tests
Seventh	2	Student understanding the lesson	Tips of Writing	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	Tips of reading	Lecture	Daily and monthly tests
Ninth	2	Student understanding the lesson	Writing ab different topics	Lecture	Daily and monthly tests

tenth	2	Student understanding the lesson	Short story 1	Lecture	Daily and monthly tests
Eleventh	2	Student understanding the lesson	Short story 2	Lecture	Daily and monthly tests
Twelfth	2	Student understanding the lesson	Imperative, negat and questions	Lecture	Daily and monthly tests
Thirteenth	2	Student understanding the lesson	Function language: basics	Lecture	Daily and monthly tests
Fourteenth	2	Student understanding the lesson	Conditional sentenc	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	General Exam	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning,

brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure	
Classrooms, laboratories and workshops	Available
Required books and curriculum	Publications on English Language available in t college library and the university's central library
Main references (sources)	
Recommended books and references New Headway Plus (Pre-Intermediate) , John and Liz Soars, Oxford (Workbook) https://elt.oup.com/student/headwa?cc=global&selLanguage=en (Scient journals, reports،.....)	Scientific and Applied Research Projects
Electronic references and websites	English language websites.

Course Description Form 2024-2025 (Visual Programming)

1. Educational Institution: Mosul Technical College of Administration
2. Academic Department/Center: Department of Information Technology Management/Level third
3. Course Title/Code: ELM306/ Visual Programming
4. Available Attendance Formats: Weekly
5. Semester/Year: Spring semester/2025
6. Number of Class Hours (Total): 60
7. Date of Preparation: June 30, 2025

This course aims to teach the fundamentals of programming, problem-solving algorithms, and their translation into programs using a structured procedural programming language. It introduces the concept of small-scale programming and specifically enables the student to:

First: Understand the concepts of computer programs, algorithms, operating systems, compilers, encoding types, and programming languages, along with an introduction to the .NET development environment and the basics and uses of C#. The course focuses on essential programming commands such as input/output, assignment, arithmetic expressions, conditional and iterative statements, strings, tables, and arrays.

Second: Practice using basic and applied algorithms and programming in C# through general and important classic examples, a variety of practical exercises, solved and unsolved problems, training assignments, and various activities.

9. Course Outcomes, Teaching, Learning, and Evaluation Methods

A – Cognitive Goals

- **A1**: Provide comprehensive knowledge of C# programming basics.
- **A2**: Understand Microsoft .NET concepts and the structure of the .NET Framework, as well as beginner-level C#.

A3: Master general rules of C# statements, instruction blocks, variable scopes, assignment, conditional and iterative instructions (e.g., while), and the five basic algorithmic instructions in C#.

B – Skill-Based Objectives

- **B1**: Identify and master the use of control statements derived from basic instructions, including loop types, structured programming exceptions, the continue statement, and branching instructions in C#.
- **B2**: Understand and master the use of compound data types, string types, tables, and arrays, including multidimensional arrays and dynamically sized arrays.

B3: Understand and master the structure of C# code, methods (procedures), how they are declared and called, parameter passing methods, return values, and variable and method scope within classes.

C. Emotional and Value-Based Goals
- The ability to interact and understand people.
- The manager's knowledge and understanding of the type of work and the ability to visualize and see dimensions.

D. General and Transferable Skills (other skills related to employability and personal development).

- **D1**: Improve computer and communication skills.
- **D2**: Develop self-reliance in knowledge acquisition.
- **D3**: Ability to transfer experience to others.
- **D4**: Ability to overcome real-world challenges and obstacles.

E. Teaching and Learning Methods
- Same as listed above.

F. Assessment Methods
Midterm, final exams, quizzes, and assignments.

10. Course Structure					
Week	**Hours**	**Intended Learning Outcomes**	**Unit / Topic**	**Teaching Method**	**Assessment Method**
Weeks 1–2	4	Knowledge and practical application	Basics of C# language	Theory + Practice	Tests + Practical Tasks
Weeks 3–4	4	Knowledge and practical application	Statements in C#	Theory + Practice	Tests + Practical Tasks
Weeks 5–6	4	Knowledge and practical application	Continuation of algorithmic language	Theory + Practice	Tests + Practical Tasks
Weeks 7–8	4	Knowledge and practical application	Compound data types (structures)	Theory + Practice	Tests + Practical Tasks
Weeks 8–9	4	Knowledge and practical application	Introduction to methods and procedures	Theory + Practice	Tests + Practical Tasks
Week 10	4	Knowledge and practical application	Exercises and problem-solving activities	Theory + Practice	Tests + Practical Tasks

11. Infrastructure	
Required Textbooks	Available in the college library.
Main References (Sources)	Available in the college library.
Recommended Books and References (Scientific Journals, Reports)	Scientific journals, reports, etc.
Electronic References and Websites	Internet network.

12. Course Development Plan

- Develop curricula aligned with labor market needs.
- Organize scientific seminars and conferences to update academic content.
- Stay up to date with scientific developments in the field of specialization.

Course Description Form\website design

1. Course Name:	
Website Design	
2. Course Code:	
ELM302	
3. Semester / Year:	
Spring Semester / Academic Year 2024–2025	
4. Description Preparation Date:	
July 1, 2025	
5. Available Attendance Forms:	
In-Person (Face-to-Face)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75 Hours	
7. Course administrator's name (mention all, if more than one name)	
Name:Reem Qays Abduljabber Email:reem.qays@ntu.edu.iq	
8. 9	
Course Objectives	By the end of this course, students will be able to: • Understand the fundamental concepts and principles of web design. • Apply HTML and CSS to create structured and visually styled web pages. • Use JavaScript basics to add interactivity and enhance user experience • Analyze and evaluate the structure, design, and functionality of existing websites.

9. Teaching and Learning Strategies

Strategy	**Lectures:** To introduce theoretical foundations of web design and development. **Hands-on Lab Sessions:** Practical exercises using HTML, CSS, and JavaScript. **Group Work and Collaboration:** Encouraging teamwork and communication skills **Demonstrations and Live Coding:** Instructor-led coding in real tim to model best practices. **Online Resources and Tutorials:** Supplementing in-class material with guided self-study. **Continuous Feedback:** Through quizzes, assignments, and in-class participation

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge and practical application	Introduction to web design and languages used: HTML, CSS, and JavaScript	Lectures and discussion	Interaction and participation
2	5	Knowledge and practical application	Introduction to HTML, its history, fundamentals, and introduction to the development environment	Lectures and discussion	Interaction and participation
3	5	Knowledge and practical application	Understanding HTML elements, attributes, and the use of heading and paragraph tags	Lectures and discussion	Interaction, participation, and daily quiz

4	5	Knowledge and practical application	Using the style attribute to format text and background colors, text alignment, use of comments, and understanding color codes	Lectures and practical application	Interaction, participation, and pop quiz
5	5	Knowledge and practical application	Creating hyperlinks to other pages, adding images, adjusting image dimensions, and understanding image attributes	Lectures and discussion	Interaction, participation, and practical application
6	5	Knowledge and practical application	Adding tables to a page, working with table elements, and adding ordered and unordered lists	Lectures, discussion, and practical application	Interaction, participation, and assignments
7	5	Knowledge and practical application	Embedding audio and video files into the page, and introduction to web forms	Lectures, discussion, and practical application	Interaction, participation, and assignments
8	5	Knowledge and practical application	Introduction to CSS and methods of applying it to web pages	Lectures, discussion, and practical application	Interaction, participation, and midterm exam
9	5	Knowledge and practical application	Introduction to JavaScript, how to integrate it within HTML, and using output statements	Lectures, discussion, and practical application	Interaction, participation, and assignments
10	5	Knowledge and practical application	Understanding basic programming terms and how to construct statements	Lectures, discussion, and practical application	Interaction, participation, and assignments
11	5	Knowledge and	Understanding JavaScript syntax, the	Lectures and	Interaction, participation,

		practical application	role of comments, and how to write them	discussion	assignments, and daily quiz
12	5	Knowledge and practical application	(Topic not specified – can be used for project work, revision, or advanced topic)	Lectures, discussion, and practical application	Interaction and participation
13	5	Knowledge and practical application	Introduction to variables, data types, variable declaration, and mathematical/logical operations	Lectures, discussion, and practical application	Interaction and participation
14	5	Knowledge and practical application	Understanding conditional statements, loops, and functions	Lectures, discussion, and practical application	Interaction and participation

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)	
Main references (sources)	HTML, J. D. (2017). CSS: Design and Build Website Duckett, J. (2014). *Javascript and jquery: Interactive front-end web development*. Wiley Publishing
Recommended books and references (scientific journals, reports…)	Scientific Journals in Information Technology Specializations
Electronic References, Websites	www.w3school.com

Course Description Form

1. Course Name:
Mobile Programming Techniques
2. Course Code:
ELM316
3. Semester / Year:
Fall Semester/ 2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor Nabeel Hazim Email: noor.nabeel@ntu.edu.iq
8. Course Objectives

Course Objectives	**The Mobile Programming Techniques course aims to enable students to acquire the basic and advanced skills and knowledge for designing and developing smartphone applications.**
9. Teaching and Learning Strategies	
Strategy	Course Outcomes 1. Introduce students to the basics of smartphone operating systems, with a focus on Android and/or iOS. 2. Empower students to design effective and engaging user interfaces using appropriate tools. 3. Train students in using integrated development environments such as Android Studio or Xcode.

	4. Enable students to develop mobile applications capable of interacting with device components (such as the camera, GPS the internet, etc.). 5. Provide students with skills in working with local and cloud databases within mobile applications. 6. Enhance students' abilities to test, detect, and debug applications. 7. Introduce students to the principles of application security and access rights. 8. Prepare students to upload applications to app stores and meet publishing requirements. Teaching and Learning Methods - Direct instruction (lecture) with the use of educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring departmental laboratories - Project-based learning strategy Assessment Methods * Periodic tests * Surprise tests * Classroom interaction and participation * Research assignments and reports * Practical and applied tests

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	General concept types of applications (Native, Hybrid, Web).	Introduction to Mobile Application Programming	Lectures and Discussion	Interaction and participation

2	4	Overview of Andro and IOS, difference development tools. Smartphone operating systems. Lectures and discussion. Interaction and participation.	Smartphone operating systems	Lectures and Discussion	Interaction and participation
3	4	Android Studio get familiar with the interface.	Application development environment	Lectures and Discussion	Interaction, participation, an daily testin
4	4	Manifest, Activities, Resources. Android App Structure: Lectures, Practical Application, Interaction, Participation, and Pop Quiz.	Android application structure	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	Interface elements, layouts, navigat between screens.	User Interface Design: Interface Elements, Layouts, Screen Navigation.	Lectures and Discussion	Interaction, Participation, an Quarterly Quiz
6	4	Activity Lifecycle and Event Handling.	Activity Lifecycle and Event Handling.	Lectures and Discussion	Interaction, Participation, an Repot
7	4	Use Shared Preferences and internal and external storage files.	Local storage	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
8	4	Using SQLite	Databases in mobile	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
9	4	Sending and receiving data using HTTP/ JSON	Internet connectivity and APIs	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	Handling camera, GPS,	Mobile phone services	Lectures, Discussion, and	Interaction, Participation, an

		maps, communication		Practical Application	Assignments
11	4	Background Services	Notifications	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	Prepare APK files, sign, and publish them on Google Play.	Deploy apps	Lectures, Discussion, and Practical Application	Interaction and Participation
13	4	Permissions, data protection , and user verification.	Security concepts in mobile applications	Lectures, Discussion, and Practical Application	Reports
14	4	Presentation and evaluation of students' final projects.	Practical projects	Practical Application	Presenting and explaining reports through presentation
15	4	Comprehensive review and preparation for the final exam	Comprehensive Review and Preparation for the Final Exam	Discussion and Practical Application	Interaction and participation

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)	
Main references (sources)	Publications on mobile programming techniques are available in the college library and the university's central library.
Recommended books and references (scientific journals, reports…)	Neil Smyth, Android Studio 4.2 Development Essentials – Java Edition
Electronic References, Websites	https://kotlinlang.org/docs/home.html https://firebase.google.com/docs

New Course Description Form / Internet Technology 2

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/Third Level
3. Course Name/Code
Internet Technology 2
4. Available attendance forms
weekly
5. semester/year
Spring semester/2025
6. Number of study hours (total)
60 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
-Providing students with basic concepts of management information systems. -Knowing the different types of systems that serve administrative levels. -Learn the mechanism of analyzing and designing information systems.
9. Course outcomes, teaching, learning and assessment methods
A- Cognitive objectives - Understanding and Analyzing Networks: The student will be able to understand the basic components of management information systems (MIS) and identify their vital role in supporting organizational decision-making. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire the ability to link the theoretical concepts of management information systems to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and big data analytics, and how they can be employed to achieve organizational strategic goals.

B - Course specific skill objectives.

- Problem solving skills using the Internet**:**The student will develop the ability to identify organizational problems that can be solved or mitigated using information systems, and to propose innovative technology-based solutions, with a focus on operational efficiency and improved decision-making.

- Systems analysis and design skills**:**The student will acquire the ability to analyze the functional and non-functional requirements of a new information system, and design appropriate solutions using systems modeling tools and techniques such as data flow diagrams (DFD) and entity-relationship diagrams (ERD), which qualifies him to be an effective link between business and technical teams.

Teaching and learning methods

- Direct instruction (lecture) with the use of educational technology tools
- Class discussion and interaction through assignment of homework
- Education by practical application of subjects that require department laboratories
- Project-based learning strategy

Evaluation methods

*Periodic tests

*Surprise tests

*Classroom interaction and participation

*Research assignments and reports

*Practical and applied tests

C- Emotional and value-based goals

A1- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best.

A2- Enhancing the desire to compete to raise the educational level

A3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

Teaching and learning methods

1. Periodic field visits to administrative and technical institutions.

2. Coexistence, actual practice, and interaction with workers through practical application (summer training) that the student undertakes by living with the beneficiaries.

3. Psychological and emotional stimulation through open and direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).

D1- Teaching the student the skills of writing research and reports.

D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work.

D3- Teaching the student how to deal with information sources, analyze them, and deduce and record a summary of the information he obtains as a result of the objective analysis of these sources.

D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields.

10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Interaction and participation	Lectures and discussion	General introduction, basic concepts, working protocols	Knowledge and practical application	4	the first
Interaction and participation	Lectures and discussion	Address Resolution Protocol (ARP)	Knowledge and practical application	4	the second
Interact, participate and test daily.	Lectures and discussion	STATICS/dynamic mapping	Knowledge and practical application	4	the third
Interaction, engagement, and	Lectures and practical	Logical address	Knowledge and practical	4	Fourth

pop-up testing	application		application		
Interaction, participation, and semester testing	Lectures and discussion	Physical address	Knowledge and practical application	4	Fifth
Interaction, Participation, and Reports	Lectures, discussion and practical application	Revise Address Resolution Protocol (RARP)	Knowledge and practical application	4	Sixth
Interaction, participation, and duties	Lectures, discussion and practical application	Protocol suite	Knowledge and practical application	4	Seventh
Interaction, participation, and duties	Lectures, discussion and practical application	Packet format	Knowledge and practical application	4	The eighth
Delivering and explaining reports throughpresentation	Lectures, discussion and practical application	Request replay	Knowledge and practical application	4	Ninth
Interaction, participation, and duties	Lectures, discussion and practical application	Encapsulation	Knowledge and practical application	4	tenth
Daily test	Lectures and discussion	Routing table	Knowledge and practical application	4	eleventh
Interaction and participation	Lectures and discussion	Email Architecture	Knowledge and practical application	4	twelfth

	Reports	Lectures and discussion	MTA client/ MTA Server	Knowledge and practical application	4	thirteenth
	Delivering and explaining reports throughpresentation	Practical application	Message Access Agents	Knowledge and practical application	4	fourteenth
	Interaction and participation	Lectures and discussion	Push and pull user	Knowledge and practical application	4	fifteenth

Internet Technology 1	Knowledge and practical application		11. infrastructure

computer networks	1- Required textbooks
Private publicationsfor computer networks and communicationsAvailable at the college library and the university's central library	2- Main references (sources)
Mohammed Abdel Qader Mohammed Omar	A- Recommended books and references (scientific journals, reports, etc.)
websites	B - Electronic references, websites...

12. Curriculum Development Plan

The development plan for this course aims to update the content by incorporating the latest developments in networking and communications technology, such as the type of origin, networks, associated devices, capacity, speed, and pros and cons, to enhance students' understanding of basic concepts and their practical applications. The plan will focus on adding real-life case studies and practical exercises to train students in analyzing and solving problems using Internet installation and management software, while developing their skills.The teaching methods used will also be evaluated to ensure they align with the desired learning outcomes and provide a more interactive and engaging learning experience for students.

New Course Description Form / Internet technology1

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/Third Level
3. Course Name/Code
Internet technology1/ELM307
4. Available attendance forms
Weekly
5. semester/year
Fall semester/2025
6. Number of study hours (total)
60 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
-Providing students with basic concepts of management information systems. -Knowing the different types of systems that serve administrative levels. -Learn the mechanism of analyzing and designing information systems.
9. Course outcomes, teaching, learning and assessment methods
A- Cognitive objectives - Understanding and Analyzing Networks: The student will be able to understand the basic components of management information systems (MIS) and identify their vital role in supporting organizational decision-making. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire the ability to link the theoretical concepts of management information systems to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and big data analytics, and

how they can be employed to achieve organizational strategic goals.

B - Course specific skill objectives.

- Problem solving skills using the Internet**:**The student will develop the ability to identify organizational problems that can be solved or mitigated using information systems, and to propose innovative technology-based solutions, with a focus on operational efficiency and improved decision-making.

- Systems analysis and design skills**:**The student will acquire the ability to analyze the functional and non-functional requirements of a new information system, and design appropriate solutions using systems modeling tools and techniques such as data flow diagrams (DFD) and entity-relationship diagrams (ERD), which qualifies him to be an effective link between business and technical teams.

Teaching and learning methods

- Direct instruction (lecture) with the use of educational technology tools
- Class discussion and interaction through assignment of homework
- Education by practical application of subjects that require department laboratories
- Project-based learning strategy

Evaluation methods

*Periodic tests

*Surprise tests

*Classroom interaction and participation

*Research assignments and reports

*Practical and applied tests

C- Emotional and value-based goals

A1- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best.

A2- Enhancing the desire to compete to raise the educational level

A3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

Teaching and learning methods

1. Periodic field visits to administrative and technical institutions.

2. Coexistence, actual practice, and interaction with workers through practical application (summer training) that the student undertakes by living with the beneficiaries.

3. Psychological and emotional stimulation through open and direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).

D1- Teaching the student the skills of writing research and reports.

D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work.

D3- Teaching the student how to deal with information sources, analyze them, and deduce and record a summary of the information he obtains as a result of the objective analysis of these sources.

D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields.

10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Interaction and participation	Lectures and discussion	General introduction, basic concepts, network and communication systems	Knowledge and practical application	4	the first
Interaction and participation	Lectures and discussion	Networks, their need, types, and network architecture	Knowledge and practical application	4	the second
Interact, participate and test daily.	Lectures and discussion	modeliOS	Knowledge and practical	4	

			application		the third
Interaction, engagement, and pop-up testing	Lectures and practical application	Networking devices and accessories	Knowledge and practical application	4	Fourth
Interaction, participation, and semester testing	Lectures and discussion	Network protocols	Knowledge and practical application	4	Fifth
Interaction, Participation, and Reports	Lectures, discussion and practical application	Network cardNIC	Knowledge and practical application	4	Sixth
Interaction, participation, and duties	Lectures, discussion and practical application	Types of HUB	Knowledge and practical application	4	Seventh
Interaction, participation, and duties	Lectures, discussion and practical application	Application layer	Knowledge and practical application	4	The eighth
Delivering and explaining reports throughpresentation	Lectures, discussion and practical application	Presentation and session layers	Knowledge and practical application	4	Ninth
Interaction, participation, and duties	Lectures, discussion and practical application	Transport layer	Knowledge and practical application	4	tenth
Daily test	Lectures and discussion	Network layer	Knowledge and practical application	4	eleventh
Interaction and participation	Lectures and discussion	Data link layer	Knowledge and practical	4	

			application		twelfth
Reports	Lectures and discussion	Physical layer	Knowledge and practical application	4	thirteenth
Delivering and explaining reports throughpresentation	Practical application	Routers	Knowledge and practical application	4	fourteenth
Interaction and participation	Lectures and discussion	Gateways	Knowledge and practical application	4	fifteenth

Internet Technology 1	Knowledge and practical application		11. infrastructure

computer networks	1- Required textbooks
Private publicationsfor computer networks and communicationsAvailable at the college library and the university's central library	2- Main references (sources)
Mohammed Abdel Qader Mohammed Omar	A- Recommended books and references (scientific journals, reports, etc.)
websites	B - Electronic references, websites...

12. Curriculum Development Plan

The development plan for this course aims to update the content by incorporating the latest developments in networking and communications technology, such as the type of origin, networks, associated devices, capacity, speed, and pros and cons, to enhance students' understanding of basic concepts and their practical applications. The plan will focus on adding real-life case studies and practical exercises to train students in analyzing and solving problems using Internet installation and management software, while developing their skills.The teaching methods used will also be evaluated to ensure they align with the desired learning outcomes and provide a more interactive and engaging learning experience for students.

Course Description Form\digital image processing

1. Course Name:
Digital image processing
2. Course Code:
ELM312
3. Semester / Year:
Fall Semester / Academic Year 2024–2025
4. Description Preparation Date:
July 1, 2025
5. Available Attendance Forms:
In-Person (Face-to-Face)
6. Number of Credit Hours (Total) / Number of Units (Total)
60 Hours
7. Course administrator's name (mention all, if more than one name)
Name:Reem Qays Abduljabber Email:reem.qays@ntu.edu.iq
8. 9

Course Objectives	Understand the fundamental concepts and principles of digital image processing, including image representation, acquisition, and storage. Analyze the different types and formats of digital images and their properties. Apply basic techniques for image enhancement in both spatial and frequency domains. Use mathematical and logical operations to manipulate

	digital images. Employ filtering techniques to reduce noise, smooth, and sharpen images. Understand and apply histogram-based methods such as histogram equalization and contrast stretching. • Develop skills in using software tools like MATLAB.

9. Teaching and Learning Strategies

Strateg

- **Lectures (Theoretical):**
  To introduce and explain the fundamental principles, mathematical concepts, and algorithms used in digital image processing**.**
- **Laboratory Sessions (Practical):**
  Students will use software tools such as MATLAB to implement and test various image processing techniques.
- **Demonstrations:**
  Live coding sessions by the instructor to walk students through algorithm implementation and real-time image analysis**.**
- **Problem-Based Learning (PBL):**
  Real-world image problems will be presented for students to analyze and solve using suitable methods**.**
- **Project-Based Learning:**
  Students will develop a small project involving tasks like enhancement, filtering, and analysis of images, encouraging independent learning.
- **Blended Learning :**
  Supplementing in-person instruction with online materials such as video tutorials articles, and interactive simulations.
- **Formative Feedback:**
  Continuous assessment through quizzes, assignments, and feedback on lab work t

	guide students' progress.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge and practical application	Introduction to Digital Image Processing	Theoretical and Practical	Student participation and quizzes
2	5	Knowledge and practical application	Image acquisition: definition of a digital image, how it is represented and captured, understanding sampling and quantization	Theoretical and Practical	Student participation and quizzes
3	5	Knowledge and practical application	Types of digital images and common image file formats	Theoretical and Practical	Student participation and quizzes
4	5	Knowledge and practical application	Reading digital images using MATLAB, converting image types, and saving images after modification	Theoretical and Practical	Student participation and quizzes
5	5	Knowledge and practical application	Performing arithmetic and logical operations on digital images using MATLAB	Theoretical and Practical	Student participation and quizzes
6	5	Knowledge and practical application	Image enhancement in the spatial domain using transformation functions	Theoretical and Practical	Student participation and quizzes
7	5	Knowledge and practical application	Applying image enhancement functions using	Theoretical and Practical	Student participation and quizzes

			MATLAB		
8	5	Knowledge and practical application	Understanding histograms in digital imaging: how to calculate, interpret, and apply them using MATLAB	Theoretical and Practical	Student participation and quizzes
9	5	Knowledge and practical application	Learning two methods (methods not specified—please clarify)	Theoretical and Practical	Student participation and quizzes
10	5	Knowledge and practical application	Full-scale contrast stretching and histogram equalization	Theoretical and Practical	Student participation and quizzes
11	5	Knowledge and practical application	Techniques for enhancing digital images (continued)	Theoretical and Practical	Student participation and quizzes
12	5	Knowledge and practical application	Applying contrast stretching and histogram equalization using MATLAB	Theoretical and Practical	Student participation and quizzes
13	5	Knowledge and practical application	Introduction to spatial filtering and its basic concepts, and how to apply it to digital images	Theoretical and Practical	Student participation and quizzes
14	5	Knowledge and practical application	Smoothing linear filters	Theoretical and Practical	Student participation and quizzes
15	5	Knowledge and practical application	Order statistics filters	Theoretical and Practical	Student participation and quizzes

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)	
Main references (sources)	R. C. Gonzalez and R. E. Woods, 'Digital Image Processing', 3rd Edition, Prentice Hall, 2008 2. Rafael C. Gonzalez, Richard E. Woods, and Steven L. Eddins, "Digital Image Processing Using MATLAB", Prentice Hall 2008
Recommended books and references (scientific journals, reports…)	Scientific Journals in Information Technology Specializations
Electronic References, Websites	www.mathworks.com

Course Description Form- Operating Systems

1. Course Name:	
Operating Systems	
2. Course Code:	
ELM313	
3. Semester / Year:	
Spring Semester /2025	
4. Description Preparation Date:	
30-6-2025	
5. Available Attendance Forms:	
In-person	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours	
7. Course administrator's name (mention all, if more than one name)	
Radhwan Yousif Al-jawadi (radwan.aljawadi@ntu.edu.iq)	
8. Course Objectives	
Course Objectives	**This course aims to introduce students to the fundamental concepts of operating systems and their role in managing computer resources such as CPU, memory, I/O devices, and file systems. It also aims to equip students with an understanding of scheduling algorithms, process management, concurrency handling, and problem-solving in these areas, along with hands-on practice in various operating system environments.**
9. Teaching and Learning Strategies	
Strategy	1. Knowledge -Understand the fundamental concepts, functions, and types of operating systems. -Recognize process management, scheduling, memory management, file systems, and I/O device management. 2. Skills -Apply CPU scheduling algorithms and memory management techniques in

	practice. -Use operating system commands (e.g., Linux) to create and manage processes and files. Analyze operating system performance, identify concurrency issues, and propose solutions. 3. Application -Solve practical problems in real or virtual operating system environments. -Integrate operating system concepts with application and system programming. -Develop and implement small-scale projects that utilize operating system techniques.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduction to Operating Systems – Functions & Types	Basic Linux commands	Lectures and Discussion	Interaction and participation
2	4	Processes and Threads	Creating & managing processes in Linux	Lectures and Discussion	Interaction and participation
3	4	CPU Scheduling Algorithms	Simulating scheduling algorithms	Lectures and Discussion	Interaction, participation, and daily testin
4	4	Process Synchronization	Implementing synchronization with threads	Lectures and Practical Application	Interact and Participate, and a Surprise Quiz
5	4	Race Conditions & Critical Sections	Producer–Consumer problem	Lectures and Discussion	Interaction, Participation, and Quarterly Quiz
6	4	Memory Management – Paging & Segmentation	Page replacement simulation	Lectures and Discussion	Interaction, Participation, and Repot

7	4	Page Replacement Algorithms	Midterm practical review	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
8	4	File Systems	File creation/read/write programming	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
9	4	Secondary Storage Management	Block allocation simulation	Lectures, Discussion, and Practical Application	Presenting and Explaining Reports Through Presentation
10	4	I/O Systems	I/O scheduling experiment	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
11	4	Security & Protection	Access control program	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	Modern OS Comparison – Linux vs Windows	Command comparison Linux vs Windows	Lectures,Discussion, and Practical Application	Interaction and Participation
13	4	Case Studies on OS	Mini project implementation	Lectures, Discussion, and Practical Application	Reports
14	4	Review of Core Topics	Lab review	Lectures, Discussion, and Practical Application	Presenting and explaining reports through a presentation
15	4	Final Exam	Final practical exam		

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)	
Main references (sources)	Silberschatz, Galvin, Gagne – Operating System Concepts

	Andrew S. Tanenbaum – Modern Operating Systems
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	https://www.geeksforgeeks.org/operating-systems/ https://www.tutorialspoint.com/operating_system

Course Description Form

1. Course Name:
Management Information Systems
2. Course Code:
ELM308
3. Semester / Year:
Spring Semester/2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor deah azeez Email:dr.noor.deah@ntu.edu.iq
8. Course Objectives

Course Objectives	**− Providing students with basic concepts of management information systems.** **− Understanding the different types of systems that serve administrative levels.** **− Understanding the mechanisms for analyzing and designing information systems.**

9. Teaching and Learning Strategies

Strategy	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic components of Management Information Systems (MIS) and identify their vital role in supporting organizational decision-making. This includes the ability to analyze existing systems, identify their strengths an weaknesses, and suggest necessary improvements to increase

	efficiency and effectiveness. - Applying Technological Concepts: The student will acquire t ability to link the theoretical concepts of MIS to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and Big Data Analytics, and how they can be employed to achieve organizational strategic objectives. B. Course Skill Objectives - Problem-Solving Skills Using Information Systems: The student will develop the ability to identify organizational problems that can be solved or mitigated using information systems, and to propose innovative technology-based solutio with a focus on operational efficiency and improved decision-making. - Systems Analysis and Design Skills: The student will acquire the ability to analyze the functional and non-functional requirements of a new information system and design appropriate solutions using systems modeling tools and techniques such as data flow diagrams (DFDs) and entity-relationship diagrams (ERDs), qualifying them to be an effecti link between business and technical teams. Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requirin department laboratories - Project-Based Learning Strategy Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives

	C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions Teaching and Learning Methods 1. Periodic field visits to administrative and technical institutions 2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries 3. Psychological Motivation and emotionally through open an direct discussions with students. D - General and transferable skills (other skills related to employability and personal development). D1 - Teaching students research and report writing skills. D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work. D3 - Teaching students how to access and analyze informatio sources, and how to derive and document a summary of the information obtained through objective analysis of these sources. D4 - Teaching students how to design databases and websites and implement programs to serve various scientific fields.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Knowledge and Practical Application	General Introduction, Basic Concepts, Management Information Systems	Lectures and Discussion	Interaction and participation

2	4	Knowledge and Practical Application	Information and its Ne Value and Cost of Information	Lectures and Discussion	Interaction and participation
3	4	Knowledge and Practical Application	Information Productio Cycle, Case Study	Lectures and Discussion	Interaction, participation, an daily testin
4	4	Knowledge and Practical Application	The importance of management informat systems, their functior and their limitations.	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	Knowledge and Practical Application	Types of management information systems	Lectures and Discussion	Interaction, Participation, an Quarterly Quiz
6	4	Knowledge and Practical Application	Automated informatio systems Case study	Lectures and Discussion	Interaction, Participation, an Repot
7	4	Knowledge and Practical Application	Transaction Processin Systems, Case Study	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
8	4	Knowledge and Practical Application	Communication Syste Case Study	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
9	4	Knowledge and Practical Application	Knowledge-Based Business Systems, Cas Study	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	Knowledge and Practical Application	Decision Concept, Decision-Making Steps Simon's Decision-Mak Model	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
11	4	Knowledge and Practical Application	Decision Support Systems	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	Knowledge and Practical Application	Group Decision Suppo Systems	Lectures,Discuss and Practical Application	Interaction and Participation
13	4	Knowledge and Practical Application	Expert Systems	Lectures, Discussion, and Practical Application	Reports
14	4	Knowledge and Practical Application	Artificial Intelligence	Lectures, Discussion, and Practical Application	Presenting and explaining repor through a presentation

15	4	Knowledge and Practical Application	Information Systems Security	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	Publications on management informatic systems and information technologies a available in the college library and the university's central library.
Recommended books and references (scientific journals, reports…)	Dr. Fayez Juma Al-Najjar, Management Information System Book.
Electronic References, Websites	Websites on Management Information Systems.

Course Description Form

1. Course Name:
Data Retrieval
2. Course Code:
ITM 409
3. Semester / Year:
first Semester −2025
4. Description Preparation Date:
30−7−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60- hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr Ahmed sabeeh yousif Email:ahmedsabeeh123@ntu.edu.iq
8. Course Objectives

Course Objectives	• Provide students with fundamental concepts of information retrieval systems. • Introduce various search engines, search and query algorithms. • Train students on how to design and evaluate data retrieval systems. • Understand ranking and evaluation algorithms for search results. • Use modern tools such as Elasticsearch, Lucene, and SQL queries for data retrieval

9. Teaching and Learning Strategies

Strategy	

	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic components of DATA SCIENCE ar identify their vital role in supporting the information managrment. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire th ability to link the theoretical concepts of data mining, date retrieval to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and Big Data Analytics, and how they can be employed to achieve organizational strategic objectives. B. Course Skill Objectives - Problem-Solving Skills Using math: The student will develop the ability to identify problems that can be solved or mitigated using system engineering, and to propose innovative technology-based solutions, with a focus on operational efficiency and improved decision-making. - Systems Analysis and Design Skills: The student will acquire the ability to analyze different methods Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring department laboratories - Project-Based Learning Strategy -Google classroom for blended learning Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests

C- Affective and Value-Based Objectives
C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best
C2- Strengthening the desire to compete to raise the educational level
C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions

Teaching and Learning Methods
1. Periodic field visits to administrative and technical institutions
2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries
3. Psychological Motivation and emotionally through open an direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).
D1 - Teaching students research and report writing skills.
D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work.
D3 - Teaching students how to access and analyze information sources, and how to derive and document a summary of the information obtained through objective analysis of these sources.
D4 - Teaching students how to design databases and websites and implement programs to serve various scientific fields.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduct	Introduction to data retrieval and its basic concepts	Lectures	Interaction and participation

2	4	demonstrate	Traditional informati retrieval systems	Lectures and Discussion	test
3	4	Knowledge and Practical Application	Types of search engi and architecture of retrieval systems	Lectures and Discussion	Interaction
4	4	demonstrate	Basic search algorith (Boolean, Vector Spa Model)	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	demonstrate	Indexing models: inverted index	Lectures and Discussion	Interaction, Participation, ar Quarterly Quiz
6	4	demonstrate	Quantitative evaluati (Precision, Recall, F1 score)	Lectures and Discussion	Interaction, Participation, ar Repot
7	4	demonstrate	Ranking algorithms (TF-IDF, BM25, etc.	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
8	4	ppt	**Midterm Exam**	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
9	4	demonstrate	Web-scale data retrie and modern search engines	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	demonstrate	Query expansion and semantic search	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
11	4	demonstrate	Multimedia informat retrieval (images, vid audio)	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	demonstrate	Databases and their r in retrieval (SQL-bas search)	Lectures,Discussi and Practical Application	Interaction and Participation
13	4	Paper test	Practical applications with Elasticsearch / Lucene	Lectures, Discussion, and Practical Application	Reports
14	4	demonstrate	Design of a mini information retrieval project	Lectures, Discussion, and Practical Application	Presenting and explaining repo through a presentation
15	4	review	Final review and exa preparation	Lectures, Discussion, and	Interaction and participation

				Practical Application	

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)	
Main references (sources)	library
Recommended books and references (scientific journals, reports…)	library
Electronic References, Websites	Websites

Course Description Form

1. Course Name:
Information security
2. Course Code:
ITM 410
3. Semester / Year:
Fall Semester −2025
4. Description Preparation Date:
30−7−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr Ahmed sabeeh yousif Email:ahmedsabeeh123@ntu.edu.iq
8. Course Objectives

Course Objectives	– **To understand the concept of informat security** – **To analysis the methods like AES** **To Apply the methods based applicatio**

9. Teaching and Learning Strategies	
Strategy	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic components of information secutity and identify their vital role in supporting the information managrment. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire th

	ability to link the theoretical concepts of SE to contemporary technological applications. This includes an understanding of modern technologies such as cloud computing and Big Data Analytics, and how they can be employed to achieve organizational strategic objectives. B. Course Skill Objectives - Problem-Solving Skills Using Information Systems: The student will develop the ability to identify information securit problems that can be solved or mitigated using system engineering, and to propose innovative technology-based solutions, with a focus on operational efficiency and improvec decision-making. - Systems Analysis and Design Skills: The student will acquire the ability to analyze different methods Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring department laboratories - Project-Based Learning Strategy -Google classroom for blended learning Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions

Teaching and Learning Methods
1. Periodic field visits to administrative and technical institutions
2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries
3. Psychological Motivation and emotionally through open an direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).
D1 - Teaching students research and report writing skills.
D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work.
D3 - Teaching students how to access and analyze information sources, and how to derive and document a summary of the information obtained through objective analysis of these sources.
D4 - Teaching students how to design databases and websites and implement programs to serve various scientific fields.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Introduct	General Introduction, Basic Concepts,	Lectures	Interaction and participation
2	4	Information security	Summaries the previc methods	Lectures and Discussion	test
3	4	Knowledge and Practical Application	Various previous method	Lectures and Discussion	Interaction
4	4	**Security threats ar types of attacks (internal and exter passive and active attacks)**	Types of attacks	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	4	**Ransomwar**	Explain the software,	Lectures and	Interaction,

			pros, and cons	Discussion	Participation, ar Quarterly Quiz
6	4	Physical and logical security – firewalls and antivirus protection	Firewalls	Lectures and Discussion	Interaction, Participation, ar Repot
7	4	**Data encryption: basic concepts (symmetric and asymmetric, key**	**basic concepts**	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
8	4	**symmetric and asymmetric, key**	, Case Study	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
9	4	**خوارزميات التشفير: AE DES ،RSA**	Examples with many cases	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	**Digital Signatures, Certificates**	Examples with many cases	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
11	4	**LAN/WAN ،VP)HTTPS, SSL(**	Mini project	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	**IDS/IPS(**	Examples	Lectures,Discuss and Practical Application	Interaction and Participation
13	4	Operating system and database security	database security	Lectures, Discussion, and Practical Application	Reports
14	4	Cloud computin security	Case studies	Lectures, Discussion, and Practical Application	Presenting and explaining repo through a presentation
15	4	review	review	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	Publications and also in library , many books
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites

Course Description Form

1. Course Name:
Software engineering
2. Course Code:
ITM 406
3. Semester / Year:
Fall Semester −2025
4. Description Preparation Date:
30−7−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Dr Ahmed sabeeh yousif Email:ahmedsabeeh123@ntu.edu.iq
8. Course Objectives

Course Objectives	**Providing the student with practical skills and knowledge on how to apply computer systems organizations to manage their human and material resources.**
9. Teaching and Learning Strategies	
Strategy	A. Cognitive Objectives - Understanding and Analyzing Systems: The student will be able to understand the basic components of SE and identify their vital role in supporting organizational decision-making. This includes the ability to analyze existing systems, identify their strengths and weaknesses, and suggest necessary improvements to increase efficiency and effectiveness. - Applying Technological Concepts: The student will acquire t ability to link the theoretical concepts of SE to contemporary technological applications. This includes an understanding of

	modern technologies such as cloud computing and Big Data Analytics, and how they can be employed to achieve organizational strategic objectives. B. Course Skill Objectives - Problem-Solving Skills Using Information Systems: The student will develop the ability to identify SE problems that ca be solved or mitigated using system engineering, and to propose innovative technology-based solutions, with a focus o operational efficiency and improved decision-making. - Systems Analysis and Design Skills: The student will acquire the ability to analyze the functional and non-functional requirements of a new information system and design appropriate solutions using systems modeling tools and techniques such as data flow diagrams (DFDs) and entity-relationship diagrams (ERDs), qualifying them to be an effecti link between business and technical teams. Teaching and Learning Methods - Direct instruction (lectures) using educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring department laboratories - Project-Based Learning Strategy -Google classroom for blended learning Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives C1- Strengthening the spirit of belonging to a team within the institution and the desire to provide the best C2- Strengthening the desire to compete to raise the educational level

	C3- Strengthening the sense of belonging to the specialty and developing the desire to work in information institutions Teaching and Learning Methods 1. Periodic field visits to administrative and technical institutions 2. Experience, actual practice, and interaction with staff throu practical application (summer training) conducted by the student in close contact with beneficiaries 3. Psychological Motivation and emotionally through open an direct discussions with students. D - General and transferable skills (other skills related to employability and personal development). D1 - Teaching students research and report writing skills. D2 - Teaching students how to connect theoretical knowledge with practical application that they will experience at work. D3 - Teaching students how to access and analyze informatio sources, and how to derive and document a summary of the information obtained through objective analysis of these sources. D4 - Teaching students how to design databases and websites and implement programs to serve various scientific fields.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Software engineer	General Introduction, Basic Concepts,	Lectures	Interaction and participation
2	4	Software proces	Identify the software process	Lectures and Discussion	test
3	4	Knowledge and Practical Application	Various previous method	Lectures and Discussion	Interaction
4	4	**Process Models**	Waterfall model	Lectures and Practical Application	Interact and Participate, and Surprise Quiz

5	4	**Process Models**	V model	Lectures and Discussion	Interaction, Participation, ar Quarterly Quiz
6	4	**Process Models**	Incremental model	Lectures and Discussion	Interaction, Participation, ar Repot
7	4	**Process Models**	Case studies	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
8	4	**Agile Modeling**	, Case Study	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
9	4	**Agile Modeling**	Knowledge-Based Business Systems, Cas Study	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	4	**Agile Modeling**	test	Lectures, Discussion, and Practical Application	Interaction, Participation, ar Assignments
11	4	**Software Engineering Practice**	Mini project	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	**Software Engineering Practice**	Examples	Lectures,Discuss and Practical Application	Interaction and Participation
13	4	**Software Engineering Practice**	Expert Systems	Lectures, Discussion, and Practical Application	Reports
14	4	**System Engineering**	Artificial Intelligence	Lectures, Discussion, and Practical Application	Presenting and explaining repor through a presentation
15	4	**System Engineering**	review	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	Publications and also in library , many books
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites

Course Description Form

1. Course Name:
Business Intelligence
2. Course Code:
ELM411
3. Semester / Year:
Fall Semester −2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor deah azeez Email:dr.noor.deah@ntu.edu.iq
8. Course Objectives

Course Objectives	• **Foundational Knowledge**: Provide an understanding of business intelligence (BI) concepts and tools. • **Data Analysis Skills**: Develop skills for analyzing business data. • **Tool Proficiency**: Teach practical use of BI software. • **Decision-Making**: Enhance data-driven decision-making abilities. • **Current Trends**: Introduce emerging BI trends and technologies.

9. Teaching and Learning Strategies

Strategy	

	Teaching and Learning Methods - Direct instruction (lecture) with the use of educational technology tools - Classroom discussion and interaction through assignments - Learning through practical application of materials requiring departmental laboratories - Project-based learning strategy Assessment Methods *Periodic Tests *Surprise Tests *Classroom Interaction and Participation *Research Assignments and Reports *Practical and Applied Tests C- Affective and Value-Based Objectives C1- Enhancing the sense of belonging to a team within the institution and the desire to provide the best C2- Enhancing the desire to compete to raise the educational level C3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions

10. Course Structure

Week	Hours	Required	Unit or subject	Learning	Evaluation

		Learning Outcomes	name	method	method
1	3	Knowledge and Practical Application	Introduction to Busine Intelligence	Lectures and Discussion	Interaction and participation
2	3	Knowledge and Practical Application	The importance of business intelligence a its systems in business organizations	Lectures and Discussion	Interaction and participation
3	3	Knowledge and Practical Application	How to design busine intelligence systems ir business organizations	Lectures and Discussion	Interaction, participation, an daily testin
4	3	Knowledge and Practical Application	Classifications of business intelligence systems and identifyin the most important beneficiaries of them	Lectures and Practical Application	Interact and Participate, and Surprise Quiz
5	3	Knowledge and Practical Application	BI Strategy and Governance	Lectures and Discussion	Interaction, Participation, an Quarterly Quiz
6	3	Knowledge and Practical Application	Big Data and B	Lectures and Discussion	Interaction, Participation, an Repot
7	3	Knowledge and Practical Application	Cloud BI Solutions	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
8	3	Knowledge and Practical Application	Data warehouse	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
9	3	Knowledge and Practical Application	The concept, importan and how to mine information	Lectures, Discussion, and Practical Application	Presenting and Explaining Repo Through Presentation
10	3	Knowledge and Practical Application	Data warehouse	Lectures, Discussion, and Practical Application	Interaction, Participation, an Assignments
11	3	Knowledge and Practical Application	Data warehouse star model	Lectures, Discussion, and Practical Application	Daily Quiz
12	3	Knowledge and	Real-time analytical	Lectures,Discuss	Interaction and

		Practical Application	processing	and Practical Application	Participation
13	3	Knowledge and Practical Application	Design and dimension in a practical applicati	Lectures, Discussion, and Practical Application	Reports
14	3	Knowledge and Practical Application	Dashboards and Reporting	Lectures, Discussion, and Practical Application	Presenting and explaining repor through a presentation
15	3	Knowledge and Practical Application	Course Review and Final Exam • **Lecture**: Comprehensive Review of the Course • **Exam**: Final Exam covering material from the entire course • **Project**: Group presentations on selected BI topics **Reading**: Review all chapters	Lectures, Discussion, and Practical Application	Interaction and participation

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)	
Main references (sources)	**Turban, E., R. Sharda, D. Delen & D. King (2011) "Business Intelligence: A Managerial Approach", 2nd Edition, Prentice Education, Inc, New-Jersey, USA**

	الناصر، عامر عبد الرزاق عبد المحسن، 2015، ادارة المعرفة في اطار نظم ذكاء الاعمال، الطبعة الاولى، دار اليازوري للنشر والتوزيع، عمان ، الاردن **حسين، ليث سعد، السالم ، محمد عاصم، 2021 ،مستودع البيانات ادواته وتقنياته، مدخل ادارة البيانات وادارة البيانات الكبيرة، دار الاكاديميون للنشر والتوزيع.**
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Websites on Business Intelligence

نموذج وصف المقرر/ الإدارة الالكترونية

1. المؤسسة التعليمية
الكلية التقنية الادارية الموصل
2. القسم العلمي / المركز
قسم ادارة تقنيات المعلومات/المرحلة الرابعة
3. اسم / رمز المقرر
الإدارة الالكترونية / ELM 408
4. أشكال الحضور المتاحة
اسبوعي
5. الفصل / السنة
كورسات
6. عدد الساعات الدراسية (الكلي)
56ساعة
7. تاريخ إعداد هذا الوصف
2024/7/4
8. اهداف المقرر
هذا المقرر يعمل على زيادة الاهتمام بممارسة الإدارة الالكترونية في المؤسسات وخاصة في المؤسسات التي تمتلك القدرة على الدخول في المجال الالكتروني ومواكبة الدول المتقدمة من خلال الأدوات المستخدمة لتنفيذ وظائف الإدارة الالكترونية من تخطيط واتخاذ القرارات ودعم الأنشطة ذات الصلة بإدارة علاقات المنظمة مع البيئة الخارجية وتنوع وتكامل أيضا مع العلاقات الداخلية في كل مستوى من مستويات الإدارة .
9. مخرجات المقرر وطرائق التعليم والتعلم والتقييم
أ- الأهداف المعرفية أ1- التعرف على المفاهيم والاساليب العلمية والتقنيات الحديثة في ممارسة الإدارة الالكترونية في المؤسسات. أ2- يتمكن من استخدام الارشفة الالكترونية في الاعمال . أ3- يتمكن الطالب من التعرف وممارسة وظائف الإدارة الالكترونية.- .أ4- التعريف بماهية الإدارة الالكترونية وانماطها وتطبيقاتها . ب - الأهداف المهاراتية الخاصة بالمقرر.

ب1 - الإلمام بأهمية وخصائص الإدارة الالكترونية

ب2 – تنمية مهارات استخدام الإدارة الالكترونية في المؤسسات .

ب3 – تنمية مهارات الطالب وعزيز قدرته على تحويل الإجراءات الورقية الى الالكترونية .

ب4- إكساب الطالب القدرة على تحليل واتخاذ القرار المدعوم بالتكنولوجيا .

طرائق التعليم والتعلم

- التلقين المباشر (المحاضرة) مع استخدام ادوات تكنولوجيا التعليم
- المناقشة والتفاعل الصفي من خلال التكليف بالواجبات
- استراتيجية التعليم القائم على المشروعات البحثية

طرائق التقييم

*الاختبارات الدورية

*الاختبارات المفاجئة

*التفاعل والمشاركة الصفية

*التكليفات البحثية والتقارير

*الاختبارات العملية والتطبيقية

ج- الأهداف الوجدانية والقيمية

ج1- تعزيز روح الانتماء لفريق داخل المؤسسة والرغبة لتقديم الافضل

ج2- تعزيز الرغبة في المنافسة لرفع المستوى التعليمي

ج3- تعزيز الشعور بالانتماء الى التخصص وتنمية الرغبة في العمل بمؤسسات المعلومات

طرائق التعليم والتعلم

1.الزيارات الميدانية الدورية للمؤسسات الادارية والتقنية

2.المعايشة والممارسة الفعلية والاختلاط بالعاملين من خلال التطبيق العملي (التدريب الصيفي)الذي يقوم به الطالب بالتعايش مع المستفيدين

3.التحفيز النفسي والعاطفي من خلال المناقشات المفتوحة والمباشرة مع الطلبة

د - المهارات العامة والتأهيلية المنقولة (المهارات الأخرى المتعلقة بقابلية التوظيف والتطور الشخصي).

د1- تعليم الطالب على مهارات كتابة البحوث والتقارير

د2- تعليم الطالب كيفية الربط بين الجانب النظري بالتطبيق العملي الذي سوف يمارسه في العمل

د3- تعليم الطالب كيفية التعامل مع مصادر المعلومات وتحليلها واستنباط وتدوين خلاصة بالمعلومات التي يحصل عليها نتيجة التحليل الموضوعي لهذه المصادر

10. بنية المقرر

الأسبوع	الساعات	مخرجات التعلم المطلوبة	اسم الوحدة / أو الموضوع	طريقة التعليم	طريقة التقييم
الاول	4	التعرف على اساسيات الإدارة الالكترونية ومقارنتها مع المصطلحات الأخرى . أهمية الإدارة الالكترونية . اهداف وانماط الإدارة الالكترونية . خصائص الإدارة الالكترونية مزايا وعيوب الإدارة الالكترونية .	تقديم المادة ، تقسيم المجموعات، التعرف على اساسيات الإدارة الالكترونية	المحاضرات والمناقشة	التفاعل والمشاركة
الثاني	4	مراحل التحول نحو الادارة الالكترونية	المراحل	المحاضرات والمناقشة	التفاعل والمشاركة
الثالث	4	متطلبات التحول نحو الادارة الالكترونية تحديات التحول نحو الإدارة الالكترونية	المتطلبات والتحديات	المحاضرات والمناقشة	التفاعل والمشاركة واختبار يومي
الرابع	4	وظائف الادارة الالكترونية /التخطيط ، الأنواع والمقارنة الالكتروني	وظيفة التخطيط الالكتروني .	المحاضرات والتطبيق العملي	التفاعل والمشاركة واختبار مفاجئ
الخامس	4	التنظيم الالكتروني	المركزية واللامركزية	المحاضرات والمناقشة	التفاعل والمشاركة واختبار فصلي

السادس	4	الرقابة الالكترونية متطلبات التطبيق القيادة الالكترونية	الرقابة والقيادة الالكترونية	المحاضرات والمناقشة والتطبيق العملي	التفاعل والمشاركة والتقارير
السابع	4	نشأة ومفهوم الحكومة الالكترونية، واهميتها وأهدافها	المفهوم	المحاضرات والمناقشة والتطبيق العملي	التفاعل والمشاركة والواجبات
الثامن	4	خصائص الحكومة الالكترونية فوائد تطبيق الحكومة الالكترونية	ا لخصائص والفوائد	المحاضرات والمناقشة والتطبيق العملي	التفاعل والمشاركة والواجبات
التاسع	4	مراحل تطبيق الحكومة الالكترونية	المراحل	المحاضرات والمناقشة والتطبيق العملي	القاء وشرح التقارير من خلالpresentation
العاشر	4	التحديات والفرص التي تواجه تطبيق الحكومة الالكترونية	التحديات والفرص	المحاضرات والمناقشة والتطبيق العملي	التفاعل والمشاركة والواجبات
الحادي عشر	4	مستلزمات بناء الحكومة الالكترونية وخطواتها ومحدداتها	مبررات التحول نحو الحكومة الالكترونية والمستلزمات والخطوات	المحاضرات والمناقشة	اختبار يومي
الثاني عشر	4	الارشفة الالكترونية	-مفهوم الارشفة الالكترونية . - أهمية الارشفة الالكترونية -اهداف الارشفة الالكترونية .	المحاضرات والمناقشة	التفاعل والمشاركة
الثالث عشر	4	التعليم الالكتروني	التطور التاريخي للتعليم الالكتروني . مفهوم التعليم الالكتروني والاهمية والاهداف	التطبيق العملي	التقارير

			والخصائص والانواع والمزايا والعيوب .		
الرابع عشر	4	امثلة على تطبيقات الإدارة الالكترونية (دراسة حالة)	(دراسة حالة)	التطبيق العملي	القاء وشرح التقارير من خلالpresentation

11. البنية التحتية	
1- الكتب المقررة المطلوبة	
2- المراجع الرئيسية (المصادر)	-الاعمال الالكترونية ،تاليف سعد غالب ياسين ، الطبعة الاولى ،2016. - الادارة والمعرفة الالكترونية /الاستراتيجية - الوظائف – المجالات ، د.نجم عبود نجم ،2009 -الادارة الرقمية المجالات والتطبيقات ، تاليف بشير عباس العلاق ، الطبعة الاولى ،2005
ا- الكتب والمراجع التي يوصى بها (المجلات العلمية , التقارير ,....)	المجلات العلمية في الاختصاصات الخاصة بتقنيات المعلومات
ب - المراجع الالكترونية, مواقع الانترنيت	المواقع الالكترونية المتخصصة
12. خطة تطوير المقرر الدراسي	
تهدف خطة تطوير هذا المقرر إلى تحديث المحتوى بدمج أحدث التطورات في الإدارة ، مثل **التحول الرقمي والحكومة الالكترونية والارشفة الالكترونية** ، لتعزيز فهم الطلاب للمفاهيم الأساسية وتطبيقاتها العملية. ستركز الخطة على إضافة دراسات حالة واقعية وتمارين عملية لتدريب الطلاب. -توفير المصادر العلمية الحديثة و من دور نشر عالمية معروفة لمكتبة الكلية و التي تعزز مفردات الدروس المعطاة للكلية .	

Course Description Template (2025) – Ethics of E-Business

Educational Institution:
Technical Administrative College, Mosul

Department / Center:
Department of Information Technology Management / Fourth Level

Course Title / Code:
Ethics of E-Business / ELM407

Attendance Format:
Weekly

Term / Year:
spring semester / 2025

Total Study Hours:
45 hours

Date of Course Description Preparation:
June 30, 2025

Course Objectives

- Equip students with fundamental concepts in e-business ethics.

- Understand ethical issues in the workplace.

- Recognize administrative values and social responsibility.

Cognitive Objectives

- Ethical Understanding in the Digital Environment: Students will identify ethical principles and values related to conducting business in the digital space, including privacy, data protection, intellectual property, and professional behavior.

- Analyzing Legal and Ethical Challenges in E-Commerce: Students will develop the ability to analyze ethical and legal dilemmas that organizations and individuals face in e-business and understand their impact on organizational reputation and sustainability.

Skills-Based Objectives

- Ethical Decision-Making: Students will develop the ability to assess options in complex ethical situations and choose appropriate solutions balancing profitability with ethical standards.

- Developing Digital Professional Conduct Policies: Students will be able to assist in drafting or reviewing internal digital conduct policies, including email usage, cybersecurity, and electronic communication guidelines.

Affective and Value-Based Objectives

- Enhancing Ethical Commitment: Students will develop a sense of responsibility for their digital behavior and its societal impact.

- Instilling Integrity and Transparency: Students will embrace professional values in digital performance and avoid unethical practices such as hacking, digital manipulation, or misinformation.

Transferable General Skills

- Ethical Research and Analysis Skills: Mastering research and multi-perspective ethical analysis.

- Academic Writing in Legal/Ethical Contexts: Writing professional ethical reports with documentation and support.

- Presentation and Persuasion Skills: Presenting ethical opinions and decisions convincingly and logically.

Course Structure

Week	Hours	Learning Outcomes	Unit/Topic	Teaching Method	Assessment Method
1	4	Knowledge and Practical Application	Introduction, Basic Concepts, Business Ethics	Lectures & Discussions	Participation
2	4	Knowledge and Practical Application	Internet Ethics	Lectures & Discussions	Participation
3	4	Knowledge and Practical Application	Training for Ethical Systems in Organizations	Lectures & Discussions	Participation & Daily Quiz
4	4	Knowledge and Practical Application	Ethical Dilemmas	Lectures & Practical Application	Participation & Surprise Quiz
5	4	Knowledge and Practical Application	Types of Legal Responsibility	Lectures & Discussions	Participation & Midterm
6	4	Knowledge and Practical Application	Challenges in E-Business Ethics	Lectures, Discussions & Practice	Participation & Reports
7	4	Knowledge and Practical Application	Types and Characteristics of Values	Lectures, Discussions & Practice	Participation & Homework
8	4	Knowledge and Practical Application	Sources of Values and Their Role in Success	Lectures, Discussions & Practice	Participation & Homework
9	4	Knowledge and Practical Application	Social Responsibility	Lectures, Discussions & Practice	Reports & Presentations
10	4	Knowledge and Practical Application	Elements and Pyramid of Social Responsibility	Lectures, Discussions & Practice	Participation & Homework
11	4	Knowledge and Practical Application	Intellectual Property Concept	Lectures & Discussions	Daily Quiz
12	4	Knowledge	Pros and Cons	Lectures &	Participation

		and Practical Application	of Intellectual Property	Discussions	
13	4	Knowledge and Practical Application	Concept and Purpose of Governance	Lectures & Discussions	Reports
14	4	Knowledge and Practical Application	Ethical Principles in E-Decision Making	Practical Application	Reports & Presentations
15	4	Knowledge and Practical Application	Organizational Citizenship and Corporate Ethics	Lectures & Discussions	Participation

Course Description Form

1. Course Name:
Android Apps Programming
2. Course Code:
ELM412
3. Semester / Year:
Spring Semester −2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Name: Noor Nabeel Hazim Email: noor.nabeel@ntu.edu.iq

8. Course Objectives	
Course Objectives	**Learn the basic concepts and technology for creating mobile applications, as well as design guidelines for creating applications for the Andro operating system.**

9. Teaching and Learning Strategies	
Strategy	1- Understanding the basics of mobile application programming 2- Knowing design patterns and user interface principles 3- Understanding the mobile application lifecycle 4- Familiarity with testing and maintenance techniques 5- Mobile application development Teaching and learning methods - Direct instruction (lecture) with the use of educational technology tools - Classroom discussion and interaction through assignments

	- Learning through practical application of materials requirin department labs - Project-based learning strategy Assessment methods * Periodic tests * Pop quizzes * Classroom interaction and participation * Research assignments and reports * Practical and applied tests

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Learn the importance of mobile app development	- Introduction to mobile apps - The importanc of apps in busin - Introduction to the Flutter platform	Lecture and Discussion	Interaction and participation
2	4	Learn the Dart language	1-Introduction 2- Dart Support platforms	Lecture and Discussion	Interaction and participation
3	4	Learn Dart editors	- Reviewing Dar Editors -Writing First D Program	Lecture, Discussion, and Practice in l	Interaction and participation
4	4	Learn how to use comments and define variables	Comments and variables (var, dynamic, final, and const)	Lecture, Discussion, and Practice in l	Interaction, coding, and quiz
5	4	Define variables	Nullable and No Nullable, List, Se	Lecture, Discussion, and Practice in l	Interaction, Coding, and first exam
6	4	Use maps	Map in Dart, Ma Literals, Map Constructors	Lecture, Discussion, and Practice in lab	Interaction and Participation
7	4	Use conditional	If Else Statemen and Switch Cas	Lecture, Discussion,	Interaction, participation and

		statements		and Practice in l	assignment
8	4	Recursive statements	for… in loop, for loop, for each loop, while, do.. while	Lecture, Discussion, and Practice in l	Interaction and participation
9	4	Functions and object-oriented programming	Functions and Object Oriented Functions types Anonymous Functions	Lecture, Discussion, and Practice in lab	Interaction and participation
10	4	Constructors and keywords	Constructors an Keywords	Lecture, Discussion, and Practice in lab	Interaction and participation
11	4	Interfaces	Interface in Dar Method Overriding	Lecture, Discussion, and Practice in lab	Quiz
12	4	Build apps using Flutter	Building Applications wi Flutter	Lecture, Discussion, and Practice in lab	Interaction and participation
13	4	Widgets and State	Basic widgets	Lecture, Discussion, and Practice in lab	Report
14	4	Scaffold	Scaffold	Lecture, Discussion, and Practice in lab	Presenting and e explaining reports through a presentation
15	4	Buttons, SizedBox	Buttons, SizedBox	Lecture, Discussion, and Practice in lab	Interaction and participation

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)	
Main references (sources)	Publications on Android Apps Programming in the college library and th university's central library.
Recommended books and references (scientific journals, reports…)	Android Programming The Big Nerd Ran Guide, Bill Phillips, Chris Stewart, Brian Hardy & Kristin Marsicano

Electronic References, Websites	Dart.dev and https://flutter.dev

Course Description Form/ Contemporary Administrative Approaches

1. Educational institution
Mosul Technical Administrative College
2. Department / Center Scientific
Information Technology Management Department/Fourth Stage
3. Course Name/Code
Administrative Approaches ContemporaryELM402
4. Available attendance forms
weekly
5. semester/year
Courses/ spring semester
6. (total) Number of study hours
60 hours
7. Date this description was prepared
30/6/2025
8. Course objectives
techniques in Modern Contemporary administration methods Understanding concepts and .the practice of corporate management .The student will be able to possess effective administrative tools in management .He can use several approaches, including creativity in business
9. es, teaching, learning and assessment methodsCourse outcom
أ- objectives cognitive .the concepts of contemporary administrative approaches Learn -A1 . know knowledge management Be able to -A2

.types and its creativity organizational to identify The student will be able -A3

Crisis management, its types and applications of the essence Definition -A4.

. Course specific skill objectives -B

administrative contemporary Familiarity with the importance and characteristics of -B1
. approaches

.institutions in Developing crisis management and knowledge management skills - B2

Developing the student's skills and enhancing his ability to convert paper procedures - B3
.studying an introduction to electronic administration into electronic ones by

. to manage using advanced methods Providing the student with the ability -B4

Teaching and learning methods

- Direct instruction (lecture) with the use of educational technology tools
- Class discussion and interaction through assignment of homework
- based learning strategy-Project

Evaluation methods

Periodic tests*

Surprise tests*

Classroom interaction and participation*

Research assignments and reports*

Practical and applied tests*

based goals-Emotional and value -C

belonging to a team within the organization and the desire to Enhancing the spirit of -A1
.provide the best

Enhancing the desire to compete to raise the educational level -A2

Enhancing the sense of belonging to the specialty and developing the desire to work in -A3
.utionsinformation instit

Teaching and learning methods

.Periodic field visits to administrative and technical institutions .1

Coexistence, actual practice, and interaction with workers through practical application (.2
.ng with the beneficiariessummer training) that the student undertakes by livi

Psychological and emotional stimulation through open and direct discussions with .3
.students

General and transferable skills (other skills related to employability and personal -D
.(development

.lls of writing research and reportsTeaching the student the ski -D1

Teaching the student how to link the theoretical aspect with the practical application that -D2
.he will practice at work

Teaching the student how to deal with information sources, analyze them, and deduce -D3
d a summary of the information he obtains as a result of the objective analysis of and recor
.these sources

10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Interaction and participation	Lectures and discussion	Concept, importance and objectives	Knowledge Management Introduction	4	the first
Interaction and participation	Lectures and discussion	Knowledge management processes	Knowledge Management	4	the second
Interact, participate and .test daily	Lectures and discussion	Knowledge management models	Knowledge management models	4	the third
Interaction, engagement, up -and pop testing	Lectures and practical application	Knowledge management strategies	Strategies	4	Fourth
Interaction, participation,	Lectures and	Knowledge management	Knowledge management	4	

and semester testing	discussion	success factors	and factors		Fifth
Interaction, Participation, and Reports	Lectures, discussion and practical application	Driving forces of knowledge management	Knowledge management and motivation	4	Sixth
Interaction, participation, and duties	Lectures, discussion and practical application	The concept, importance and objectives of crisis management	Crisis management	4	Seventh
Interaction, participation, and duties	Lectures, discussion and practical application	Characteristics and types of crisis management	Types of crises	4	The eighth
Presenting and explaining reports through presentation	,Lectures discussion and practical application	Causes of the crisis, advantages and disadvantages	Factors affecting the occurrence of the crisis	4	Ninth
Interaction, participation, and duties	Lectures, discussion and practical application	Stages and hedging of .crises	Crisis management stages	4	tenth
Daily test	Lectures and discussion	Concept, importance and objectives	Organizational creativity	4	eleventh
Interaction and participation	Lectures and discussion	Characteristics and stages	organizational creativity characteristics	4	

					twelfth
Reports	Practical application	Levels and models of organizational creativity	Levels and models of organizational creativity	4	thirteenth
Presenting and explaining reports through presentation	Practical application	Administrative empowerment Concept, importance, objectives, types and applications	Administrative empowerment	4	fourteenth

11. infrastructure

	Required textbooks
- Salah Religion Kubaisi-Al ,2005 Management , knowledge , The organization Arabic development For Administrative For research And studies. . ,Abdullah Nahida ,Ismael 2006 , role Operations administration knowledge in Strengthening Feature ,competitiveness magazine Research ,Futuristic Issue13 , p. 38 - Sites Internet The -1 Gift Hussein ,Effendi bearings New in Management between Theory ,And the application ,Cairo center Research ,Politics university Cairo, .1994	Main -2 references (sources)
in the specialty Scientific journals	-A Recommended books and) references Scientific journals, (....,reports
Specialized websites	c Electroni -B references, ...websites

12. Curriculum Development Plan

The development plan for this course aims to update the content by incorporating the latest To enhance students' .leadership and sustainability developments in management, such as

understanding of basic concepts and their practical applications, the plan will focus on life case studies and practical exercises to train students-adding real.

ishing houses to the known international publ-from well resources Providing modern scientific .college library, which enhances the vocabulary of the lessons given to the college

Course Description Form / Total Quality Management

1. Educational institution
Mosul Technical Administrative College
2. Scientific Department / Center
Information Technology Management Department/Fourth Stage
3. Course Name/Code
Total Quality Management:
4. Available attendance forms
Weekly
5. semester/year
Courses
6. Number of study hours (total)
4 hours per week for 15 weeks (semester)
7. Date this description was prepared
20-2-2022
8. Course objectives
- Providing the student/trainee with a deep understanding of the concepts of Total Quality Management, in terms of its origin, development, basic principles, and importance in contemporary business environments. **2. Develop the ability to use quality tools and techniques to improve processes and services within organizations.** **3. Enhancing analytical and critical thinking among students by analyzing quality applications in local and international organizations.** **4. Linking the concepts of total quality to continuous improvement and customer satisfaction, highlighting the relationship between quality and competitiveness.** **5. Qualifying students to apply quality strategies in various workplaces, in accordance with**

international standards such as ISO 9001 and EFQM.

6. Applying the TQM system in a real or hypothetical scenario and analyzing its results.

7. Comparing international quality standards (such as ISO 9001) and assessing organizations' compliance with them.

8. Proposing quality improvement plans based on measurement and monitoring methods.

9. Course outcomes, teaching, learning and assessment methods

A- Cognitive objectives

A1-**After completing the program, the student is expected to be able to:**

- Understanding the basic principles of Total Quality Management, its origins and development.

- Identify international quality models (such as the Deming model, the Malcolm Baldrige model, and EFQM).

- Familiarity with quality management systems such as ISO 9001 and the basics of international specifications.

- Analyzing the relationship between quality and organizational processes.

- Realizing the importance of quality in improving institutional performance and achieving customer satisfaction.

B**- Course skill objectives.**

B1 **The student is expected to acquire applied skills in:**

- Analyze data and make decisions based on statistical information (e.g., use of the seven quality control tools).

Design and implement quality improvement strategies.
Evaluating the performance of organizations through quality-related performance indicators.
Using techniques such as Six Sigma and Lean Management to improve efficiency and reduce waste.
Preparing professional quality reports and performance gap analysis.

Evaluation methods

*Periodic tests

*Surprise tests

*Classroom interaction and participation

*Research assignments and reports

*Practical and applied tests

C- Emotional and value-based goals

A1- Enhancing the spirit of belonging to a team within the organization and the desire to provide the best.

A2- Enhancing the desire to compete to raise the educational level

A3- Enhancing the sense of belonging to the specialty and developing the desire to work in information institutions.

Teaching and learning methods

1. Periodic field visits to administrative and technical institutions.

2. Coexistence, actual practice, and interaction with workers through practical application (summer training) that the student undertakes by living with the beneficiaries.

3. Psychological and emotional stimulation through open and direct discussions with students.

D - General and transferable skills (other skills related to employability and personal development).

D1- Teaching the student the skills of writing research and reports.

D2- Teaching the student how to link the theoretical aspect with the practical application that he will practice at work.

D3- Teaching the student how to deal with information sources, analyze them, and deduce and record a summary of the information he obtains as a result of the objective analysis of these sources.

D4- Teaching the student how to design databases and websites and implement programs to serve various scientific fields.

10. Course structure

Evaluation method	Teaching method	Unit name/topic	Required learning outcomes	watches	week
Daily oral test	theoretical presentation and	Strategic planning, customer	Total Quality Management Principles	4 hours	First and second

	explanation	focus, supplier involvement, senior management support, error prevention, work teams,			
Daily oral test	theoretical presentation and explanation	Training and education, continuous improvement, measurable quality, employee engagement and participation, focus on processes, benchmarking	Total Quality Management Principles	4 hours	Third and fourth
Daily oral test	theoretical presentation and explanation	Historical introduction, the concept of quality circles, the mechanism of quality circles, quality circles and work	Quality Circles	4 hours	Fifth and sixth

		teams, requirements for implementing quality circles			
Daily oral test	theoretical presentation and explanation	The concept of total quality management, researchers' views on the concept of total quality, the difference between traditional management and total quality management	Total Quality Management	4 hours	Seventh and eighth
Daily oral test	theoretical presentation and explanation	Quality Job Deployment Tool Concept	Total Quality Job Posting	4 hours	Ninth and tenth
Daily oral test	theoretical presentation and explanation	Steps to build a quality house (defining customer requireme	Quality Job Posting Tools		eleventh The twelfth

		nts, competitive evaluation, defining design requirements, relationship matrix, trade-off matrix, target value matrix).			
Daily oral test	theoretical presentation and explanation	What is the ISO system? Benefits of implementing ISO? Requirements for implementing ISO	ISO 9001 Quality Management Systems	4 hours	thirteenth and fourteenth
Daily oral test	theoretical presentation and explanation	Definition of sustainable development, origin, concept, (definition of sustainable development UNESCO, United	sustainable development	4 hours	fifteenth

		Nations Conference, World Commission on Environment and Development), goals, characteristics, Indicators and implications of sustainable development.			

11. Infrastructure	
	1- Required textbooks
Quality principles, tools, and case analysis. 3. Total Quality Management: A Strategic Approach Author: Dr. Mohamed Fawzy	2- Main references (sources)
Scientific journals in the fields of information technology	A- Recommended books and references (scientific journals, reports, etc.)
Specialized websites	B - Electronic references, websites...
12. Curriculum Development Plan	
- Meeting with the faculty at the end of each semester to review the curricula and how to develop	

them, add new lessons to the current curricula, record the course content in the curriculum form annually, and propose any changes or amendments to the curricula for approval by the College Council and subsequently by the University Council, in accordance with university directives. The curricula are also published and documented on the college website, and lectures are uploaded electronically to the website.

Providing the college library with modern scientific books from well-known international publishing houses, which enhance the vocabulary of the lessons given to the college.

Course Description Form- Artificial Intelligence and Expert Systems

1. Course Name:
Artificial Intelligence and Expert Systems
2. Course Code:
ELM403
3. Semester / Year:
Fall Semester −2025
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Dr. Radhwan Yousif Aljawadi (radwan.aljawadi@ntu.edu.iq)
8. Course Objectives

Course Objectives	This course introduces students to the principles and foundations of Artificial Intelligence (AI), focusing on intelligent agents, problem-solving, and reasoning. The second part emphasizes Expert Systems, their architecture, inference engines, and knowledge representation techniques. Students will gain practical experience by designing simple expert systems and AI problem-solving models. **Course Objectives:** • Understand core concepts and history of AI • Explore AI techniques including search strategies, reasoning, and learning • Analyze structure and function of Expert Systems • Apply AI methods to real-world problems

9. Teaching and Learning Strategies

Strategy	A. Knowledge: - Understand structure and functioning of AI systems - Identify symbolic vs. sub-symbolic approaches - Understand expert systems and applications B. Skills: - Design simple expert systems - Apply reasoning and search methods - Develop intelligent agents C. Ethics: - Awareness of AI ethics - Promote fairness and responsibility

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Knowledge and Practical Application	Introduction to Artificial Intelligence: History and Applications	Lectures and Discussion	Interaction and participation
2	4	Knowledge and Practical Application	Intelligent Agents and Environments, Knowledge Representation, Types of Logic	Lectures and Discussion	Interaction and participation
3	4	Knowledge and Practical Application	Propositional and Predicate Logic	Lectures and Discussion	Interaction, participation, and daily testin
4	4	Knowledge and Practical Application	Undirected Search (BFS, DFS), Directed Search (A*, Greedy), Genetic Algorithms, Examples	Lectures and Practical Application	Interact and Participate, and a Surprise Quiz
5	4	Knowledge		Lectures and	Interaction,

		and Practical Application	Fuzzy Logic Fuzzy Mathematics	Discussion	Participation, and Quarterly Quiz
6	4	Knowledge and Practical Application	Application Examples of Fuzzy Logic	Lectures and Discussion	Interaction, Participation, and Repot
7	4	Knowledge and Practical Application	Overview of Machine Learning	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
8	4	Knowledge and Practical Application	Artificial Neural Networks	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
9	4	Knowledge and Practical Application	Application Examples	Lectures, Discussion, and Practical Application	Presenting and Explaining Reports Through Presentation
10	4	Knowledge and Practical Application	Expert Systems	Lectures, Discussion, and Practical Application	Interaction, Participation, and Assignments
11	4	Knowledge and Practical Application	Knowledge Acquisition, Inference Engines, and Knowledge Bases	Lectures, Discussion, and Practical Application	Daily Quiz
12	4	Knowledge and Practical Application	Applications of Expert Systems	Lectures,Discussion, and Practical Application	Interaction and Participation
13	4	Knowledge and Practical Application	AI Tools	Lectures, Discussion, and Practical Application	Reports
14	4	Knowledge and Practical Application	AI Ethics and Challenges	Lectures, Discussion, and Practical	Presenting and explaining reports

				Application	through a presentation
15	4	Knowledge and Practical Application	Project Presentation and Review	Lectures, Discussion, and Practical Application	

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)	
Main references (sources)	• Russell & Norvig – Artificial Intelligence: A Modern Approach • Giarratano & Riley – Expert Systems • Elaine Rich – Artificial Intelligence
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Coursera https://www.coursera.org/ Kaggle https://www.kaggle.com/

Course Description Form-Data Structures

1. Course Name:
Data Structures- (optional)
2. Course Code:
ELM414
3. Semester / Year:
Spring Semester −2025/Level 4
4. Description Preparation Date:
30−6−2025
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours
7. Course administrator's name (mention all, if more than one name)
Radhwan Yousif Al-jawadi (radwan.aljawadi@ntu.edu.iq)
8. Course Objectives

Course Objectives	**This course provides students with a solid understanding of data structures, their implementation, and their role in solving computational problems efficiently. Students will learn to evaluate, choose, and apply suitable data structures for various applications.** **Objectives:** • **Understand fundamental concepts and importance of data structures.** • **Develop problem−solving skills using data structures.** • **Implement and manipulate key data structures in a programming language.** • **Analyze and evaluate time and space complexity of algorithms.**

	• **Apply appropriate data structures to real-world problems**

9. Teaching and Learning Strategies

Strategy	A. Knowledge: • Understanding arrays, linked lists, stacks, queues, trees, graphs, and advanced structures. • Recognizing performance trade-offs between structures. B. Skills: • Implementing data structures in code. • Debugging and optimizing programs. C. Application: • Solving real-world problems using appropriate structures. • Integrating data structures into algorithm design.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Knowledge & Practical Application	Introduction to Data Structures	Lecture & Discussion	Interaction and participation
2	4	Arrays, Strings	Lecture & Lab	Assignments	Interaction and participation
3	4	Linked Lists	Lecture & Lab	Assignments	Interaction, participation, and daily testin
4	4	Stacks	Lecture & Lab	Assignments	Interact and Participate, and a Surprise Quiz
5	4	Queues	Lecture & Lab	Assignments	Interaction, Participation, and Quarterly Quiz
6	4	Recursion	Lecture & Lab	Assignments	Interaction, Participation,

					and Repot
7	4	Midterm Review & Exam	Lecture & Practice	Midterm Exam	Interaction, Participation, and Assignments
8	4	Trees	Lecture & Lab	Assignments	Interaction, Participation, and Assignments
9	4	Binary Search Trees	Lecture & Lab	Assignments	Presenting and Explaining Reports Through Presentation
10	4	Heaps	Lecture & Lab	Assignments	Interaction, Participation, and Assignments
11	4	Hashing	Lecture & Lab	Assignments	Daily Quiz
12	4	Graphs	Lecture & Lab	Assignments	Interaction and Participation
13	4	Advanced Graph Algorithms	Lecture & Lab	Assignments	Reports
14	4	Review & Integration	Lecture & Practice	Review Activities	Presenting and explaining reports through a presentation
15	4	Review & Integration	Lecture & Practice	Review Activities	

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)	
Main references (sources)	•Cormen et al., Introduction to Algorithms •Narasimha Karumanchi, Data Structures and Algorithmic Thinking with Python
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	•visualgo.net, pythontutor.com, LeetCode,

	HackerRank
development plan	
The development plan for this course aims to update and enhance the scientific content to keep pace with the latest advancements in the field of data structures and their practical applications. The plan focuses on: Adding updated content that includes advanced data structures such as Trie, Segment Tree, and Fenwick Tree, and linking them to real-world applications in data management systems and artificial intelligence. Improving teaching methods to be more interactive through group discussions, teamwork, and project-based learning (PBL). Linking the course to modern applications in areas such as data analysis, cybersecurity, and software development, to highlight the importance of data structures in industry.	

(Course Description Form)

1-Teaching Institution
Administrative Technical College / Mosul
2- University Department/Centre
Northern Technical University / Department: Information techniques management
3-Course title/code
English Language /NTU400
4- Available forms of attendance
Presence/face to face
5- Semester/Year
Fall Semester/ Fourth level /2024-2025
6-Number of hours tuition (total)
30 hours
7- Date of production/revision of this specification
30/6/2025
8-(Course Objectives)General Course Objectives
1 .Provide students with basic concepts related to the use of English language 2. Provide students with basic vocabulary 3 .Enable the students to construct simple sentences. 4 .Enable the students to communicate effectively. 5. Provide students with the basic culture and literature of English.

1− Course outcomes, teaching, learning and assessment methods

Learning Outcomes (LOS)	Learning and teaching methods	Evaluation methods
1The student learns about the nature of English language.	Theoretical lectures using educational tools (PowerPoint presentations	Daily and monthly tests
2-To explain to construct sentences in English.	Theoretical lectures	management Solving exercises within the lecture and assigning external homework

3–Developing students' ability to communicate effectively. Provide student with the basic knowledge of culture and literature.	View the companies' work and achievements	Discussions and dialogues

2- Course steuctuer (theoretical and scientific vocabulary)

Week	Hours	Required learning outcomes	Name of the unit/topic	Teaching method	Evaluation method
First	2	Student understanding the lesson	Passive and act voices	Lecture	Daily and monthly tests
Second	2	Student understanding the lesson	Present simp continuous a perfect	Lecture	Daily and monthly tests
Third	2	Student understanding the lesson	Past simp continuous a perfect	Lecture	Daily and monthly tests
fourth	2	Student understanding the lesson	Conditional sentences: Advanc	Lecture	Daily and monthly tests
Fifth	2	Student understanding the lesson	Function Language	Lecture	Daily and monthly tests
Sixth	2	Student understanding the lesson	Interrogative sentences	Lecture	Daily and monthly tests
Seventh	2	Student understanding the lesson	Imperative a negative sentence	Lecture	Daily and monthly tests
The eighth	2	Student understanding the lesson	Writing	Lecture	Daily and monthly tests

Ninth	2	Student understanding the lesson	Reading	Lecture	Daily and monthly tests
tenth	2	Student understanding the lesson	Speaking	Lecture	Daily and monthly tests
Eleventh	2	Student understanding the lesson	Short story 1	Lecture	Daily and monthly tests
Twelfth	2	Student understanding the lesson	Short story 2	Lecture	Daily and monthly tests
Thirteenth	2	Student understanding the lesson	Writing ab different topics	Lecture	Daily and monthly tests
Fourteenth	2	Student understanding the lesson	Academic writing	Lecture	Daily and monthly tests
Fifteen	2	Student understanding of lesson	General Exam	Lecture	Daily and monthly

1- Curriculum development plan

2-Aligning learning outcomes with the National Qualifications Framework:

*Formulating clear and measurable learning outcomes.

*Linking course outcomes to the skills and knowledge required by the labor market.

3- Developing teaching methods and techniques

*Introducing active learning methods (such as problem-based learning, brainstorming, and P2 studies.

*Using modern technology in presenting the material (such as e-learning, educational videos, simulations.

4- Enhancing students' critical and analytical thinking skills:

2- infrastructure	
Classrooms, laboratories and workshops	Available
Required books and curriculum	Publications on English Language available in t college library and the university's central library
Main references (sources)	
Recommended books and references New Headway Plus (Intermediate) , John and Liz Soars, Oxford (Student's Book) New Headway Plus (Intermediate) , John and Liz Soars, Oxford (Workbook) (Scientific journals, reports،……)	Scientific and Applied Research Projects
Electronic references and websites	English language websites.

Course Description Form 2024-2025 (Systems Analysis)

1. Educational Institution: Mosul Technical College of Administration
2. Academic Department/Center: Department of Information Technology Management/Level One
3. Course Name / Code Systems Analysis / ELM405
4. Available Attendance Formats: Weekly
5. Semester/Year/ Fall Semester/2025
6. Number of Class Hours (Total): 60 Hours
7. Date of Preparation: June 30, 2025
8. Course Objectives: This course aims to provide a clear understanding of how to analyze systems—whether they are outdated and ineffective or newly developed, and whether they are manual, automated, or semi-automated. The student is expected to study the following stages: planning, analysis, design, implementation and testing, and operation and maintenance. The course offers students practical training opportunities across various sectors, enabling them to acquire system analysis skills in different stages.
9. Course Outcomes, Teaching, Learning, and Evaluation Methods

A. Cognitive Objectives

- A1: Understand the concept of system analysis and the roles of a system analyst.
- A2: Identify levels of information within an organization and learn how to collect, analyze, and document them.
- A3: Understand the steps and requirements of system design.
- A4: Learn the criteria for evaluating available alternatives and selecting the optimal one.

B. Skills-Based Objectives

- B1: Understand the importance and elements of communication in system analysis and design.
- B2: Ability to select and employ appropriate analysis tools for studying a specific system.
- B3: Ability to understand and interpret system analysis tools, such as:
  - Decision Tables
  - Flowcharts
  - Gantt Charts
  - Queuing Models
  - Network Diagrams
- B4: Enable students to analyze systems and trace administrative problems using scientific and applied methods.
- B5: Teach students to identify and compare different alternatives and select the most suitable one.
- B6: Introduce students to effective communication methods within and outside the system at various levels.
- B7: Encourage students to build professional relationships with stakeholders involved in the system.
- B8: Train students to prepare research projects, deliver detailed presentations, and respond to related questions.
- B9: Involve students in actively participating in teamwork to fulfill required tasks.

C. Emotional and Value-Based Goals

- C1: Foster a sense of belonging to a team within the institution and a desire to give one's best.
- C2: Encourage healthy competition to enhance academic performance.
- C3: Reinforce students' sense of belonging to their field and inspire interest in working in information institutions.

D. General and Transferable Skills (other skills related to employability and personal development).

- D1: Teach students research and report writing skills
- D2: Enable students to connect theoretical knowledge with practical applications in the workplace
- D3: Teach students how to handle information sources, analyze them, and summarize extracted data through objective analysis
- D4: Train students to design databases, websites, and implement programs that serve various scientific fields

E. Teaching and Learning Methods

- Regular field visits to administrative and technical institutions
- Real-world immersion and direct interaction with professionals during practical (summer) training
- Psychological and emotional motivation through open discussions with students

F. Assessment Methods

- Periodic tests
- Pop quizzes
- Classroom participation and interaction
- Research assignments and reports
- Practical and applied exams

10. Course Structure					
Week	**Hours**	**Intended Learning Outcomes**	**Unit / Topic**	**Teaching Method**	**Assessment Method**
1	4	Clear overview of course contents	Course Introduction, Group Assignments	Lecture and Discussion	Participation
2	4	Understanding system concepts: - Definition & characteristics - System levels	System Concept	Lecture and Discussion	Participation
3	4	- System boundaries - System functions	System Components and Functions	Lecture and Discussion	Participation + Daily Test
4	4	System levels and interactions	System Relationships	Lecture + Practical	Participation + Pop Quiz
5	4	- Definition of system analysis - Analysis procedures - Team formation - Roles of team members	System Analysis	Lecture and Discussion	Participation + Midterm Test
6	4	System Analysis Tools: - Org charts - Gantt chart - Network model - Queuing model - Decision tables - Flowcharts	Analysis Tools: Structures	Lecture + Practical	Participation + Reports
7	4	System Analysis Tools: - Org charts - Gantt chart - Network model - Queuing model	Tools: Gantt & Network	Lecture + Practical	Participation + Assignments
8	4	Tools: - Queuing - Decision tables - Flowcharts	Tools: Queuing & Decisions	Lecture + Practical	Participation + Assignments
9	4	Tools: - Network model - Queuing model - Flowcharts	Midterm: Presenting Diagrams	Lecture + Practical	Oral Presentation
10	4	Flowchart tools	Tools: Flowcharts	Lecture + Practical	Participation + Assignments
11	4	Importance of communication in systems: - Concept, types, and forms - Effective communication elements - Info flow & feedback - Information sources	Communication	Lecture and Discussion	Daily Test
12	4	Tenders and proposals: - Needs assessment - Preparing request documents - Tender formats - Proposal evaluation	Tenders & Proposals	Lecture and Discussion	Participation
13	4	Form design: - Basics - Elements - Uses - Common design flaws	Form Design	Practical	Reports
14	4	Coding and encoding: - Definition - Forms and types - Design principles	Final Report Presentation	Practical	Oral Presentation
15	5	Business Ethics and Corporate Social Responsibility	Define managerial ethics and corporate social responsibility	Lectures and discussions	Interaction and participation
16	–	Final Exam	Assess overall understanding of course outcomes	–	–

11. Infrastructure	
Required Textbooks	*(Not specified)*
Main References (Sources)	Saeed Ghaleb Yassin. *Analysis and Design of Information Systems*. Cairo: Dar Al-Manhaj Publishing & Distribution, 2000, 1st Ed.
Recommended Books and References (Scientific Journals, Reports)	Scientific journals in the field of Information Technology
Electronic References and Websites	Specialized websites in the field

12. Course Development Plan

- Holding regular meetings with the teaching staff at the end of each semester to evaluate current syllabi, suggest updates, and incorporate new lessons. These updates are documented in the course description forms and submitted for approval by the College Council and University Council as per university directives. The curricula are then published and made available online, with lectures uploaded electronically.
- Supplying the college library with the latest scientific books from reputable international publishers that support course content.

Course Description Form

1. Course Name:	
Scientific research methodology	
2. Course Code:	
NTU 410	
3. Semester / Year:	
Level 4 (Fourth Year) /2024 – 2025	
4. Description Preparation Date:	
30/6/2025	
5. Available Attendance Forms:	
Mandatory/weekly	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours/2 units	
7. Course administrator's name (mention all, if more than one name)	
Name Prof. Dr. Mahmood Khleef	
8. Course Objectives	
Course Objectives	By the end of the course, the student is expected to be able to: 1. Explain the concept of scientific research, its objectives, and its importance in solving scientific and applied problems. 2. Distinguish between different types of research and scientific methodologies, and select the appropriate methodology for their research topic. 3. Select and formulate a clear research problem, defining suitable objectives and hypotheses. 4. Search reliable scientific sources and references, and prepare a structured literature review. 5. Design a comprehensive scientific research plan according to sound methodological principles. 6. Select and practically apply the appropriate data collection tool. 7. Analyze data using appropriate statistical methods and analysis software.

	8. Discuss results, relate them to objectives and hypotheses, and provide practical, scientific recommendations. 9. Write the scientific research in correct academic style, adhering to research ethics and proper referencing. 10. Prepare a publishable research paper for submission to a peer-reviewed scientific journal and present it formally.
9. Teaching and Learning Strategies	
Strategy	1. Interactive lectures 2. Project-based learning 3. Teamwork 4. Problem-based learning 5. Practical workshops 6. Presentations and classroom discussions 7. Blended e-learning

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The student should be able to explain the concept, importance, and characteristics of scientific research; distinguish between research and reports; and explain the role of scientific research in sustainable development.	**Introduction to Scientific Research:** Definition, importance, characteristics of good research, difference between research and reports, role of scientific research in sustainable development.	Interactive lecture + classroom discussion	Classroom participation and discussion

2	2	The student should classify types of scientific research (basic, applied, descriptive, experimental, analytical, case studies) and determine the use of each type.	**Types of Research:** Basic, applied, descriptive, experimental, analytical, and case studies.	Interactive lecture + practical examples	Daily short oral quiz
3	2	The student should explain how to select a research topic and clearly formulate the research problem, mentioning its key elements.	**Choosing a Research Topic and Formulating the Problem:** How to choose an appropriate topic, defining and formulating the research problem, components of the research problem.	Practical workshop + group activity	Group activity assessment (choosing a research topic)
4	2	The student should formulate precise research objectives, develop suitable hypotheses, and explain the difference between hypotheses and research	**Formulating Research Objectives and Hypotheses:** Precise formulation of research objectives, types of research hypotheses, difference between	Individual practical application + student discussion	Individual assignment (formulating objectives and hypotheses)

		questions.	hypotheses and research questions.		
5	2	The student should search various scientific sources (books, articles, theses) and use reference management tools like Mendeley.	**Scientific Sources:** Methods for searching scientific sources (books, articles, theses), using digital libraries, searching via Google Scholar, managing references using software like Mendeley.	Training on database searching + research assignment	Assignment for collecting and referencing sources
6	2	The student should analyze previous studies, identify research gaps, and write a structured literature review.	**Review of Previous Studies:** How to analyze previous studies, identify research gaps, and write a literature review.	Scientific article analysis + classroom discussion	Literature review summarization exercise
7	2	The student should choose the appropriate research methodology and apply different data collection tools according to research needs.	**Research Methodologies and Data Collection Tools:** Selecting the appropriate research methodology (descriptive, experimental, analytical), data collection tools (questionnaire,	Practical activity for designing data collection tools	Evaluation of student-prepared data collection tool

			interview, observation, experiments).		
8	2	The student should design a comprehensive research plan including objectives, hypotheses, methodology, tools, and a timeline.	**Designing the Research Plan:** Preparing the research plan (introduction, objectives, hypotheses, methodology, tools, timeline), writing and formatting it properly.	Research plan preparation workshop + feedback session	Preliminary evaluation of the research plan
9	2	The student should explain the concepts of population and sample, determine the appropriate sampling method, and calculate sample size.	**Population and Sampling:** Defining population and sample, sampling methods (random, stratified, purposive), calculating sample size and its impact on results.	Lecture + practical application on sampling	Short daily quiz on sampling and population
10	2	The student should use basic statistical analysis methods to present data using SPSS or Excel, with results displayed in tables and charts.	**Data Analysis and Results Presentation:** Statistical analysis methods, graphical representation, using SPSS and Excel, presenting results in tables and	Practical training using SPSS/Excel	Evaluation of mini data analysis report

			charts.		
11	2	The student should discuss results, relate them to previous studies, and formulate clear and applicable recommendations.	**Discussion of Results and Recommendations:** How to interpret results, relate them to previous studies, formulate conclusions and practical recommendations	Classroom discussion of real results + group activity	Activity for discussing results and recommendations
12	2	The student should write the scientific research report in standard academic format following its main components.	**Scientific Research Writing in Academic Format:** Structure of the research paper (title, abstract, introduction, methodology, results, discussion, recommendations, references), research ethics.	Research report writing workshop + review	Preliminary assessment of the written research draft
13	2	The student should prepare a publishable research paper, select an appropriate journal, recognize predatory journals, and explain	**Scientific Publishing in Peer-Reviewed Journals:** How to prepare a paper for publication, choosing the appropriate journal (Scopus, Web of	Specialized lecture on scientific publishing + analysis of published papers	Evaluation of a publishable research paper

		submission steps and dealing with reviewers.	Science), identifying predatory journals, submission process, handling reviewers' comments, authorship and intellectual property rights.		
14	2	The student should deliver a clear research presentation, participate in discussing and evaluating peers' presentations, and correct methodological and scientific errors.	**Student Research Presentations and Discussions**: Students present mini research projects, discuss their methodology and scientific content, correct common errors.	Student presentations + group discussions	Assessment of presentation and research project discussion
15	2	The student should demonstrate understanding of the course content by successfully passing the final exam.	**Final Evaluation**	Final exam	Final exam + final project evaluation
11. Course Evaluation					
(Grade out of 100) 1. Classroom participation and weekly activities: 10% 2. Individual and group assignments: 10%					

3. Periodic short quizzes (at least two): 10% 4. Research presentation and discussion: 10% 5. Final written exam: 60%

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	Lectures on the Methodology and Philosophy of Scientific Research, Professor Dr. Iyad Youssef Al-Hajj Ismail, First Edition, 2019.
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	