Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

2024-2025

Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

Concepts and terminology:

Academic Program Description: The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

Course Description: Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

Program Vision: An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

Program Mission: Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

Program Objectives: They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

Curriculum Structure: All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

Learning Outcomes: A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

Teaching and learning strategies: They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

Academic Program Description Form

University Name: **Al-Furat Al-Awsat Technical University**

Faculty/Institute: **Mussaib Technical Institute**

Scientific Department: **Department of Civil Technology**

Academic or Professional Program Name: **diploma**

Final Certificate Name: **Diploma in building and construction technologies**

Diploma in computer graphics techniques

Academic System: annual

Description Preparation Date: **2024–2025**

File Completion Date: /2/2025

Signature:

Head of Department Name:

Date:

Signature:

Scientific Associate Name:

Date:

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Approval of the Dean

Academic Program Description Form

University Name: Al-Furat Al-Awsat Technical University

Faculty/Institute: Mussaib Technical Institute

Scientific Department: Department of Civil Technology

Academic or Professional Program Name: diploma

Final Certificate Name: Diploma in building and construction technologies
Diploma in computer graphics techniques

Academic System: annual

Description Preparation Date: 2024–2025

File Completion Date: /2/2025

Signature:

Head of Department Name:
prof. Dr. Jawad AL-Rifaie

Date: 24/02/2025

Signature:

Scientific Associate Name:
Dr. Mohammed Hadi Sabr.

Date: 24/02/2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date:

Signature:

Walaa Hussein Allawi

جامعة الفرات الاوسط التقنية
المعهد التقني المسيب
شعبة ضمان الجودة والاداء الجامعي

Approval of the Dean
٢٠٢٥/٣/٤

Asst. Prof
Dr. Mali... Hawas
DEAN

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1. Program Vision

The department's vision is to be a leader and pioneer in the field of modern civil technologies at the level of education and scientific research and the use and management of those technologies, by providing the graduate with the experiences that qualify him to participate effectively in building and construction work in terms of planning, design and implementation of buildings, roads and sewage networks.

2. Program Mission

The department's mission is to provide the fields of work with distinguished technicians in the field of civil engineering in a way that serves development plans and contributes effectively to the implementation of engineering projects, providing scientific consultations, preparing economic feasibility studies and engineering project designs, publishing solid research that supports the wheel of science and education, as well as providing technical services and contributing to solving current problems, in particular Those related to the lack of schools and the housing crisis.

3. Program Objectives

Graduating technical personnel specialized in the field of civil technologies (building, construction, and computer drawing). The graduate in the computer drawing branch qualifies to draw engineering, architectural, structural, electrical, mechanical, and sanitary plans and land survey maps, and participate in preparing architectural models for civil facilities. The Building and Construction Branch also aims to graduate qualified technical personnel to carry out various civil works sections, conduct laboratory and field examinations, implement maps and surveys, and calculate quantities and dimensions of civil works projects.

4. Program Accreditation

Does the program have program accreditation? And from which agency?

Non

5. Other external influences

Is there a sponsor for the program?

Non

6. Program Structure

Program Structure	Number of Courses	Credit units	Percentage	Reviews*
Institution Requirements	24 20 4	128 114 12		Construction Branch / Annual Drawing branch/ Annual Drawing branch/ quarterly
College Requirements	24 20	128 114		Construction Branch / Annual Drawing branch/ Annual Drawing branch/ quarterly

	4	12		
Department Requirements	24 20 4	128 114 12		Construction Branch / Annual Drawing branch/ Annual Drawing branch/ quarterly
Summer Training				Fulfillment only
Other				**For building and construction branch:** **16 courses are specialism** **2courses are assistant** **4courses are general** **For drawng by computer branch:** **15courses are specialism** **3courses are assistant** **6courses are general**

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First / Construction Branch		Construction materials	2	2
First / Construction Branch		Engineering mechanics	2	1
First / Construction Branch		Surveying (1)	2	2
First / Construction Branch		Concrete materials	1	2
First / Construction Branch		mathematics	3	-
First / Construction Branch		Computer Applications (1)	1	2
First / Construction Branch		Engineering drawing	-	6
First / Construction Branch		Workshop	-	3
First / Construction Branch		Technical English Language	1	-
First / Construction Branch		Human rights and democracy	1	-
First / Construction Branch		Arabic Language	1	

Second / Construction Branch		Concrete Technology	2	2
Second / Construction Branch		Technology Of Construction	-	4
Second / Construction Branch		Soil Mechanics	2	2
Second / Construction Branch		Civil Drawing	1	5
Second / Construction Branch		Surveying (2)	1	2
Second / Construction Branch		Building And Fabricated Building	2	-
Second / Construction Branch		Computer Application (2)	1	2
Second / Construction Branch		Construction Equipment	2	-
Second / Construction Branch		Quantity Surveying	1	2
Second / Construction Branch		PROJECT	-	2
Second / Construction Branch		Technical English Language	1	-
Second / Construction Branch		Baath Party crimes in Iraq	1	-
Second / Construction Branch		Arabic Language		
The first/drawing branch		Engineering Drawing	-	6
The first/drawing branch		Surveying &Cartography	1	3
The first/drawing branch		Engineering Mechanical	2	1
The first/drawing branch		Construction Materials	2	-
The first/drawing branch		Descriptive geometry	-	3
The first/drawing branch		Mathematics	3	-
The first/drawing branch		Computer application	1	2
The first/drawing branch		Workshop	-	3
The first/drawing branch		Human Rights and Democracy	1	-
The first/drawing branch		Technical English Language	1	-
The first/drawing branch		Arabic Language	1	
Second / drawing branch		Architectural drawing	2	6
Second / drawing branch		Structural drawing	2	4
Second / drawing branch		Highway & irrigation Drawing	1	2
Second / drawing branch		Mechanical Drawing	1	2
Second / drawing branch		Electrical Drawing	1	2
Second / drawing branch		Sanitary Drawing	1	2
Second / drawing branch		Architectural presentation	2	4
Second / drawing branch		Quantity Surveying	1	2
Second / drawing branch		Computer Application	-	2
Second / drawing branch		PROJECT	1	2
Second / drawing branch		Technical English Language	1	-

Second / drawing branch		**Baath Party crimes in Iraq**	**1**	**-**
Second / drawing branch		**Arabic Language**	**1**	**-**

8. Expected learning outcomes of the program

Knowledge	
1- Knowing the steps of engineering drawing and drawing architectural, structural, electrical, mechanical and sanitary plans for the facility and using computer programs in drawing. 2- Knowing how to calculate and estimate the quantities and costs of materials and equipment used in construction work and the productivity of the machines used. 3- Knowing the components of materials used in construction, their types, specifications, tests, and mixing ratios. 4- Knowledge of the use of surveying devices, their types, specifications, and methods of using them in surveying work.	1- The student will obtain the necessary knowledge to enable him to work in the field of civil engineering. 2- Being able to link educational curricula to practical application. 3- Enabling students to obtain knowledge in reading all construction plans. 4- Enables him to work independently in his field of specialization.
Skills	
1- Calculating quantities, costs, and dimensions of various works and using surveying devices. 2- Drawing topographic maps, reading construction and architectural plans, and making models. 3- Analyzing facilities, finding forces and stresses, and conducting soil investigations and tests. 4- Operate the equipment used in examinations skillfully.	1- Identify methods of resisting various stresses in concrete structures using steel reinforcement. 2- Enabling students to display architectural and civil drawings for any building using the AutoCAD program. 3- The effect of mixing ratios on the bearing capacity of solid concrete. 4- Skill in using surveying equipment and finding levels and quantities of backfill and excavation.
Ethics	
1- The ability to deal with emergency developments. 2- Making miniature architectural models. 3- Drawing plans for basins and details of a water station. 4- Choose the best solution from among the available solutions	1- Benefiting from scientific material in understanding the course of events. 2- The ability to lead and confront challenges. 3- Acquire the skill to quickly and accurately complete construction drawings.

	4- Self-reliance in completing drawing on the computer

9. Teaching and Learning Strategies

1- Lectures inside the hall and using the means (datashow, display screen, blackboard)

2- Laboratories and workshops.

3- Summer training.

4- Research projects.

5- Scientific trips.

6- Cooperative education and brainstorming.

7- Learning using computers.

10. Evaluation methods

1- Written tests.

2- Oral exams.

3- Duties.

4- Semester and final exams.

5- Daily exams.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	civil engineering	Structural materials engineering			1	

Professor	civil engineering	Environmental engineering			1	
Teacher	civil engineering	Structural engineering			1	
Teacher	civil engineering	civil engineering			1	
assistant teacher	civil engineering	Construction engineering			1	
assistant teacher	civil engineering	Road engineering			1	
assistant teacher	Power mechanics engineering	Thermal mechanical engineering			1	
assistant teacher	Mechanical Engineering	Metallurgical engineering			1	

Professional Development

Mentoring new faculty members

1- Introducing the department's vision, goals and mission.

2- Explaining the duties and rights of a faculty member.

3- Encouraging scientific publishing, university performance requirements, and annual evaluation.

4- Involving teachers in teaching methods courses and other development courses.

Professional development of faculty members

1- Continuous training.

2- Individual guidance.

3- Communication and cooperation.

4- Continuous evaluation.

5- Research and development.

6- Use of technology.

7- Communication with the community.

12.	**Acceptance Criterion**

1- Central admission for preparatory school students.

2- Direct admission to vocational studies (building, construction, engineering drawing, and surveying)

13.	**The most important sources of information about the program**

- Internet sites
- Corresponding departments and specializations.

14.	Program Development Plan

1- Developing and modernizing laboratories and equipment to suit the current development.

2- Updating the curricula to suit the needs of the labor market.

3- Providing a classroom environment and equipping it with modern equipment for the diversity of modern education strategies.

4- Developing teaching and technical staff through specialized courses and workshops.

Program Skills Outline															
				Required program Learning outcomes											
Year/ Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year / Construction Branch		Construction materials	Specialized		√	√		√			√	√			√
		Engineering mechanics	Specialized		√					√		√			√
		Surveying (1)	Specialized		√		√	√			√	√			√
		Concrete materials	Specialized		√	√		√			√	√			√
		Mathematics	Specialized		√		√	√				√			√
		Computer Applications (1)	Help	√				√	√			√			√
		Engineering drawing	Specialized	√			√		√			√			√
		Workshop	Help		√						√	√			√
		Technical English Language	General			√			√			√			√
		Human rights and democracy	General	√	√				√			√			√
		Arabic Language	General		√				√			√			
		Concrete Technology	Specialized		√	√		√				√			√

		Technology Of Construction	Specialized		√	√		√				√			√
		Soil Mechanics	Specialized		√	√	√			√	√	√			√
		Civil Drawing	Specialized	√		√			√			√			√
		Surveying (2)	Specialized				√	√				√			√
		Building And Fabricated Building	Specialized		√			√				√			√
		Computer Application (2)	Specialized	√			√	√	√			√			√
		Construction Equipment	Specialized		√		√	√				√			√
		Quantity Surveying	Specialized		√	√		√		√		√			√
		PROJECT	Specialized	√			√		√			√			√
		Technical English Language	General		√	√		√		√		√			√
		Baath Party crimes in Iraq	General				√				√	√			√
		Arabic Language	General		**√**	**√**		**√**		**√**					
The fir st/		**Engineering Drawing**	Specialized	√					√			√			√

		Surveying &Cartography	Specialized	√			√	√	√			√			√
		Engineering Mechanical	Specialized		√	√				√		√			√
		Construction Materials	**Specialized**		√	√		√		√	√	√			√
		Descriptive geometry	**Help**	√					√			√			√
		Mathematics	**Specialized**		√	√	√	√		√		√			√
		Computer application	**Help**	√					√			√			√
		Workshop	**Help**		√	√	√	√		√	√	√			√
		Human Rights and Democracy	**General**			√			√			√			√
		Technical English Language	**General**	√			√	√				√			√
		Arabic Language	**Genral**	√			√	√				√			
Second / drawing branch		**Architectural drawing**	**Specialized**	√					√			√	√		√
		Structural drawing	**Specialized**	√					√			√	√		√
		Highway & irrigation Drawing	**Specialized**	√					√			√	√		√

		Mechanical Drawing	**Specialized**	√					√			√	√		√
		Electrical Drawing	**Specialized**	√					√			√	√		√
		Sanitary Drawing	**Specialized**	√					√			√	√	√	√
		Architectural presentation	**Specialized**	√					√			√	√		√
		Quantity Surveying	**Specialized**		√	√	√	√				√			√
		Computer Application	**Specialized**	√			√	√	√			√			√
		PROJECT	**Specialized**	√			√		√	√		√			√
		Technical English Language	**General**	√		√			√		√	√			√
		Baath Party crimes in Iraq	**General**		√			√			√	√			√
		Arabic Language	**General**		√			√			√	√			√

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

Course Description Form

1. Course Name:
Construction materials
2. Course Code:
3. Semester / Year: :
First and second semester /First year
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Attending lectures/laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
120 hours / 240 units
7. Course administrator's name (mention all, if more than one name)
Name: ass. Lecture Ehsan Ali Hasan Email: com.asn@atu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to the properties of materials Construction And methods of producing it and introducing the student to the modern alternatives that currently exist and modern methods in Production and then Qualifying The student performs standard tests to determine the conformity of the materials Construction For specifications and determine the possibility of using it in Construction Which ensures strength and security And economics .**

9. Teaching and Learning Strategies

Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Use field visits to develop skills** • **Use her videos and diagrams as part of lectures** • **Continuous training for self-examination and work**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	**4**	**General description of properties Physical Standard specifications for building materials and their uses in**	**Construction materials**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams**

		buildings			Daily evaluation
second	4	Bricks Clay and methods of making it	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
third	4	Properties, uses and specifications of clay bricks	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	4	Tests for clay bricks	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifth	4	Limestone bricks, glass bricks, properties and manufacturing methods	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	4	Concrete blocks - concrete blocks	Concrete block	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	4	Thermiston , its properties, and methods of manufacturing	Thermiston	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Eighth	4	Discussing the visit to the brick factory	A site visit to a brick factory	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

Ninth	**4**	**Building stone - its classification and types**	**Stone**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
tenth	**4**	**Uses of building stone according to its types**	**Stone**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
eleventh	**4**	**Bonding materials and their types And methods of manufacturing and testing**	**Bonding materials**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
twelfth	**4**	**Materials that resist moisture (cement mortar, cement mortar - limestone), limestone, how to make it, its properties**	**Bonding materials**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Thirteenth	**4**	**Binders that do not Resists moisture (plaster) properties and workmanship**	**Bonding materials**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Fourteenth	**4**	**Gypsum products - their types and properties, secondary ceiling materials and their types**	**Bonding materials**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Fifteenth	**4**	**Application materials, tiles, tiles and their types**	**Tiles**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
sixteen	**4**	**Manufacturing methods - application method –**	**Tiles**	**lecture Laboratory**	**Written tests and**

		joints		workshop summer training	semester exams final exams Daily evaluation
seventeenth	4	Materials The prohibitive Humidity, its types and causes Usage	Moisture-repellent materials	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	4	Materials The prohibitive For high humidity, its types, manufacturing methods and uses	Moisture-repellent materials	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	4	Materials The prohibitive Semi-flexible and flexible hygrometers, their types, uses, manufacturing methods, and liquid materials The prohibitive For moisture	Materials The prohibitive For moisture	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twentieth	4	Epoxy, its definition, properties, types, and uses	Epoxy	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	4	Wood - its origin and types Used And ways to use it.	the wood	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	4	Wood drying methods and wood defects	the wood	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	4	Metals (ferrous and non-ferrous materials) and their uses in buildings	Metals	lecture Laboratory workshop	Written tests and semester

				summer training	exams final exams Daily evaluation
twenty fourth	4	Iron, methods of making it, its types and uses	Iron	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	4	Thermal insulation materials Its types, methods of use and installation	Thermal insulation materials	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty-sixth	4	Sound insulation materials types and methods of installation and use	Sound insulation materials	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty seventh	4	Dyes Its types and ways to use it	Dyes	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty-eighth	4	the glass Its types and methods of composition and production	the glass	lecture Laboratory workshop summer training	Written tests and semester exams final exams
Twenty ninth	4	Asphalt, properties of asphalt materials	Asphalt	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
thirty	4	Types of asphalt and its uses in construction works	Asphalt	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

11. Course Evaluation
The grade distribution out of 100 is as follows Semester: 20% theoretical, 20% practical, year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	**Construction materials - Jalal Bashir Sarsam and Saeed Abdel-Aali**
Main references (sources)	**Building installation - Anis Jawad/Building Construction - Zuhair Sako**
Recommended books and references (scientific journals, reports...)	**Iraqi standard specifications and the resident engineer's guide for construction projects**
Electronic References, Websites	**Accredited academic websites**

Course Description Form

1. Course Name:	
Engineering mechanics(Construction branch+ Drawing branch)	
2. Course Code:	
3. Semester / Year:	
First and second semester /First year	
4. Description Preparation Date:	
7−2−2025	
5. Available Attendance Forms:	
Attending the lecture (inside the class)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
90 hours / 180 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Lecture Dr. Ammar abd Alameer Hussein Email: ammar@atu.edu.iq	
8. Course Objectives	
Course Objectives	• **Analysis of forces and loads exerted on objects** • **Extracting the stresses and strains resulting from these forces** • **Its relationship to the materials that make up these bodies**
9. Teaching and Learning Strategies	

Strategy	Analyzing structures and finding the forces and stresses in their pa as a result of external loads and their relationship to the dimensio of the various parts in engineering facilities so that they c withstand the stresses placed on them safely and economically.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	3	Learn about the mechanics	Definition of mechanics, general review of physics topics related to the subject, trigonometric ratios of angles, vector and non-vector quantities.	lecture	Written tests Semester examinations Final exams Daily evaluation
Second & Third	3	Learn about forces analysis	Analysis and synthesis of forces, the law of the force triangle and the force polygon.	lecture	Written tests Semester examinations Final exams Daily evaluation
Forth	3	Know the calculation of moments of forces	Moment of forces	lecture	Written tests Semester examinations Final exams Daily evaluation
Fifth	3	Calculating of couples	Couples	lecture	Written tests Semester examinations Final exams Daily evaluation
Sixth & Seventh	3	Find the resultant of the forces	The resultant of convergent, non-convergent, and parallel forces	lecture	Written tests Semester examinations Final exams Daily evaluation
Eighth	3	Load analysis	Spread weights	lecture	Written tests Semester examinations Final exams Daily evaluation
Ninth & Tenth	3	Equilibrium of forces	Equilibrium, drawing a free body diagram, equilibrium equations, equilibrium in the case of convergent, non-convergent, and parallel forces.	lecture	Written tests Semester examinations Final exams Daily evaluation
Eleventh	3	Identify beams	Types of beams, types of supports, balance in the beams.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twelveth	3	Identify trusses	Trusses, analysis of	lecture	Written tests

& Thirteenth			trusses using joints and sections.		Semester examinations Final exams Daily evaluation
Fourteenth & Fifteenth	3	Learn about friction	Friction, nature of friction, theory of friction, laws of friction, types of friction, general applications.	lecture	Written tests Semester examinations Final exams Daily evaluation
Sixteenth & Seventeenth	3	Identify the center of gravity	Centers of gravity of simple and complex geometric shapes and their applications	lecture	Written tests Semester examinations Final exams Daily evaluation
Eighteen & Nineteenth	3	Identify the moment of inertia	Moment of inertia of simple and complex geometric shapes and their applications.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twentieth	3	Identify the resistance and stresses of materials	Introduction to the resistance of materials, definition of stresses and their types, safety factor.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty-first	3	Examples of stress	Applications to stress.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty-second	3	Recognizing strain	Strain, Hooke's law, the relationship of strain to stress.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty third	3	Learn about Poisson's ratio	Lateral strain, Poisson's ratio, applications to strain and stress.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty fourth	3	Learn about drawing shear and moment diagrams	Applications to drawing shear and bending moment equations for beams	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty-fifth	3	Identify the applications of bending stresses	Bending stress of beams and their applications.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty-sixth & Twenty-seventh	3	Identify the applications of shear stresses	Shear stress of beams and their applications.	lecture	Written tests Semester examinations Final exams Daily evaluation
Twenty-eighth	3	Identify compound	Beams made of two	lecture	Written tests

		beams	**different materials and their applications**		**Semester examinations Final exams Daily evaluation**
Twenty-ninth & Thirty	**3**	**Applications to drawing shear forces and moments**	**Applications to drawing shear and bending moment equations for beams**	**lecture**	**Written tests Semester examinations Final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows:
The first semester is 20% theoretical and the second semester is 20% theoretical
One year's work, daily exams, and reports (evaluation) 10%.
Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Engineering mechanics
Main references (sources)	Engineering mechanics - static
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Check out websites in this field

Course Description Form

1. Course Name:	
Surveying (1) (Construction Branch)	
2. Course Code:	
3. Semester / Year:	
First and second semester / first year	
4. Description Preparation Date:	
2-2-2025	
5. Available Attendance Forms:	
Attend a lecture	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120 hours / 240 units	
7. Course administrator's name (mention all, if more than one name)	
Name: A.T Anghreed Ali Shandel Email: :aenghreed.shandel.ims@atu.edu.iq	
8. Course Objectives	
Course Objectives	**1-**Teaching the student the basics of surveying a its use for civil engineering purposes 2-Enabling the student to use surveying devices 3-Teach to implement maps for projects

9. Teaching and Learning Strategies	
Strategy	1-Identify surveying devices . 2-Learn about methods of calculating levels . 3-Learn about the types of maps and how to draw them .

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	Learn about Definition of space its areas sections uses units of measurement	Definition of space its areas sections uses units of measurement	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
2	4	Learn about Measuring horizontal distances On flat terrain (orientation process) measuring the horizontal distance on land with irregular slope	Measuring horizontal distances On flat terrain (orientation process) measuring the horizontal distance on land with irregular slope	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
3	4	Learn about Measuring horizontal distances On regularity sloping land (if the height difference is known if the degree of slope of the land is known in the angle of slope of the land is known	Measuring horizontal distances On regularly sloping land (if the height difference is known if the degree of slope of the land is known in the angle of slope of the land is known	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
4	4	Learn about Setting up and dropping columns erection methods and projection	Setting up and dropping columns erection methods and projection	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
5	4	Learn about Wiping with tape (cases of padding when lifting)	Wiping with tape (cases of padding when lifting)	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
6	4	Learn about Plane plate its parts methods of lifting the plane plate (ray method)	Plane plate its parts methods of lifting the plane plate (ray method)	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
7	4	Learn about Front cross lift method rotation method (lock error and how to	Front cross lift method rotation method (lock error and how to correct it) surveying advantages	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation

		correct it) surveying advantages with a flat plate and its equalizers	with a flat plate and its equalizers		
8	4	Learn about Settlement definitions related To it its purposes	Settlement definitions related To it its purposes	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
9	4	How to calculate point levels using the scale surface method and solve examples	How to calculate point levels using the scale surface method and solve examples	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
10	4	Learn about How to calculate point levels using the rise and tall method and solve examples	How to calculate point levels using the rise and tall method and solve examples	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
11	4	Learn about Double leveling the effect of the sphericity of the earth light refractions on leveling work	Double leveling the effect of the sphericity of the earth light refractions on leveling work	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
12	4	Learn about Inverted settlement reciprocal (inverse)	Inverted settlement reciprocal (inverse)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
13	4	Learn about Sources of errors in leveling work degree of accuracy amount of permissible error	Sources of errors in leveling work degree of accuracy amount of permissible error	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
14	4	Learn about Longitudinal sections drawing A longitudinal section solving Examples	Longitudinal sections drawing A longitudinal section solving Examples	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
15	4	Learn about Cross sections finding the levels Of the cross section points	Cross sections finding the levels Of the cross section points drawing the cross section	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation

		drawing the cross section			
16	4	Learn about Construction line calculating the slop of the construction line finding the levels of the construction line points it the slope is known (drawing the line)	Construction line calculating the slop of the construction line finding the levels of the construction line points it the slope is known (drawing the line)	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
17	4	Learn about Calculating land areas and cross sections using demarcation methods mathematical laws and coordinates	Calculating land areas and cross sections using demarcation methods mathematical laws and coordinates	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
18	4	Learn about Calculating areas using a Plano meter	Calculating areas using a Plano meter	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
19	4	Learn about Calculating the sizes dirt quantities	Calculating the sizes dirt quantities	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
20	4	Learn about Checking and adjusting the leveling device balancing the leveling lines	Checking and adjusting the leveling device balancing the leveling lines	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
21	4	Learn about Properties the contour interval the factors on which the contour inter depends contour space setting contour lines	Properties the contour interval the factors on which the contour inter depends contour space setting contour lines	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
22	4	Learn about Methods for determining contour lines indirect methods sections set points method	Methods for determining contour lines indirect methods sections set points method	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation

23	**4**	**Learn about Drawing contour lines**	**Drawing contour lines**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
24	**4**	**Learn about Regressions calculating the volumes of tanks**	**Regressions calculating the volumes of tanks**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
25	**4**	**Learn about Deviations circular deflection abbreviation local gravity**	**Deviations circular deflection abbreviation local gravity**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
26	**4**	**Learn about Surveying (lifting) using the compass and applied exercises On how to calculate surveying Using the compass**	**Surveying (lifting) using the compass and applied exercises On how to calculate surveying Using the compass**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
27	**4**	**Learn about Curves horizontal curves their types**	**Curves horizontal curves their types**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
28	**4**	**Learn about Designing a simple circular curve (equations for this) drawing a simple circular curve**	**Designing a simple circular curve (equations for this) drawing a simple circular curve**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
29	**4**	**Learn about Vertical curve –vertical curve design**	**Vertical curve –vertical curve design**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
30	**4**	**General review**	**General review**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**

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)	Surveying (1)
Main references (sources)	Surveying book

Recommended books and references (scientific journals, reports...)	A collection of books in the field of Surveying
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:
Concrete materials (Construction branch)
2. Course Code:
3. Semester / Year: :
First and second semester /First year
4. Description Preparation Date:
3-2-2025
5. Available Attendance Forms:
Attending lectures/laboratories
6. Number of Credit Hours (Total) / Number of Units (Total):
90 hours / 180 units
7. Course administrator's name (mention all, if more than one name)
Name: Lecture Dr. Ammar abd Alameer Hussein Email: ammar@atu.edu.iq
8. Course Objectives

Course Objectives	**Introducing the student to the materials that make up concrete** **• Mastering the physical, mechanical and chemical properties of these materials and their effect on concrete** **• The practical part includes the necessary tests for these materials**

9. Teaching and Learning Strategies

Strategy	• **Identify the materials that make up concrete and their properties.** • **Knowledge of conducting tests on concrete mix components.** • **Knowledge of conducting concrete mix tests.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First & Second	**3**	**Identify concrete**	**General principles about concrete (its definition, composition, terminology, and**	**lecture + Laboratory**	**Written tests and semester exams final exams**

			properties).		Daily evaluation
Third & Fourth & Fifth	3	Identify cement	Portland cement, its manufacture, chemical composition, and types.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Sixth	3	Types of cement	Other types of cement (natural cement, expanding cement, aluminum cement) and specifications of each type.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Seventh & Eighth	3	Identify the properties of cement	Cement properties: smoothness, weight loss by combustion, cement stability, heat of hydration.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Ninth & Tenth	3	Identify the setting time of cement	Completion of cement properties: initial and final setting time, compressive strength, tensile strength.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
eleventh	3	Identification of aggregates	Aggregates: classification of aggregates, methods for taking models, shape of particles, surface texture of particles, durability of aggregates.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Twelfth To Sixteen	3	Identify the mechanical properties of aggregates	Mechanical properties of aggregate: (specific gravity, unit weight of compacted and unconsolidated, gradation, porosity, ability to absorb, corrosion - abrasion, sand swelling).	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Seventeen & Eighteen	3	Identify the chemical characteristics of aggregates	The proportion of salts, organic materials and clay materials in the aggregate, especially sand, interaction with alkaline materials.	lecture + Laboratory	Written tests and semester exams final exams Daily evaluation
Nineteen & Twenty	3	Identification of light aggregate	Light and heavy aggregate: Types of light weight agg. (Natural and artificial), advantages and	lecture + Laboratory	Written tests and semester exams final exams

			disadvantages of light aggregate compared to ordinary aggregate.		**Daily evaluation**
Twenty first & Twenty second	**3**	**Identify the uses of light aggregate**	**Specifications of light aggregate used in structural concrete, specifications of light aggregate used in insulating concrete, and specifications of light aggregate used in the production of concrete blocks.**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**
Twenty third	**3**	**silica fume**	**Uses of silica, silica fume, and fly ash in concrete production in terms of specifications and effects.**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**
Twenty fourth	**3**	**Identify the specifications of the mixture water and ripening**	**Water used in concrete production: mixing water, curing water, and specifications of each type.**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**
Twenty fifth	**3**	**Identify fibers**	Fibers used in concrete (types, specifications).	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**
Twenty-sixth & Twenty seventh	**3**	**Identify additives for concrete**	**Admixtures for concrete: types and reasons for using each type (mixing water reducing admixtures, delay admixtures, accelerating admixtures, operational improvement admixtures, refining admixtures, anti-freeze admixtures.**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**
Twenty-eighth & Twenty ninth	**3**	**Identify the chemical composition of additives and their specifications**	**Chemical composition of the additives, homogeneity of the substance, checking the specific gravity of the additives, examining the remaining residues**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**

			by drying for liquid additives, examining the remaining residues by drying for solid additives, and the specifications for that.		
Thirty	**3**	**Identify the physical specifications of additives and their physical requirements**	**For concrete admixtures according to standard specifications (the permissible amount to delay the setting time for delaying materials and the permissible time for acceleration for accelerating materials……..).**	**lecture + Laboratory**	**Written tests and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows Semester: 20% theoretical, 20% practical, year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Concrete**
Main references (sources)	**Concrete technology**
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	**Check out websites in this field**

Course Description Form

13.Course Name:
Mathematics (Construction Branch + Drawing Branch)
14.Course Code:
15.Semester / Year:
First + second semester / First year
16.Description Preparation Date:
8-2-2025
17.Available Attendance Forms:
Weekly lectures
18.Number of Credit Hours (Total) / Number of Units (Total)
90 hours / 180 units
19.Course administrator's name (mention all, if more than one name)
Name:Ali Raheem Yousif Email: ali.yousif@edu.atu.iq

20.Course Objectives	
Course Objectives	**1. Improvement the pupil possibility to yes the mathematics methods for solving different problems** **2.reprentation the mathematics curves.**
21.Teaching and Learning Strategies	
Strategy	Using the modern methods and references and internet

22. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	3	Equations solution by Matrices & Determinants	Matrices , and Their properties	Lectures	Ecxam and Pupil associating
2	3	Exercise solution	Linear equation solution by grammar rule and applications	Lectures	By degree
3	3	Using the solution method in survey	Vectors,vectors analysis		Quiz
4	3	Calculation the angles between two vectors	Vertical vectors unit,vector scale,cross and dot product	Lecture	Questions
5		Function discern, Function shape estimate	The functions ,representation , function drawing	Lecture	Questions and answers and evaluation
6	3	Another types of functions	Exponential function ,hyperbolic function	Lecture	Daily evaluation
7	3	Didcern between function and limit	Limits,algebraic and trigonometric limits,application	Lecture	Daily evaluation
8	3	Examples solution	Numerical andgeometrical series	Lecture	Daily evaluation
9	3	Derivation understand	Derivative , algebraic and trigonometric function derivation	Lecture	-----
10	3	Derivation differene functions	Another types of functions	Lectures	quiz
11	3	Identify the derivation rules of logarithm and trigonometric function	Derivation of logarithm ,trigonometric function	Lecture	Oral questions
12	3	Derivative the exponential and	Exponential and hyperbolic functions	Lecture	Oral questions

		hyperbolicfunction	derivative		
13	3	Use the derivative in different sciences	Derivative applications	Lecture	quiz
14	3	Identify the relation between exponential and logarithm	Exponents and logarithms	Lecture	Oral questior
15	3	application	Physical and geometrical application	Lecture	Evaluation by degree
16	3	Identiy the integration	Integration	Lecture	-----
17	3	Continuous	integration	Lecture	Examples and evaluation
18	3	Example solution	Determinant integration	Lecture	quiz
19	3	Identify double and triple integration	double and triple integration	Lecture	Examples and evaluation
20	3	application	Physical and geometrical application	Lecture	degree
21	3	Another types	Substitution and eparation	Lecture	Examples and evaluation
22	3	Examples and evaluation	partial fractions	Lecture	----
23	3	Using the integration in civil practice	Numerical methods of integration, trapezoidal	Lecture	quiz
24	3	Differential equation solution	Differential equations	Lecture	Examples and evaluation
25	3	Height calculation	Higher ,lower height	Lecture	Examples and evaluation
26	3	Identify the comlex numbers	Complex variables	Lecture	quiz
27	3	Conversion from form to another	Polar form,forms conversion	Lecture	Examples and evaluation

28	3	Count identifation	The count	Lecture	quiz
29	3	Examples and evaluation	Count operations	Lecture	-----
30	3	Continuous	Count operation	Lecture	quiz

23.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	
24.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Text book20%+internet
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Computer Applications (1)(Construction Branch + Drawing Branch)
2. Course Code:
3. Semester / Year:
First and second semester/first year
4. Description Preparation Date:
4−2−2025
5. Available Attendance Forms:
Attend a lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
90 hours / 60 units
7. Course administrator's name (mention all, if more than one name)
Name:Nadya Husain Email: nadya.muslim@atu.edu.iq
8. Course Objectives

Course Objectives	**... The student works on the computers, enters data and obtains On the results.** **• Introducing the student to the computer with an idea of its horizons and its use in different fields and principles Programming and giving him skill in using the computer to implement** **Programs previously prepared for application in his field of specialization**

9. Teaching and Learning Strategies	
Strategy	1-Introducing the student to using the Windows operating system. 2- Introducing the student to the Auto Cad drawing program. 3-Introducing the student to the Microsoft Word printing program. 4- Introducing the student to Excel

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	Learn about the Windows operating system: windows system concept, Its advantages and basic requirements System operating components Desktop home screen, Icon concept, how to deal with Mouse activities, importance and components of the task Bar, make use of Start to enter the programs. Exit the system and turn it off Computer Shut Down	Windows operating system: windows system concept, Its advantages and basic requirements System operating components Desktop home screen, Icon concept ,how to deal with Mouse activities, importance and components of the Task Bar, make use of Start to enter the programs. Exit the system and turn it off Computer Shut Down	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
The Second	3	Learn about the concept of the window for any program and identifying its main components, dealing with desktop icons such as: (My Documents; My Computer; Recycle Bin).	The concept of the window for any program and identifying its main components, dealing with desktop icons such as: (My Documents; My Computer; Recycle Bin).	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
The Third	3	Identify My Computer in terms of disks, folders and files How to deal with formatting floppy disks and copying folders and files, Benefit from cutting, pasting, and knowing the properties of discs Folders and files, dealing with the trash and how to Delete files and recover them	Identify My Computer in terms of disks, folders and files How to deal with formatting floppy disks and copying folders and files, Benefit from cutting, pasting, and knowing the	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation

		through the recycle bin Trash on this side.	properties of discs Folders and files, dealing with the trash and how to Delete files and recover them through the recycle bin Trash on this side.		
The Fourth	3	Getting to know Autocad, getting to know the program, where Its name, the importance of the program, the contents of the program window, and how to create a new file and store it.	Autocad program, getting to know the program, where the name came from, the importance of the program The contents of the program window, and how to create a new file and store it..	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Fifth	3	Learn how to select most AutoCAD commands.	How to select most AutoCAD commands.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Sixth	3	Learn about the toolbars in AutoCAD, how to hide and show them, and customize a special interface for the program.	Toolbars in AutoCAD, how to hide and show them, and customize a special interface for the program.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Seventh and eighth	3	Identify the status bar (Grid, Ortho, Snap, etc.).	Status bar (Grid, Ortho, Snap, ..., etc.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Ninth and the tenth	3	Identify help commands and panel limits (Limits, Units, Zoom)	Auxiliary commands and panel limits (Limits, Units, Zoom).	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Eleven to fifteen	3	Learn about the basic drawing commands from the Draw menu.	Basic drawing commands Draw menu	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Sixteen to twenty	3	Identify the modification commands from the Modify menu	Modify menu commands	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Twenty-first and twenty-second	3	Recognizing Text and Dimension commands.	Text writing commands with Dimension commands.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Twenty third to the	3	Getting to know the Microsoft Word printing program, how to run it and write with it, how to	The Microsoft Word printing program, how to run it and write with it,	Lecture Laboratory	Written tests Quarterly exams final exams

twenty-sixth		store, change font types, modify the paper in terms of margins or flip the paper, use tables, and printing.	how to store it, change font types, modify the paper in terms of margins or flip the paper, use tables, and print within them.		Daily evaluation
27th To the thirty	3	Learn how to run Microsoft Excel and download numerical values Columns, storage, adding new columns or rows, and applying some functions such as addition and other mathematical operations	Microsoft Excel program, how to run it, download numerical values in columns and store, add new columns or rows, and apply some functions such as addition and other mathematical operations.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation

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

Course Description Form

1. Course Name:
Engineering drawing (Construction Branch + Drawing Branch)
2. Course Code:
3. Semester / Year:
First and second semester / first year
4. Description Preparation Date:
7/2/2025
5. Available Attendance Forms:
Attending the lecture (drawing on the board) + computer lab
6. Number of Credit Hours (Total) / Number of Units (Total)
180 hours / 360 units
7. Course administrator's name (mention all, if more than one name)
Name: A.L Ehsan Ali Hasan

Email: : com.asn@atu.edu.iq

8. Course Objectives

Course Objectives	• Teaching the student the basic principles of engineering drawing and computer drawing programs in an efficient and rapid manner, to enable him to express his ideas through it. • Qualifying the student to draw and read engineering maps with knowledge of the architectural and construction terms used in maps.

9. Teaching and Learning Strategies

Strategy	• Lecture (inside the studio) • Drawing on the board • Homework • Drawing on the computer using AutoCAD

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	6	Get to know the basics Drawing and tools used	Basics of engineering drawing, tools used, installing the board, types of fonts, writing in engineering calligraphy	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
2	6	Learn about engineering processes	Geometric operations, bisecting a line segment, bisecting an angle, connecting a straight line with a circle with an arc, connecting two straight lines with an arc, drawing an equilateral triangle, pentagon, hexagon, a straight line tangent to two circles from the inside and outside, an arc tangent to the two circles from the inside and outside.	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
3	6	Learn to draw an ellipse	Ellipse, an application for drawing geometric shapes using basic geometric operations	lecture + Drawing on the board	Written tests Semester exams Final exam Daily

					evaluation
4	6	Learn dimensional mode	Principles of projection, method of placing dimensions on a drawing, exercises on projection	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
5	6	Learn to draw perspective	Isometric perspective drawing	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
6	6	Learn to draw the lost site	Finding the missing location by drawing the isometric perspective	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
7	6	Learn to draw sections	Sections	lecture + Drawing on the board	Written tests Semester exams Final exam Daily evaluation
8	6	Getting to know AutoCAD	AutoCAD applications, redefining the relationship between the AutoCAD program and its use in creating two-dimensional (2D) and three-dimensional (3D) drawings, opening a new page in the program, specifying the drawing field (Limits), drawing a panel frame and a data table, with the application of writing inside the data table (Text).	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
9	6	Learn to use layers in AutoCAD	Identify the types of lines and how to obtain and use them in AutoCAD by placing them in multiple layers, different colors, and different thicknesses (Line weight).	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
10	6	Learn to draw engineering operations using AutoCAD	Drawing basic geometric shapes, triangle, pentagon, hexagon and polygons in general, ellipse, connecting two straight lines with a circle sector, connecting two circles with an arc by	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation

			instructing ((circle Ttr) connecting a straight line with a circle with an arc in the same way		
11 + 12	6	Learn to draw different shapes using the computer	Drawing complex geometric shapes and mechanical parts (applications to engineering processes)	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
13 + 14	6	Learn to draw projections using AutoCAD	Draw projections of three-dimensional shapes and put dimensions on them using multiple layers.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
15	6	Learn to draw projections using AutoCAD	Drawing projections of three-dimensional shapes using different line colors and different thicknesses by changing the properties.	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
16	6	Learn to draw the missing site using AutoCAD	Find the missing projection and continue drawing the projections	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
17	6	Learn additions to drawings using AutoCAD	Adding additions to graphics (Hatch & gradient), and how to add additional patterns to the program from external sources	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
18 + 19	6	Learn to draw three-dimensional shapes using AutoCAD	Drawing a solid shape using the Isometric Snap method	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
20	6	Learn to draw sections using AutoCAD	Draw sections in the same way (Isometric snap)	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
21	6	Learn to draw repeating shapes using AutoCAD	How to repeat shapes using the command (Polar array & Rectangular array)	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
22	6	Learn how to make blocks using AutoCAD	How to make a block to repeat geometric shapes and how to store and recall them	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation
23 + 24	6	Learn to make an integrated panel using AutoCAD	Drawing an integrated drawing that contains the types of drawings (2D) and (3D) and contains a data table and an	lecture + Drawing on the computer	Written tests Semester exams Final exam Daily evaluation

			explanation of the drawings.		
25	**6**	**Learn to display more than one scene on one screen**	**How to display shapes in different views on one screen using the view ports command**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**
26	**6**	**Learn how to open more than one drawing file**	**How to transfer graphics between files and how to open more than one file using the window command)**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**
27	**6**	**Learn how to identify different geometric shapes**	**Individualizing geometric shapes (cube, prism, pyramid)**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**
28	**6**	**Learn the geometric shapes of pyramids and cones**	**Individualizing geometric shapes (truncated pyramid, cone)**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**
29	**6**	**Learn to factor with scale drawing**	**Dealing with the drawing scale and printing method using the plot command))**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**
30	**6**	**Learn to export drawing in different formats**	**How to export drawings from (dwg) to (pdf) and (psd) format by creating virtual printers**	**lecture + Drawing on the computer**	**Written tests Semester exams Final exam Daily evaluation**

11.Course Evaluation

The grade distribution out of 100 is as follows:
First semester practical exam = 15
Second semester practical exam = 15
Works of the year = 20
Final exam = 50

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:	
Workshops (Construction Branch + Drawing Branch)	
2. Course Code:	
3. Semester / Year:	
First and second semester / first year	
4. Description Preparation Date:	
5/2/2025	
5. Available Attendance Forms:	
Attending the lecture (inside the engineering workshops)	
6. Number of Credit Hours (Total) / Number of Units (Total)	
90 hours / 180 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Zahraa Mahmood Hasan Email: zahraa.hasan@atu.edu.iq	
8. Course Objectives	
Course Objectives	**1-** Acquiring the manual skill in using hand tools, measuring tools, and operating machines necessary to prepare the student as a technician in the building and construction specialization.
9. Teaching and Learning Strategies	
Strategy	• Lecture (inside workshops) • Training on the use of equipment • Reports preparation

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Training the student on the general rules of prevention	Industrial safety: general rules for accident prevention, health care equipment and methods of using them.	lecture + In-shop training	Practical tests Daily evaluation
2 + 3	3	Carpentry training	Carpentry: The basic principles of carpentry models and the use of hand tools (cut-off saw, jigsaw, hammer, planer, hammer, file)	lecture + In-shop training	Practical tests Daily evaluation
4 + 5	3	Training on using the saw machine	Use of band saw machines, disc machines, planers, and press machines.	lecture + In-shop training	Practical tests Daily evaluation

6 + 7	3	Training in filing work	Filing: Training students on filing work and using measuring tools, files, automatic sawing devices, hooks, and drills.	lecture + In-shop training	Practical tests Daily evaluation
8 + 9	3	Training on using lathes	Lathe: Using different lathes, lathe operations (plane, internal draw, different tooth work).	lecture + In-shop training	Practical tests Daily evaluation
10	3	Plumbing training	Plumbing: industrial safety in casting, molds, mold formation, and plumbing work steps.	lecture + In-shop training	Practical tests Daily evaluation
11 To 13	3	Training on types of welding	Welding: A. Occupational safety and security precautions. B. Used tools and industrial safety equipment. C. Types of welding (gas, ultrasonic, pressure welding, electric arc welding).	lecture + In-shop training	Practical tests Daily evaluation
14	3	Metal bending training	Metal cutting and bending: Devices and machines used in cutting and bending metal sheets and reinforcing steel bars.	lecture + In-shop training	Practical tests Daily evaluation
15	3	Training students on plumbing work	Plumbing: Training the student on the rolling mill machine and the process of planning on plates.	lecture + In-shop training	Practical tests Daily evaluation
16	3	Learn to use measuring tools	Measurement processes and tools used (tape, vernier, micrometer).	lecture + In-shop training	Practical tests Daily evaluation
17	3	Training in carpentry	Practical applications for carpentry work for civil constructions	lecture + In-shop training	Practical tests Daily evaluation
18	3	Training on wooden door works	Work: Wooden doors (press doors, packing doors).	lecture + In-shop training	Practical tests Daily evaluation
19	3	Wood mold making training	Work: wooden molds.	lecture + In-shop training	Practical tests Daily evaluation
20 + 21	3	Training on rebar works	Applications on reinforcing steel, making roof, bridge and column	lecture + In-shop	Practical tests Daily evaluation

			reinforcement (cutting iron, bending iron and welding pieces).	**training**	
22 + 23	**3**	**Training on steel joining works**	**Exercises on cutting and joining structural steel using rivets, screws, and welding.**	**lecture + In-shop training**	**Practical tests Daily evaluation**
24 + 25	**3**	**Training on facade finishing works**	**Stone and plastering works: cutting, sawing, smoothing, perforation.**	**lecture + In-shop training**	**Practical tests Daily evaluation**
26 To 28	**3**	**Training on water installations**	**Connecting pipes to water installations, threading (use of mechanization), types of accessories for pipes and methods of connecting them, sanitary sewer installations, methods of connecting**	**lecture + In-shop training**	**Practical tests Daily evaluation**
29 + 30	**3**	**Training on the work of a water establishment network**	**Different types of pipes with their accessories, an exercise in making a water and sewage foundation network for a residential house.**	**lecture + In-shop training**	**Practical tests Daily evaluation**

11.Course Evaluation	
The grade distribution out of 100 is as follows: First practical semester = 20 Second practical semester = 20 Business year = 10 Practical final exam = 50	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:
Technical English (Construction Branch + Drawing Branch)
2. Course Code:
3. Semester / Year:

First and second semester / first year
4. Description Preparation Date:
2-2-2025
5. Available Attendance Forms:
Attend the lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
30 hours / 60 units
7. Course administrator's name (mention all, if more than one name)
Name: ass. Lecture Afram Mohamad Muslim Email: afrah.al-sowaidi.ims@atu.edu.iq
8. Course Objectives

Course Objectives	• **The student reviews the simplified ba rules of the English language, which he h previously studied in the previous stages, b at length** • **As well as gradually introducing the student to the technical terminology related to civil jurisdiction and its various branches.**
9. Teaching and Learning Strategies	
Strategy	Lecture (inside the hall) • Show audio videos • Homework • Conducting dialogues between students

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Learn the structure of sentence structure	A/ pronunciation: voiceless consonants B/ elements of sentence structure C/ patterns of sentences	lecture	Written tests Semester exams Final exam Daily evaluation
2	1	Learn the parts of speech	A/pronunciation : voiceless consonants (ii) B/ the part of speech: 1.nouns 2.verbs 3. Adjectives 4. Adverbs	lecture	Written tests Semester exams Final exam Daily evaluation
3	1	Learn the parts of speech	A/ pronunciation : voiced consonants (l) B/ the parts of speech :	lecture	Written tests Semester exams Final exam Daily

			1. articles 2. Demonstratives 3. Pronouns 4. Prepositions 5. Conjunctions 6. Interjunctions		evaluation
4	1	Learn to classify verbs	A/ pronunciation: voiced consonants (ii) B/ ciassification of verbs	lecture	Written tests Semester exams Final exam Daily evaluation
5	1	Learn to pronounce vowels	A/ pronunciation : pure vowels B/ pronouns (I)	lecture	Written tests Semester exams Final exam Daily evaluation
6	1	Learn diphthongs	A/pronunciation :diphthongs B/pronounce (II)	lecture	Written tests Semester exams Final exam Daily evaluation
7	1	Learn additions	A/ types of questions B/genitives	lecture	Written tests Semester exams Final exam Daily evaluation
8	1	Learn the tenses: the present tense	A/ the present simple tense B/the present continuous tense C/ the present perfect tense	lecture	Written tests Semester exams Final exam Daily evaluation
9	1	Learn the tenses: past and future	A/ the past simple tense B/ the past perfect tense C/ future	lecture	Written tests Semester exams Final exam Daily evaluation
10	1	Learn the active and passive voice	A/ active and passive voice B/ the number system in English	lecture	Written tests Semester exams Final exam Daily evaluation
11	1	Learn punctuation	A/punctuation	lecture	Written tests Semester exams Final exam Daily evaluation
12	1	Learn business letters and statements	A/business letters B/tenders	lecture	Written tests Semester exams Final exam Daily evaluation
13	1	Learn terms and	1- Comprehensive paragraphs about the	lecture	Written tests

To 30		**technical matters related to civil engineering**	**branches of civil engineering. 2-Interpretation of the above mentioned paragraphs. 3-Extracting the technical terms. 4-Making an independent sentences by using the terms. 5-Writing a composition using the terms related to the subject under discussion**		**Semester exams Final exam Daily evaluation**

11.Course Evaluation	
The grade distribution out of 100 is as follows: First semester theoretical exam = 20 Second semester theoretical exam = 20 Works of the year = 10 Final exam = 50	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	New Headway Beginner
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:
Human rights (Construction Branch + Drawing Branch)
2. Course Code:
3. Semester / Year:
First and second semester / first year
4. Description Preparation Date:
7-2-2025
5. Available Attendance Forms:
Attend the lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / 120 units
7. Course administrator's name (mention all, if more than one name)
Name: A.T. Muhannad Karim Saleh

Email: salah.ims@atu.edu.iq

8. Course Objectives

Course Objectives	• **General goal:** Introducing the student to the history of human rights and the civilizations that contributed to the field of human rights • **Special goal:** Enabling the student to understand his rights and duties towards his society, as it helps the student understand the legal culture

9. Teaching and Learning Strategies

Strategy	Use the book and sources as a means to clarify and clarify the material, and use some of the legal material related to the Iraqi constitution

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2**	Learn the goals of human rights	Human rights, their definition, and goals	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
2	**2**	Learn the roots of human rights	The roots of human rights and their development in human history: human rights in ancient and medieval times	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
3	**2**	Learn human rights in civilizations	Human rights in ancient civilizations, especially the Mesopotamian civilization	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
4	**2**	Learn human rights in Islam	Human rights in divine laws, with a focus on human rights in Islam	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
5	**2**	Learn human rights in the Middle Ages	Human rights in the Middle Ages: Human rights in doctrines, schools, and basic theories. Human rights in companies and their declarations, revolutions, and constitutions (English documents: American	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture

			Revolution - French Revolution - Russian Revolution)		
6	**2**	Knowledge of human rights in contemporary and modern history	Human rights in contemporary and modern history. International recognition of human rights since World War I and the League/United Nations	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
7	**2**	Knowledge of human rights conventions and conventions	Regional recognition of human rights: European Convention on Human Rights 1950, American Convention on Human Rights 1969, African Charter on Human Rights 1981, Arab Charter on Human Rights 1994.	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
8	**2**	Non-governmental organizations and their role in human rights	NGOs and human rights (International Committee of the Red Cross, Amnesty International, Human Rights Watch)	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
9	**2**	National organizations	National human rights organizations	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
10	**2**	Human rights in Iraqi constitutions	Human rights in Iraqi constitutions between theory and reality.	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
11 & 12	**2**	Human rights and public freedoms	The relationship between human rights and public freedoms 1- In the Universal Declaration of Human Rights 2- In regional charters and national constitutions	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
13	**2**	Necessary and collective human rights	Necessary human rights and collective human rights	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
14	**2**	Economic and civil human rights	Economic, social and cultural human rights, civil human rights and politics	Modern teaching methods (interactive presentation	Daily evaluation, noting the answers to questions during the lecture

				media)	
15	**2**	Modern human rights	Modern human rights: facts in development, the right to a clean environment, the right to solidarity, the right to religion	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
16	**2**	Guarantees of respect for human rights	Guarantees of respect and protection of human rights at the national level, guarantees in the constitution and laws, guarantees in the principle of the rule of law.	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
17	**2**	The role of non-governmental organizations in protecting human rights	Guarantees in constitutional oversight, guarantees in freedom of the press and public opinion, the role of non-governmental organizations in respecting and protecting human rights.	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
18	**2**	The United Nations and guarantees of human rights protection	Guarantees, respect and protection of human rights at the international level: - The role of the United Nations and its specialized agencies in providing guarantees	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
19	**2**	The role of regional and international organizations in protecting human rights	The role of regional organizations (the Arab League, the European Union, the African Union, the Organization of American States, the ASEAN Organization) The role of international, regional, non-governmental organizations and public opinion in respecting and protecting human rights	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
20	**2**	The general theory of freedoms	- The general theory of freedoms: the origin of rights and freedoms, the project's position on declared rights and freedoms, the use of the term general freedoms.	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
21	**2**	The concept of public	The functional nature of the	Modern teaching	Daily evaluation,

		freedoms	concept of public freedoms: philosophical considerations of the functional right, structural considerations of the positive right, economic considerations and public freedoms.	methods (interactive presentation media)	noting the answers to questions during the lecture
22 & 23	**2**	Sharia rule	The legal rule of the state of law	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
24	**2**	Regulating public freedoms	Regulation of public freedoms by public authorities	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
25	**2**	Litigation	Litigation or non-judicial injustice	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
26	**2**	Determine state responsibility	Judicial appeal, determining the state's responsibility for its legitimate actions	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
27	**2**	The impact of eliminating public freedoms	The impact of double judiciary on public freedoms Public freedoms under administrative jurisprudence	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
28	**2**	Equality	Equality: the historical development of the administrative concept	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
29	**2**	The modern concept of equality	The modern development of the idea of equality	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
30	**2**	Equality between genders and individuals	gender equality Equality between individuals according to their beliefs and race	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
11.Course Evaluation					

The grade distribution out of 100 is as follows: First semester theoretical exam = 20 Second semester theoretical exam = 20 Works of the year = 10 Final exam = 50	
12.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Book on human rights and public freedoms Book of Civilizations and General Civilization
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Note : The Arabic Language cannot be translated to English because it lisses its meaning.

Course Description Form

1. Course Name:
Concrete technology (Construction branch)
2. Course Code:
3. Semester / Year: :
First and second semester /second year
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Attending lectures/laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
120 hours / 240 units
7. Course administrator's name (mention all, if more than one name)
Name: ass. Proff. Khalid Mohamad Bresem Email: inm.khld@atu.edu.iq
8. Course Objectives

Course Objectives	• **Learn about concrete, its types and method of production** • **Using modern methods in producing all types of concrete**

	• Identify concrete problems in the production stages and how to address them • Learn about methods for examining concrete quality and evaluating results • Enabling the student to produce concrete with specific specificati according to requirements

9. Teaching and Learning Strategies

Strategy	• Using modern methods and advanced approaches in preparing lectures • Use field visits to develop skills • Use her videos and diagrams as part of lectures • Continuous training for self-examination and work

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	4	Definitions: Regular concrete, reinforced concrete, cast-in-place concrete, premixed concrete, precast concrete, prestressed concrete .And places to use it	concrete. Definitions Concrete And its types.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	4	Learn about concrete production methods on site and in the factory, types of mixers, their shapes and sizes, and mixing time according to specifications.	Concrete production and mixing , types of mixing, types of mixers, mixing time .	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
third	4	Learn about methods for examining fresh concrete. Flow test, penetration test, precipitation test, compaction factor test, remolding test with vibration and frequency vibration Concrete evaluation	Properties of fresh concrete: workability and consistency . Tests for fresh concrete:	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

		(ve-be)test			
fourth	4	Recognition Properties of fresh concrete And study the factors affecting operability Workability and consistency	Properties of fresh concrete And study the factors affecting operability Workability and consistency	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifth	4	Identifying bleeding and separation in concrete and treating iterant reduce this phenomenon	Properties .Fresh concrete: bleeding, separation,	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	4	Recognition Properties of fresh concrete Unit weight in fresh concrete.	Properties of fresh concrete Unit weight in fresh concrete.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	4	Recognition The effect of air voids and methods for measuring them Calculating unit weight, production, cement agent in fresh concrete And methods of calculating it	The effect of air voids and methods for measuring them Calculating unit weight, production, cement agent in fresh concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Eighth	4	Solve problems Air voids and methods for measuring them Density equation and absolute volume equation to calculate concrete components	The effect of air voids and methods for measuring them Density equation and absolute volume equation to calculate concrete components	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Ninth	4	Learn about the usual methods of transporting, pouring and stacking concrete	Transporting, pouring and placing regular concrete.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

Tenth	4	Learn about methods Curing concrete, pouring in hot and cold climates	Curing concrete, pouring in hot and cold climates .	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eleventh	4	Recognition Concrete pumping , Properties of concrete in pumping , devices used in pumping .	Concrete pumping , Properties of concrete in pumping , devices used in pumping .	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twelfth	4	Recognition Ready-mixed concrete: its definition, benefits and production methods, mixer trucks and vibrating trucks.	Ready-mixed concrete: its definition, benefits and production methods, mixer trucks and vibrating trucks.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Thirteenth	4	Recognition Resistance of hardened concrete , the nature of concrete resistance Types of resistance .And methods of examination	Resistance of hardened concrete , the nature of concrete resistance Types of resistance .	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fourteenth	4	Recognition Concrete strength tests: compressive strength test , Tensile strength test According to specifications	Concrete strength tests: compressive strength test , Tensile strength test (tensile test by bending and tensile test by splitting).	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifteenth	4	Recognition Factors affecting the strength of hardened concrete. Factors affecting the results of strength tests of hardened concrete .According to specifications	Factors affecting the strength of hardened concrete. Factors affecting the results of strength tests of hardened concrete.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

sixteen	4	Identify the types of contraction .Dry shrinkage, contrast shrinkage , carbonization shrinkage.	Concrete shrinkage	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
seventeenth	4	Identify concrete admixtures and Definition Its benefits and uses, the main materials involved in its composition Notes to be taken when using it.	Additives for concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	4	Identify the types of concrete admixtures , retarders, plasticizers , emitting air voids Silica dust , the popper , moisture-proof , weight loss...etc.	Types of additives In concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	4	Recognition Design of concrete mixes. American way .And solve problems	Design of concrete mixes .American way.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twentieth	4	Recognition Design of concrete mixes - The British way. And solve problems	Design of concrete mixes - The British way.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	4	Solution Applied issues for designing ordinary mixtures	Applied issues for designing ordinary mixtures	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	4	Solution Applied issues for mixture design Container on Additives	Applied issues for mixture design Container on Additives.	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

twenty third	4	Recognition Non-destructive testing of concrete: radiation methods , hardness methods , pulse methods and resonance methods.	Non-destructive tests for concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty fourth	4	Recognition Use of fiber In concrete, such as fibers (plastic, glass, iron). , wooden).	Using fibers in concrete as fibers	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	4	Recognition Use of polymer in concrete, Polymer concrete	Use of polymer in concrete, Polymer concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty–sixth	4	Identify special types of concrete: mass , light weight , heavy concrete Underwater concrete , pre-placed aggregate concrete .	Special types of concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty seventh	4	Recognition High performance concrete , high-resistance concrete , self-compacting concrete	Special types of concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty–eighth	4	Recognition, the Concrete Self Powders a For effective .	Special types of concrete	Lecture Laboratory workshop summer training	Written tests and semester exams final exams
Twenty ninth	4	Recognition Repair, maintenance and processor Concrete In buildings Use of some materials And carbon fiber	Repair, maintenance and processor Concrete In buildings Use of some materials And carbon fiber	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
thirty	4	Recognition Repair,	Repair, maintenance	Lecture	Written tests

		maintenance and processor Concrete In buildings Use of some materials Modern Epoxy	**and processor Concrete In buildings Use of some materials Modern Epoxy**	**Laboratory workshop summer training**	**and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows Semester: 20% theoretical, 20% practical, year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Concrete Technology – Jalal Bashir Sarsam 1986
Main references (sources)	Concrete admixtures – Moayed Nouri and Hanaa Abd 1991 .Concrete Technology – Moayad Nouri and Hanaa Abd 1984 .Concrete Technology, Shaker Saleh and Muhammad Ayo 1992
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's gu for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:

Technology Of Construction (Construction branch)

2. Course Code:

3. Semester / Year: :

First and second semester /second year

4. Description Preparation Date:

10-2-2025

5. Available Attendance Forms:

Attending lectures/laboratories and workshops

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

120 hours / 240 units

7. Course administrator's name

Name: Dr . Khaled Muhammad Barism
Email: inm.khld@atu.edu.iq

8. Course Objectives

Course Objectives	**Providing the student with manual skills and qualifying him to carry out construction and building works so that he will be qualified upon graduation to efficiently supervise the work.**

9. Teaching and Learning Strategies

Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Use field visits to develop skills** • **Use her videos and diagrams as part of lectures**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	4	foundation planning, using Surveying equipment .	Foundation planning	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	4	Excavations, and supporting the sides of the excavation.	Excavations	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Third	4	Making and strengthening a foundation for a wall or support.	Arming the foundation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	4	Showing a scientific film about pile works, types, how they work, and the machines used for that.	Pillars	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifth	4	Brick construction work, English bonding, German bonding, other types of bonding.	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	4	Brick construction work, English bonding, German bonding, other types of bonding.	Bricks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	4	Block construction (block, thermostone).	Block construction	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

Eighth	**4**	**Wooden template work, training on making a wooden template for a column, bridge, stairs and roofs.**	**Wooden mold work**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Ninth	**4**	**Wooden template work, training on making a wooden template for a column, bridge, stairs and roofs.**	**Wooden mold work**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Tenth	**4**	**Formwork of ordinary and reinforced concrete Using manual punching, as well as training on automatic punching.**	**Concrete pouring**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
eleventh	**4**	**A scientific visit to the site of making a wooden mold and pouring concrete.**	**Scientific visit to the site**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
twelfth	**4**	**Reinforcing works, rebar, the correct way to use it, making reinforcement models for a column, roof, and bridge.**	**Reinforcing works Concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Thirteenth	**4**	**Reinforcing works, rebar, the correct way to use it, making reinforcement models for a column, roof, and bridge.**	**Reinforcing works Concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Fourteenth	**4**	**Iron works, iron structural sections and aluminum sections, and when they are not available, a scientific film is shown for that.**	**Iron structural sections**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Fifteenth	**4**	**Ground paving units**	**Ground paving units (tiles)**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
sixteen	**4**	**Moisture-preventing works, training on the use of some moisture-repellent materials and how to use them optimally, such as asphalt felt, bitumen materials, and so on. It is**	**Moisture preventer**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

		available.			
seventeenth	4	Moisture proofing works, training on Use Some moisture-repellent materials and how Use i ideally like felt Asphalt , bituminous materials and according to what It is available.	Moisture preventer	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	4	Showing a scientific film about thermal insulation materials: their types and how Use it And its benefits.	thermal insulation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	4	Whitewashing works, whitewashing of a wall using plaster.	Whiteness works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twentieth	4	Ficus and prose works: Using cement mortar. Using cement mortar – limestone	Ficus and prose works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	4	Ficus and prose works: Using cement mortar. Using cement mortar - limestone .	Ficus and prose works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	4	Packaging works with tiles	Packaging works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	4	Wall covering works, wall covering using solutions.	Wall covering works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty fourth	4	Secondary ceilings (Moroccan), making a model of a Moroccan ceiling, training on how to install them.	Secondary ceilings	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	4	Dyeing work (training on how to use it and how to adapt each type to the dyed surface).	Painting works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty-sixth	4	Sanitary works: Training the student on how to lay	Health business	lecture Laboratory	Written tests and semester

		sewage pipes, clear water pipes, and location of sinks Toilets, etc.		**workshop summer training**	**exams final exams Daily evaluation**
Twenty seventh	**4**	**Electrical work: training the student on How to install some light bulbs (establishing a light point and a block).**	**Electrical Works**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Twenty-eighth	**4**	**Mechanical works: making ventilation ducts**	**Mechanical works**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams**
Twenty ninth	**4**	**Road works Foundation and sub-base work for a road**	**Road works**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
thirty	**4**	**Road works Foundation and sub-base work for a road**	**Road works**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows Semester:
20% first semester and 20% second semester , , year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Construction technology book
Main references (sources)	Building implementation book
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's guide for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:
Soil Mechanics (Construction branch)
2. Course Code:

3. Semester / Year: :
First and second semester /second year
4. Description Preparation Date:
10-2-2025
5. Available Attendance Forms:
Attending lectures/laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
120 hours / 240 units
7. Course administrator's name
Name: **Mustafa Hamid Jassim** Email: mustafa.jasim.ims@atu.edu.iq
8. Course Objectives

Course Objectives	**-General objective of the course: To familiarize the student with the mechanical properties of soil through which he can estimate the seriousness of choosing the type of foundation and the impact of structures built on different types of soil.** **-The specific objective of the course: To qualify the student and give him the necessary skill in classifying soil and conducting the necessary tests on it (field or laboratory) and the relationship of this to the facilities that will be built on it.**

9. Teaching and Learning Strategies	
Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Use field visits to develop skills** • **Use her videos and diagrams as part of lectures**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	4	Definition of soil, a geological introduction to the types of rocks, how soil is formed from rocks.	the soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	4	Soil components, soil physical properties (moisture content, porosity, void ratio, wet and dry density, saturated and submerged	Soil components	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

		density, specific gravity).			
third	4	Granular soil analysis (sieve method and hydrometer method).	Granular analysis of soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	4	Granular soil analysis (sieve method and hydrometer method).	Granular analysis of soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifth	4	Plastic properties of soil (liquidity limit, plasticity limit, limit deflation).	Soil properties	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	4	soil classification ,Use Unified classification method.	Soil classification	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	4	soil classification ,Use Unified classification method .	Soil classification	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Eighth	4	Soil permeability of coarse soils, permeability of fine soils, methods for measuring them in the field and laboratory.	Soil permeability	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Ninth	4	Soil permeability (Permeability), permeability of coarse soils, permeability of fine soils, methods for measuring them in the field and laboratory.	Soil permeability	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
tenth	4	Types of stresses in soil, total stress And effective stress .	Types of stresses in soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eleventh	4	Lateral pressure of soil With an explanation of	Lateral pressure of soil	Lecture Laboratory	Written tests and semester

		the types of filters		workshop summer training	exams final exams Daily evaluation
twelfth	4	Improving soil properties .Mechanical method	Improving soil properties	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Thirteenth	4	Types of laboratory compaction tests, field compaction methods.	Types of laboratory aggregation tests	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fourteenth	4	Other methods for improving soil properties and stabilizing it (stabilization with cement, stabilization with asphalt, stabilization with soil).	Other methods for improving soil properties	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifteenth	4	Other methods for improving soil properties and stabilizing it (stabilization with cement, stabilization with asphalt, stabilization with soil).	Other methods for improving soil properties	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
sixteen	4	Modern methods of soil stabilization (soil reinforcement, types of materials used in it and how to use them) (Reinforced Earth)	Modern methods of soil stabilization	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
seventeenth	4	Modern methods of soil stabilization (soil reinforcement, types of materials used in it and how to use them) (Reinforced Earth)	Modern methods of soil stabilization	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	4	California endurance ratio (CBR) and its importance in implementing roads.	California endurance ratio	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	4	Join In the soil .And its relationship to the occurrence of decline .	Join In the soil	Lecture Laboratory workshop summer	Written tests and semester exams final exams

				training	Daily evaluation
twentieth	4	Join In the soil .And its relationship to the occurrence of decline .	Join In the soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	4	Phenomenon Bloating(Swelling and Collapse.	Phenomenon Bloating	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	4	Definition of soil shear strength (Shear Strength) and its importance in...Calculation Soil bearing capacity (Bearing Capacity).	Shear resistance of soil	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	4	Unconfined shear examination	Unconfined shear examination	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty fourth	4	Direct shear examination	Direct shear examination	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	4	Triaxial shear examination	Triaxial shear examination	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty-sixth	4	Triaxial shear examination	Triaxial shear examination	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty seventh	4	Field shear tests	Field shear tests	Lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty-eighth	4	Types of foundations and	Types of foundations	Lecture Laboratory	Written tests and

		their relationship to soil bearing capacity.		**workshop summer training**	**semester exams final exams**
Twenty ninth	**4**	**Shallow foundations .And deep foundations .Like pillars**	**Types of foundations**	**Lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
thirty	**4**	**A simple introduction to soil investigation work (Soil Exploration, the types of models, the method of taking them, and the preparation and depths of the test holes that must be carried out .**	**Soil investigations**	**Lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows Semester: 20% theoretical, 20% practical, year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Soil mechanics
Main references (sources)	• Soil mechanics–Makki Jaafar • Foundation engineering–Makki Jaafar
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's guide for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:
Civil Drawing (Construction branch)
2. Course Code:
3. Semester / Year: :
First and second semester /second year
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:

Attending lectures (Drawing) /laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
180 hours / 360 units
7. Course administrator's name
Name: Prof. Dr. Jawad Kazem Aboud Al-Rifai Email: :jawad.alrfaie@atu.edu.iq
8. Course Objectives

Course Objectives	**Objectives of the course: Teaching the student the construction details and the details of all construction works so that he is qualified to understand the executive maps and transfer their information to the work site and the workers to implement them. The student also learns the principles used in preparing sets of executive maps.**

9. Teaching and Learning Strategies

Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Drawing on the tablet and computer**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	6	Introduction to structural drawing, architectural and terminological symbols, lines in maps, drawing models for building and construction materials, drawing scale, executive maps, and types of brick and block construction.	structural drawing	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	6	Drawing the horizontal plan of a residential house or small building, the plan of the first floor, and determining the longitudinal and cross-sections and the facades.	Drawing the horizontal plan of a residential house or small building	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Third	6	Drawing longitudinal and cross-sections and detailed sections of the finishing layers for floors, ceilings, and surfacing.	Drawing longitudinal and cross-sections	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	6	Introduction to sanitary drawing and structures for water and sanitary establishments and sanitary furniture, and then drawing the network	Introduction to sanitary drawing	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily

		of water and sanitary establishments for the previous horizontal plans.			evaluation
Fifth	6	Drawing the structural details of the inspection basins and linking them to the health facilities network.	structural details	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	6	Drawing the structural details of the septic tanks and storage (drains) attached to the house plan.	structural details of the septic tanks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	6	Introduction to concrete and construction principles, concrete bearing stresses and the necessary types of reinforcement steel, and drawing symbols used in maps and construction details.	construction principles, concrete bearing stresses	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Eighth	6	Concrete slabs, their types, the transmission of loads through them and the necessary reinforcement for them, along with drawing the structural details of solid, unidirectional slabs.	Concrete slabs	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Ninth	6	Drawing the structural details of solid two-way slabs.	structural details of solid two-way slabs.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Tenth	6	Drawing the structural details of one- and two-way polygonal slabs.	structural details of one- and two-way polygonal slabs.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eleventh	6	Introduction/Types of concrete joists and drawing the structural details of simple support joists with sections.		lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twelfth	6	Drawing structural details	Drawing structural	lecture	Written

		for continuous joists and sections.	details for continuous	Laboratory workshop summer training	tests and semester exams final exams Daily evaluation
Thirteenth	6	Drawing the structural details of the monolithic tributaries along with their sections.	the structural details of the monolithic tributaries	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fourteenth	6	Introduction with a drawing of the structural details of precast prestressed joists.	the structural details of precast	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifteenth	6	Draw a horizontal plan (key) for the joists of a structural building and establish tables and details of the joists.	Draw a horizontal plan (key) for the joists of a structural building and establish tables and details of the joists.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
sixteen	6	Drawing the structural details of the types of concrete columns, drawing the longitudinal and cross-sections, and showing the reinforcement of the columns.	Drawing the structural details of the types of concrete columns, drawing the longitudinal and cross-sections, and showing the reinforcement of the columns.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
seventeenth	6	Drawing structural details and vertical sections to illustrate the bonding of reinforcing steel for columns of successive floors.	Drawing structural details and vertical sections to illustrate the bonding of reinforcing steel for columns of successive floors.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	6	Introduction to foundations/their types and principles of operation, and drawing the structural details of the single foundation, combined foundation, and wall foundations.	Introduction to foundations/their types and principles of operation, and drawing the structural details of the single foundation, combined foundation, and wall foundations.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	6	Drawing the structural details of continuous foundations and mat foundations.	Drawing the structural details of continuous foundations and mat foundations.	lecture Laboratory workshop summer training	Written tests and semester exams final exams

					Daily evaluation
twentieth	6	Drawing the structural details of the foundations of the pillars and their types with the hat.	Drawing the structural details of the foundations of the pillars and their types with the hat.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	6	Identifying concrete stairs and their types, straight staircase, semi-straight staircase, spiral staircase, and drawing their structural details.	Identifying concrete stairs and their types, straight staircase, semi-straight staircase, spiral staircase, and drawing their structural details.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	6	Drawing structural details of joints in buildings, expansion joints, structural joints.	Drawing structural details of joints in buildings, expansion joints, structural joints.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	6	Drawing the structural details of the reinforced walls of elevators and basement walls.	Drawing the structural details of the reinforced walls of elevators and basement walls.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty fourth	6	Introduction to manufactured and prefabricated construction and drawing the structural details for connecting walls with prefabricated ceilings.	Introduction to manufactured and prefabricated construction and drawing the structural details for connecting walls with prefabricated ceilings.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	6	Introduction to steel structures, their sections, tables, and how to obtain specifications and details of their sections.	Introduction to steel structures, their sections, tables, and how to obtain specifications and details of their sections.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty-sixth	6	Drawing the structural details for the connection of steel parts according to their load bearing.	Drawing the structural details for the connection of steel parts according to their load bearing.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty seventh	6	Bonding of steel foundations and bases, bonding of steel columns,	Bonding of steel foundations and bases, bonding of steel	lecture Laboratory workshop	Written tests and semester

		bonding of joists to each other.	**columns, bonding of joists to each other.**	**summer training**	**exams final exams Daily evaluation**
Twenty-eighth	**6**	**Details of the steel gable drawing and the connection of its ribs.**	**Details of the steel gable drawing and the connection of its ribs.**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams**
Twenty ninth	**6**	**Using the computer and its applications in structural drawing of reinforced concrete structures.**	**Using the computer and its applications in structural drawing of reinforced concrete structures.**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Thirty	**6**	**Using the computer and its applications in structural drawing of reinforced concrete structures.**	**Using the computer and its applications in structural drawing of reinforced concrete structures.**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows
First and second semester 30%
Yearly work 20%
Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Civil drawing. Hashem Nehme Tohme
Main references (sources)	Construction of buildings and building materials. Youssef Al-Rawaf
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's guide for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:
Surveying 2 (Construction branch)
2. Course Code:

3. Semester / Year: :
First and second semester /second year
4. Description Preparation Date:
12-2-2025
5. Available Attendance Forms:
Attending lectures/laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
4 hours / 8 units
7. Course administrator's name
Name: Mustafa Hamid Jassim Email: mustafa.jasim.ims@atu.edu.iq
8. Course Objectives

Course Objectives	**.Teaching the student the basics of surveying, its use for civil engineering purposes, and conducting related calculations Using accurate measuring devices . And Student qualification to use Various surveying devices for civil engineering work and implementing maps for projects and enabling him to plan, supervise and implement these projects.**

9. Teaching and Learning Strategies	
Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Use field visits to develop skills** • **Continuous training for self-examination and work**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	3	Identifying the theodolite device/its parts, uses, types, install the device, reading direction Horizontal and vertical of various types.	Theodolite device	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	3	Checking and adjusting the theodolite device for all types of vertical and horizontal examinations, then finding the device's constant.	Checking and adjusting the theodolite device	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

third	3	Methods for measuring horizontal angles with a theodolite device.	Methods of measuring horizontal angles	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	3	ribbing, types of polygons, her stuff, Its uses.	ribbing	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifth	3	Measure and correct the interior horizontal angles of a closed polygon.	Measure interior horizontal angles	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Sixth	3	Methods of measuring the horizontal distances of the sides of a polygon.	Methods of measuring horizontal distances	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Seventh	3	Drawing closed and open polygons.	Draw polygons	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Eighth	3	Raising beams for polygons using a theodolite device and tape.	Raising beams	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Ninth	3	Calculate the horizontal components and vertical components of the sides of a polygon and calculate Coordinates.	Calculate horizontal components and vertical components	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

tenth	3	Calculate horizontal components and vertical components And for a coordinate For open polygon.	Calculate horizontal components and vertical components	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eleventh	3	Methods for measuring vertical angles with a theodolite device.	Methods of measuring vertical angles	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twelfth	3	Methods for measuring vertical angles (target) can be reached using a theodolite device	Methods of measuring vertical angles	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Thirteenth	3	Find the height of a building (target) no It can be reached using a theodolite device	Find the height of a building	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fourteenth	3	Finding the height of a building (target) by measuring three angles of elevation or Low theodolite device	Find the height of a building	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifteenth	3	Measure the length of an inaccessible building- Measure the horizontal angle between the two walls.	Measuring the length of a building	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
sixteen	3	Curves/ Types	Curves	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation

seventeenth	3	Horizontal curves (elements of a simple circular curve) and equations used in designing a simple circular curve.	Horizontal curves	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	3	Methods of projecting horizontal curves / method of columns set up on tangents (Baker method)-Method of columns erected on the string-How to divide strings-Deflection angles method	Curve projection methods	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	3	Curve projection Using two theodolite devices.	Curve projection methods	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twentieth	3	Drawing a road with its horizontal curves.	Draw a road with its curves	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	3	The main convex and concave curves/their elements/calculating the length of the vertical curve	Main curves	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	3	Related accounts With vertical curve.	Related accounts With vertical curve.	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	3	triangulation, his stuff, Use it, Choosing triangulation points, Triangulation networks.	Triangulation	lecture Laboratory workshop summer	Written tests and semester exams final exams Daily

				training	evaluation
twenty fourth	3	Measure the base line for triangulation and make fortifications for measuring with tape.	Triangulation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	3	Measuring the horizontal angles of the triangulation network, making calculations and making the necessary fortifications.	Triangulation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty– sixth	3	tachometric area, Types of tachometer devices.	tachometric area	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty seventh	3	Identify measuring devices Electronic Modern How to use it to measure horizontal and vertical distances .	Tachometric area	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty– eighth	3	A general project on constructing a road or drainage channel, along with calculating the necessary dirt To accomplish The project With its horizontal and vertical curves.	A general project on constructing a road	lecture Laboratory workshop summer training	Written tests and semester exams final exams
Twenty ninth	3	An introduction to the total station device using the total station device to measure the lengths of the sides of a polygon, the interior angles, and the coordinates	Total station device	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
thirty	3	An introduction to the total station device using the total station device to measure the lengths of the sides of a polygon,	Total station device	lecture Laboratory workshop summer	Written tests and semester exams final exams

		the interior angles, and the coordinates		**training**	**Daily evaluation**

11. Course Evaluation
The grade distribution out of 100 is as follows Semester: 20% theoretical, 20% practical, year's work , daily exams and reports (evaluation) 10% .Final exam 50%

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Survey book
Main references (sources)	Survey book
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's guide for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:
Construction equipment (Construction branch)
2. Course Code:
3. Semester / Year:
First & second semester/ Second Year
4. Description Preparation Date:
3-2-2025
5. Available Attendance Forms:
Lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours / 120 units
7. Course administrator's name (mention all, if more than one name)
Name:Ali Raheem Yousif Email: ali.yousif@atu.edu.iq
8. Course Objectives

Course Objectives	• **Determine the production of machines ,uses**

9. Teaching and Learning Strategies

Strategy	

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition the construction machine and their uses	Construction equipment-importance-how to get-advantages and disadvantages of own or chartering-scientific visit	Lecture	Discussion
2	2	Identify the calculation	Calculation the cost and owning of machines	Lecture	Quiz
3	2	Continuous	= =	Lecture	discussion
4	2	Selection the machine type	Special and standard machine-comparison-film view	Lecture	Example solution
5	2	Identify the effect of road slope	Engineering basics of machines opera	Leturec	Example solution and evaluation
6	2	Continuous	= =	Lecture	Practices solution
7	2	Identify the dozer possibilities	Dozer – expression-types-calculations	Lecture	Example solution
8	2	Shuffle definition and its uses - calculation	Shuffle-types-comparision – production	Lecture	Discussion
9	2	Field work	Scientific visit	Work	Discussion and report
10	2	Identify on coring machibnes	Coring machines-univeral coring machine-front coring machine	Lecture	Discussion
11	2	Continuous	Different types of coring machines	Lecture	Quiz
12	2	Identify the transportation machines	Transporation machines-types	Lecture	Discussion
13	2	Soils volumes calculation	Balancing between solis volume and number of tippers	Lecture	Example and evaluation
14	2	Graders definition and calculation	Graders-types-advantages of use-film view	Lecture	Quiz

15	2	Scraping machine definition and its calculation	Scraping machines-types-calculation	Lecture	Example solution
16	2	Calculation the production of scraping machine	Continuous	Lecture	Example solution
17	2	Field work	Scientific visit	Work	Discussion and report
18	2	Steamroller definition	Steamroller of soil-importane-types	Lecture	discussion
19	2	Continuous	Continuous	Lecture	discussion
20	2	Continuous	Continuous	Lecture	Quiz
21	2	Identify the concrete mixers	Concrete mixers-types	Lecture	discussion
22	2	Mixing importace	Continuous	Lecture	discussion
23	2	Asphalt factort definition	Asphalt importance and its brushing	Lecture	discussion
24	2	Identify the brushers of asphalt	Asphalt brushers types	Lecture	Discussion
25	2	Field work	Scientific visit	Work	Discussion and report
26	2	Identify the tunnel machines	Definition of tunnel machine-types-vedio	Lecture	Oral questions
27	2	Id of entify the type Of tunnels	Tunnels types and their importance	Lecture	Discussion
28	2	Calculation the production	How to tunnel operations-calculation	Lecture	Quiz
29	2	Learn about the uses of conveyor belts	Conveyor belts	Lecture	Example solution
30	2	Learn about control devices	Control systems-types	Lecture	Quiz

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)	Text book 20%+al-mustansiri university+internet80%
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Computer Applications (Construction branch)
2. Course Code:
3. Semester / Year:
First and second semester/Second year
4. Description Preparation Date:
9-2-2025
5. Available Attendance Forms:
Attend a lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
90 hours / 60 units
7. Course administrator's name (mention all, if more than one name)
Name:Nadya Husain Email: nadya.muslim@atu.edu.iq
8. Course Objectives

Course Objectives	**Teaching the student how to use ready-made systems and their applications in the field of completing civil.**

9. Teaching and Learning Strategies

Strategy	Using the latest versions of AutoCAD to teach the student drawing in AutoCAD

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
The First	3	Introducing the student to general information about the AutoCAD program.	AutoCAD General Review	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
The Second	3	Get to know the applications of osnap, Modify, and draw.	Return list applications osnap, Modify, Draw.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
The Third	3	Recognizing dimensions - writing - and viewing	Completion of dimensions –	Lecture Laboratory	Written tests Quarterly

		commands.	writing - and view commands.		exams final exams Daily evaluation
The Fourth	3	Learn about the principles of three-dimensional drawing, a list of three-dimensional surface drawing.	Principles of three-dimensional drawing, list of surface three-dimensional drawing.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Fifth	3	Get to know the list of solid 3D drawings.	List of solid 3D drawings.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Sixth	3	Identify applications for the slice, revolve, and extra'd commands.	Applications on the commands slice, revolve, extrad.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Seventh	3	Learn about solid editing drawing applications.	solid editing drawing applications.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
eighth	3	Learn about applications around the subtract and union commands.	Applications around the subtract and union commands.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Ninth	3	Learn about solid editing commands	Complete solid editing commands..	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
The tenth	3	Learn about creating a simple building in three dimensions	Create a simple building in three dimensions.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
eleventh	3	Identify the completion of the previous building.	Completion of the previous building.	Lecture Laboratory	Written tests Quarterly exams final exams Daily

					evaluation
twelfth	3	Learn about making a horizontal section model in a building (a residential house) and furnishing it.	Making a horizontal section model of a building (residential house) and furnishing it.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
thirteenth	3	Identify the completion of the previous building.	Identify the completion of the previous building.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Fourteenth and Fifteenth	3	Learn about creating a longitudinal section model in a building (residential house) with furnishing.	Making a longitudinal section model of a building (residential house) with furnishing.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Sixteenth	3	Learn about the principles of Rendering design.	Rendering design principles.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Seventeen	3	Learn how to add lighting to a scene.	Adding lighting to the scene.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
eighteen	3	Learn how to add materials to surfaces	Adding materials to surfaces.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
nineteenth	3	Learn about manufacturing materials for display	Manufacture of display materials	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Twentieth	3	Identify other effects in the scene, night lighting - backgrounds.	Other effects in the scene are night lighting - backgrounds.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation
Twenty-first To	3	Learn about the project of making a model of a	A project to make a model of a multi-	Lecture Laboratory	Written tests Quarterly

Twenty-nine		multi-story building, with the addition of other accessories Trees, cars, people. Get a simple introduction to programs parallel to AutoCAD (3D Max).	story building with the addition of other accessories: trees, cars, and people. A simple introduction to programs parallel to AutoCAD (3D Max).		exams final exams Daily evaluation
thirty	3	Recognizing the use of additional processors for images created in AutoCAD using the Photo Shop program.	Using additional processors for images created in AutoCAD using the Photo Shop program.	Lecture Laboratory	Written tests Quarterly exams final exams Daily evaluation

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

Course Description Form

1. Course Name:
Quantitative surveying (Construction branch)
2. Course Code:
3. Semester / Year: :
First and second semester /second year
4. Description Preparation Date:
3−2−2025
5. Available Attendance Forms:
Attending lectures/laboratories and workshops
6. Number of Credit Hours (Total) / Number of Units (Total):
90 hours / 180 units

7. Course administrator's name

Name: A. Dr.. Jawad Kazem Aboud Al-Rifai
Email : jawad.alrifaie@atu.edu.iq

8. Course Objectives

Course Objectives	**Calculating quantities and analyzing prices and business terms Construction And Introducing the student to how to calculate the quantity of construction items involved in the implementation of facilities and buildings, as well as beams, and analyze those quantities into their primary resources with principles Calculating prices and costs, as well as contracting work, specifications and engineering project management.**

9. Teaching and Learning Strategies

Strategy	• **Using modern methods and advanced approaches in preparing lectures** • **Use field visits to develop skills** • **Use her videos And diagrams as part of lectures**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
first	3	Definitions of estimation, its purpose, the foundations on which estimation is based, and the benefits expected from the estimation process.	estimation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
second	3	Types of estimation, units of measurement used for all construction paragraphs, table of quantities.	estimation	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
third	3	Calculating the quantity of earthworks for the foundations of facilities (buildings) (various types of foundations) and explaining its schedule of quantities, mentioning the unified standard guide for these works, their specifications, and price analysis.	Calculate the amount of earthworks	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
fourth	3	Calculating the quantity of earthworks for the	Calculate the amount of	lecture Laboratory	Written tests and

		foundations of facilities (buildings) (various types of foundations) and explaining its schedule of quantities, mentioning the unified standard guide for these works, their specifications, and price analysis.	**earthworks**	**workshop summer training**	**semester exams final exams Daily evaluation**
Fifth	**3**	**Calculating the quantity of structural sections under the moisture barrier (squares, foundation concrete, cubes), mentioning the unified standard guide for these works, their specifications, and their schedule of quantities.**	**Calculating the amount of structural sections under the moisture barrier**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Sixth	**3**	**Calculating the quantity of structural sections under the moisture barrier (squares, foundation concrete, cubes), mentioning the unified standard guide for these works, their specifications, and their schedule of quantities.**	**Calculating the amount of structural sections under the moisture barrier**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Seventh	**3**	**Calculating the amount of structural paragraphs Above the moisture barrier . including moisture proof concrete, building on top of the moisture barrier (bricks and concrete blocks), and mentioning the unified standard guide for its height, specifications, and its schedule of quantities.**	**Calculating the amount of structural paragraphs**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Eighth	**3**	**Calculating the amount of structural paragraphs Above the moisture barrier including moisture proof concrete, building on top of the moisture barrier (bricks and concrete blocks), and mentioning the unified**	**Calculating the amount of structural paragraphs**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

		standard guide for its height, specifications, and its schedule of quantities.			
Ninth	**3**	**Calculating the quantity of concrete, rebar, and wooden formwork for foundations (structural buildings with wall foundations and pillar foundations), and mentioning the unified standard guide for their height and specifications.**	**Calculate the amount of concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
tenth	**3**	**Calculating the quantity of concrete, rebar, and wooden formwork for foundations (structural buildings with wall foundations and pillar foundations), and mentioning the unified standard guide for their height and specifications.**	**Calculate the amount of concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
eleventh	**3**	**Calculate the amount of concrete ,Reinforcing steel and wooden molds for connecting bridges in structural buildings below the level of the basement and bridges above the openings, analyzing the prices and mentioning the unified standard guide for the scope of these works.**	**Calculate the amount of concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
twelfth	**3**	**Calculate the amount of concrete Reinforcing steel and wooden molds for connecting bridges in structural buildings below the level of the basement and bridges above the openings, analyzing the prices and mentioning the unified standard guide for the scope of these works.**	**Calculate the amount of concrete**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Thirteenth	**3**	**Calculating the quantity of concrete, rebar, and wooden molds for**	**Calculate the amount of concrete ,rebar**	**lecture Laboratory workshop**	**Written tests and semester**

		columns of all types, analyzing their prices and mentioning the unified standard guide and specifications.		summer training	exams final exams Daily evaluation
Fourteenth	3	Calculating the quantity of concrete, rebar, and wooden molds for columns of all types, analyzing their prices and mentioning the unified standard guide and specifications.	Calculate the amount of concrete ,rebar	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Fifteenth	3	Calculating the quantity of concrete, rebar, and wooden molds for various concrete works in special shapes, such as domes and arches.	Calculate the amount of concrete ,rebar	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
sixteen	3	Calculating the quantity of concrete, rebar, and wooden molds for one-way and two-way slabs, analyzing their prices and mentioning the unified standard guide for their specifications and their table of quantities.	Calculate the amount of concrete Rebar, wooden template	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
seventeenth	3	Calculate the amount of concrete wooden mold, Rebar for stairs Of all kinds And analyze prices and mention the unified standard guide to their availability and specifications.	Calculate the amount of concrete Rebar, wooden template	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
eighteen	3	Calculating the amount of secondary roofing work Of all kinds, and flattening works for all mentioned the unified standard guide for its size and specifications.	Calculate the amount of concrete Rebar, wooden template	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
nineteenth	3	Calculating the quantity of finishing works (finished, whitewashing, spreading, and dyeing) and the furfural casing, analyzing the prices, and	Calculate the amount of concrete Rebar, wooden template	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily

		mentioning the unified standard guide for their type, specifications, and the table of quantities.			evaluation
twentieth	3	Calculating the quantity of finishing works (finished, whitewashing, spreading, and dyeing) and the furfural casing, analyzing the prices, and mentioning the unified standard guide for their type, specifications, and the table of quantities.	Calculate the amount of concrete Rebar, wooden template	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty first	3	Calculating the quantity of flooring work, casing, casing work, and covering the facades with alabaster and plaster, and mentioning the unified standard guide, its specifications, and the table of quantities.	Calculating the amount of flooring and cash works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty second	3	Calculating the quantity of electrical and mechanical foundation works and mentioning the unified standard guide for its scope, specifications, and schedule of quantities.	Calculating the amount of electrical and mechanical installation work	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty third	3	Calculating the quantity of water and sanitary foundation works, analyzing and mentioning the unified standard guide for its scope, specifications, and schedule of quantities.	Calculating the quantity of water and sanitary foundation works	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
twenty fourth	3	Calculating the quantity of construction works for prefabricated buildings (walls and ceilings) and explaining their specifications, the schedule of quantities, and the unified standard guide for that.	Calculating the amount of construction work for prefabricated construction	lecture Laboratory workshop summer training	Written tests and semester exams final exams Daily evaluation
Twenty fifth	3	Calculating the amount of work and some items of steel structures And	Calculating the amount of work and some items of steel	lecture Laboratory workshop	Written tests and semester

		analysis of its prices, arms, and schedule of quantities	**structures**	**summer training**	**exams final exams Daily evaluation**
twenty-sixth	**3**	**Contracts, contracting and contract regulation Submission books Tender form and instructions for contractors, maintenance period and advances and how to calculate them**	**Contracts and contracting**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Twenty seventh	**3**	**Definitions of management, interpersonal relations, organization, cadre responsibilities, organization in projects, site planning and control, and engineering management of projects.**	**Management and relationships between individuals**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
Twenty-eighth	**3**	**Project scheduling: work progress schedule, arrow wire diagrams, and critical path.**	**Project scheduling**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams**
Twenty ninth	**3**	**Project scheduling: work progress schedule, arrow wire diagrams, and critical path.**	**Project scheduling**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**
thirty	**3**	**Recognition Some applications for calculating quantities of construction paragraphs using the computer.**	**Some applications for calculating quantities of construction paragraphs using the computer.**	**lecture Laboratory workshop summer training**	**Written tests and semester exams final exams Daily evaluation**

11. Course Evaluation

The grade distribution out of 100 is as follows Semester:

- The semester is 20% theoretical and 20% practical
- One year's work, daily exams, and reports (evaluation) 10%.
- Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Quantitative survey. Salim Farhan

Main references (sources)	Estimation and specifications of construction wor Ghanem Abdul Rahman
Recommended books and references (scientific journals, reports…)	Iraqi standard specifications and the resident engineer's guide for construction projects
Electronic References, Websites	Accredited academic websites

Course Description Form

1. Course Name:	
Building And Fabricated Building (Construction branch)	
2. Course Code:	
3. Semester / Year:	
First & Second semester / Second year	
4. Description Preparation Date:	
10-2-2025	
5. Available Attendance Forms:	
Attend a lecture	
6. Number of Credit Hours (Total) / Number of Units (Total)	
2 hours/4 units	
7. Course administrator's name (mention all, if more than one name)	
Name: A.T Anghreed Ali Shandel Email: :aenghreed.shandel.ims@atu.edu.iq	
8. Course Objectives	
Course Objectives	**1-Providing the student with information about the stages of building construction** **2-Enabling the student to organize the site Direct the work and supervise implementation**
9. Teaching and Learning Strategies	
Strategy	1-Learn about the tasks of construction project team members 2-Learn about construction techniques 3-Learn about project implementation
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learn about ways to implement projects	Introduction to the methods Of Implementing construction project team, especially he technicians	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
2	2	Learn about organizing and Planning projects	Organizing and planning the Work site and the factors That affect it, along with preparing a plan for the project work site	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
3	2	Learn about ways to support The sides	Of earthen excavations, methods of supporting the sides of excavation excavation of basement	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
4	2	Learn about groundwater extraction techniques	Techniques used to withdraw Groundwater during construction	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
5	2	Learn about layers of soil	Dictations of dirt and the correct methods for making them layers of roads and methods of implementing them	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
6	2	Identify the moisture barrier Layers	Moisture prevention layers For both basements and flat walls	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
7	2	Learn about building walls with bricks	Construction of walls with bricks types of bricks methods of joining seams	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
8	2	Learn about building walls with stone	Building walls with stone (types of stone preparation , types of connection joints)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
9	2	Learn about building walls using construction blocks	Building walls with construction blocks (types of blocks and their specifications)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
10	2	Learn about the techniques of finishing walls from	All types of interior wall finishing techniques	Lecture Laboratory Summer	Written tests Semester exams Final exam

		the inside		training	Daily evaluation
11	2	Learn about Techniques for finishing external walls of all kinds	Techniques for finishing external walls of all kinds	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
12	2	Learn about Methods of finishing floors for the ground floor, other floors and ceilings	Methods of finishing floors for the ground floor, other floors and ceilings	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
13	2	Learn about Thermal insulation techniques	Thermal insulation techniques	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
14	2	Learn about Concrete formwork (types, requirements , components safety factors	Concrete formwork (types, requirements , components safety factors	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
15	2	Learn about Lifting formwork, causes that lead to formwork collapse, sliding formwork and related techniques	Lifting formwork, causes that lead to formwork collapse, sliding formwork and related techniques	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
16	2	Scaffolding types components. Safety factors	Scaffolding types components. Safety factors	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
17	2	Secondary ceiling, their types, methods of installing them, and installing air ducts	Secondary ceiling, their types, methods of installing them, and installing air ducts	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
18	2	Learn about Sanitary installations, pure water, sewage, types of pipes used for each, and connection methods	Sanitary installations, pure water, sewage, types of pipes used for each, and connection methods	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
19	2	Learn about Doors and windows, types, Requirements , components	Doors and windows, types, Requirements , components	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation

20	2	Learn about Joints in building, structural Joints, expansion joints, Details of each type and Methods of implementation	Joints in building, structural Joints, expansion joints, Details of each type and Methods of implementation	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
21 And 22	2	Learn about low - cost construction and Ways to rationalize costs (goals, Requirements, construction methods)	Low-cost construction and Ways to rationalize costs (goals, Requirements, construction methods)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
23	2	Learn about Factory construction properties, supplies)	Factory construction properties, supplies)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
24	2	Learn about The different types of factory Construction and the characteristics of each type	The different types of factory Construction and the characteristics of each type	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
25	2	Learn about Components of the factory construction plant and Production method	Components of the factory construction plant and Production method	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
26 And 27	2	Learn about Details of structural members in manufacture construction And Methods of installing them	Details of structural members in manufacture construction and Methods of installing them	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
28	2	Learn about Joints in factory construction, Their types, components And methods of implementation	Joints in factory construction, Their types, components And methods of implementation	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
29	2	Learn about Methods of transportation in Buildings, stairs, elevators (types, components construction methods)	Methods of transportation in Buildings, stairs, elevators (types, components construction methods)	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
30	2	Fire resistance of buildings and fire control systems	Fire resistance of buildings and fire control systems	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation

11. Course Evaluation	
20% First semester & 20% second semester 10% evaluation daily 50% final exam	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Building And Fabricated Building
Main references (sources)	Buildings book
Recommended books and references (scientific journals, reports…)	A collection of books in the field of Buildings
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:	
Technical English (Construction Branch + Drawing Branch)	
2. Course Code:	
3. Semester / Year:	
First and second semester / second year	
4. Description Preparation Date:	
11-2-2025	
5. Available Attendance Forms:	
Attend the lecture	
6. Number of Credit Hours (Total) / Number of Units (Total)	
30 hours / 60 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Afrah Mohamad Muslim Email: afrah.al-sowaidi.ims@atu.edu.iq	
8. Course Objectives	
Course Objectives	• **Introducing the student to the rules of the simplified English language that he needs to write reports with verb conjugations and conversation**
9. Teaching and Learning Strategies	
Strategy	Lecture (inside the hall) • Show audio videos • Homework • Conducting dialogues between students

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1 + 2	**1 + 1**	**Learn verb tenses Learn the parts of speech Learn social expressions**	**Tenses of verbs – part of speech- social expressions**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
3 + 4	**1 + 1**	**Learn the present tense Learn to configure conversions**	**The way of we live – present tenses- making conversion**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
5 + 6	**1 + 1**	**Learn the past tense Learn irregular verbs Learn time expressions**	**It all went wrong – past tenses- irregular verbs – time expression**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
7 + 8	**1 + 1**	**Learn quantities Learn to buy things**	**Let's go shopping – quantity – buying things – prices and shopping**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
9 + 10	**1 + 1**	**Learn verb patterns Learn hot verbs**	**What do you want to do?- verb patterns- hot verbs – how do you feel?**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
11 + 12	**1 + 1**	**Learn to talk about cities and directions**	**Tell me what is like- what's it like- talking about towns- directions**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
13 + 14	**1 + 1**	**Learn the present perfect, the past simple, and the third conjugation of the verb**	**Famous couples- present perfect and past simple- past –p.p-short answer**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
15 + 16	**1 + 1**	**Learn greetings Learn informal letters**	**People –great communication – information gap- neighbors – informal letters**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
17 + 18	**1 + 1**	**Learn to connect words**	**Living in the USA- information gap – you drive me mad –linking words**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
19 + 20	**1 + 1**	**Learn to connect words**	**The burglars friends- information gap – a radio drama- linking words**	**lecture**	**Written tests Semester exams Final exam**

					Daily evaluation
21 + 22	**1 + 1**	**Learn the details and places of the city**	**The best shopping street-town survey- my uncle shopkeeper**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
23 + 24	**1 + 1**	**Learn to plan Learn to write emails**	**Hollywood's kids-what are you plans- a song-writing postcards**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
25 + 26	**1 + 1**	**Learn to conduct interviews**	**Growing up in los Angeles-being a teenager-celebrity under view-mingle find someone-an interview with the band**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
27 + 28	**1 + 1**	**Learn auxiliary verbs**	**Does- and don't-have-should-must-jobs-at the doctor**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**
29 + 30	**1 + 1**	**Learn the things you like and the things you let go**	**Going places-scared to death-things that-earning a living-love you and leave you**	**lecture**	**Written tests Semester exams Final exam Daily evaluation**

11.Course Evaluation

The grade distribution out of 100 is as follows:
First semester theoretical exam = 20
Second semester theoretical exam = 20
Works of the year = 10
Final exam = 50

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	**New Headway Pre-intermediate**
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:

The crimes of the Baath regime in Iraq (Construction Branch + Drawing Branch)

2. Course Code:

3. Semester / Year:

First and second semester / Second year

4. Description Preparation Date:

13-2-2025

5. Available Attendance Forms:

Attend the lecture

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

30 hours / 60 units

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

Name: A.T. Muhannad Karim Saleh
Email: salah.ims@atu.edu.iq

8. Course Objectives

Course Objectives	To identify and learn about a group of crimes committed by the defunct and dissolved Baath Party against the Iraqi people and their various components, and to establish awareness among students to reject all forms of injustice and tyranny of these regimes and to demand all civil and political rights.

9. Teaching and Learning Strategies

Strategy	Giving lectures and using the method of discussion and dialogue

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	The student learned about the Baath crimes according to the Iraqi Criminal Court law	Baath crimes according to the Iraqi Criminal Court law	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
2	1	To distinguish between the concept of crimes and their categories	The concept of crimes and their types	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture

3	**1**	To clarify the term and language to the student	Definition of crime in language and terminology	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
4	**1**	To learn about crime departments	Crime departments	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
5	**1**	To learn about the types of international crimes	Types of international crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
6	**1**	To learn about the decisions issued by the Criminal Court	Decisions issued by the criminal court	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
7	**1**	To learn about psychological and social crimes and the most prominent violations of the Baath Party	Psychological and social crimes and the most prominent violations of the Baath Party	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
8	**1**	To identify psychological crimes	Psychological crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
9	**1**	To learn about the mechanisms of psychological crimes	Mechanisms of psychological crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
10	**1**	To identify the effects of psychological crimes	Psychological effects of crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
11	**1**	To learn about social crimes	Social crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
12	**1**	To clarify the concept of militarization of society	Militarization of society	Modern teaching methods (interactive presentation	Daily evaluation, noting the answers to questions during

				media)	the lecture
13	**1**	To learn about the Baath position on religion	The Baath position on religion	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
14	**1**	To identify violations of Iraqi laws	Violating Iraqi laws	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
15	**1**	To identify pictures of human rights violations	Pictures of human rights violations	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
16	**1**	To learn about some decisions of political violations	Some decisions of political violations	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
17	**1**	To learn about prison and detention locations	Prison and detention places	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
18	**1**	To learn about the environmental crimes of the Baath regime	Environmental crimes of the Baath regime	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
19	**1**	To learn about military pollution	Military pollution	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
20	**1**	To learn about the destruction of cities and villages	Destruction of cities and villages	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
21	**1**	To learn about drying marshes	Drying the marshes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
22	**1**	To learn about razing orchards	Dredging orchards	Modern teaching methods	Daily evaluation, noting the

				(interactive presentation media)	answers to questions during the lecture
23	**1**	To learn about mass graves	Mass graves	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
24	**1**	To learn about the events of extermination cemeteries	Extermination cemeteries events	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
25	**1**	To learn about the symbolic classification of extermination graves	Symbolic classification of extermination graves	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
26	**1**	To learn about presenting documents for genocide crimes	View documents for genocide crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
27	**1**	To learn about the presentation of criminal court decisions	View criminal court decisions	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
28	**1**	To learn about the accusations leveled against Saddam and his aides	The accusations leveled against Saddam and his aides	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
29	**1**	Watch and display video documents of crimes	Show photographic documents of crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture
30	**1**	Watch and display video documents of crimes	Show photographic documents of crimes	Modern teaching methods (interactive presentation media)	Daily evaluation, noting the answers to questions during the lecture

11.Course Evaluation

The grade distribution out of 100 is as follows:
First semester theoretical exam = 20
Second semester theoretical exam = 20
Works of the year = 10
Final exam = 50

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	The crimes of the Baath regime in Iraq
Main references (sources)	Archives of the Political Prisoners Foundation
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:					
Surveying and cartography (Drawing branch)					
2. Course Code:					
3. Semester / Year:					
First + second semester / First year					
4. Description Preparation Date:					
1-2-2025					
5. Available Attendance Forms:					
Attend a lecture					
6. Number of Credit Hours (Total) / Number of Units (Total)					
120 hours/ 240 units					
7. Course administrator's name (mention all, if more than one name)					
Name: A.T Anghreed Ali Shandel Email: :aenghreed.shandel.ims@atu.edu.iq					
8. Course Objectives					
Course Objectives		1-Teaching the student the basics of surveying and its use for civil engineering purposes 2-Enabling the student to use surveying devices 3-Teach to implement maps for projects			
9. Teaching and Learning Strategies					
Strategy		1-Identify surveying devices . 2-Learn about methods of calculating levels . 3-Learn about the types of maps and how to draw them .			
10. Course Structure					
Week	**Hours**	**Required Learning**	**Unit or subject name**	**Learning**	**Evaluation**

		Outcomes		method	method
1	4	Learn about Definition of space its Principles sections and uses	Definition of space its principles, sections and uses	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
2	4	Learn about Different units of measurement and the relationship between them	Different units of measurement and the relationship between them	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
3	4	Learn about Drawing scale, its types, How to find it and change the Drawing scale	Drawing scale, its types, How to find it and change the Drawing scale	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
4	4	Learn about Measuring horizontal distances Methods of measurement them And tools	Measuring horizontal distances Methods of measurement them And tools	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
5	4	Learn about Measuring methods on Sloping and winding terrain	Measuring methods on Sloping and winding terrain	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
6	4	Learn about Erecting and dropping columns	Erecting and dropping columns	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
7	4	Learn about Obstacles that hinder measurement and guidance and ways to overcome them	Obstacles that hinder measurement and guidance and ways to overcome them	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
8	4	Learn about Circular and short	Circular and short deviations	Lecture Laboratory	Written tests Semester

		deviations the geometric compass, its parts, how to set it up and use it	the geometric compass, its parts, how to set it up and use it	Summer training Field lesson	exams Final exam Daily evaluation
9	4	Raising an area with a compass polygon and how to correct table deviations	Raising an area with a compass polygon and how to correct table deviations	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
10	4	Learn about Leveling , its definitions, uses of Leveling devices	Leveling , its definitions, uses of Leveling devices	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
11	4	Learn about Installing the leveling device and calculating the levels using the height	Installing the leveling device and calculating the levels using the the height	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
12	4	Learn about The rise and fall method	The rise and fall method	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
13	4	Learn about Sources of errors in the Settlement process, and the amount of error allowed	Sources of errors in the Settlement process, and the amount of error allowed	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
14	4	Learn about Mutual settlement, inverted settlement	Mutual settlement, inverted settlement	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
15	4	Learn about Checking and adjusting the leveling device balancing the leveling lines	Checking and adjusting the leveling device balancing the leveling lines	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
16	4	Learn about Longitudinal	Longitudinal sections their use, how they are	Lecture Laboratory	Written tests Semester

		sections their use, how they are made and drawn	made and drawn	Summer training Field lesson	exams Final exam Daily evaluation
17	4	Learn about Cross sections finding the levels Of the cross section points drawing the cross section	Cross sections finding the levels Of the cross section points drawing the cross section	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
18	4	Learn about Calculating land areas and Longitudinal and cross – sections using various methods	Calculating land areas and Longitudinal and cross – sections using various methods	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
19	4	Learn about Calculating soil quantities (construction line)	Calculating soil quantities (construction line)	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
20	4	Learn about Calculating areas using a plan meter	Calculating areas using a plan meter	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
21	4	Learn about Representing the shape of lands and terrain on maps using different methods contour line and points elevation method	Representing the shape of lands and terrain on maps using different methods contour line and points elevation method	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
22	4	Learn about Contour lines their properties, Benefits, uses, and the direct method of making	Contour lines their properties, Benefits, uses, and the direct method of making contour maps	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation

		contour maps			
23	**4**	**Learn about Making lines their properties, Benefits ,uses, and the direct method of making contour maps**	**Making lines their properties, Benefits ,uses, and the direct method of making contour maps**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
24	**4**	**Learn about Horizontal curves their types, method of projecting a simple circular curve**	**Horizontal curves their types, method of projecting a simple circular curve**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
25	**4**	**Learn about Vertical curves, their purpose, how to calculate them**	**Vertical curves, their purpose, how to calculate them**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
26	**4**	**Learn about Deviations and terms About cartography, latitude and longitude**	**Deviations and terms About cartography, latitude and longitude**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
27	**4**	**Learn about Demarcation and inking tools and materials inking methods, engraving tools and materials, And engraving methods**	**Demarcation and inking tools and materials inking methods, engraving tools and materials, And engraving methods**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
28	**4**	**Learn about Calligraphy , its types styles, Shape, size, methods……etc**	**Calligraphy, its types styles, Shape, size, methods……etc**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
29	**4**	**Learn about Designing maps, map projections, and projection section according to form and purpose**	**Designing maps, map projections, and projection section according to form and purpose**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**

30	**4**	**Learn about Aerial photographs their uses Characteristics, methods and Requirements for Producing maps and diagrams**	**Aerial photographs their uses, Characteristics, methods and Requirements for producing maps and diagrams**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**

11. Course Evaluation
20% first semester & 20% second semester 10% evaluation year 50% final exam

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Surveying (1)
Main references (sources)	Surveying book
Recommended books and references (scientific journals, reports…)	A collection of books in the field of Surveying
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:
Construction materials (drawing section)
2. Course Code:
3. Semester / Year:
First + second semester / First year
4. Description Preparation Date:
3-2-2025
5. Available Attendance Forms:
Attend a lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
60 hours/ 120 units
7. Course administrator's name (mention all, if more than one name)
Name: Asst.Lec. Mustafa Hamid Jasim Email: mustafa.jasim.ims@atu.edu.iq
8. Course Objectives

Course Objectives	• **introducing the student to the properties of**

	construction materials, their uses and types, and some principles and basics **• Soil mechanics, barrier mechanics and hydraulics.**

9. Teaching and Learning Strategies	
Strategy	1- The meeting gives theoretical lectures and displays pictures and explanatory videos 2- Questions and discussion during the lecture. 3- Daily tests and homework.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	**2**	**Identifying and installing concrete**	**General principles about concrete, its definition, concrete installation, and some specific terminology.**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
2	**2**	**Learn about cement and its manufacturing and installation methods**	**Portland cement, its manufacture, chemical composition, types of cement and specifications of each type.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
3	**2**	**Identify the properties of cement and its physical tests**	**Cement properties, smoothness, weight loss by combustion, cement stability, heat of hydration, initial and final setting time, compressive strength, tensile strength.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
4	**2**	**Identify concrete aggregate, its sources and types**	**Concrete aggregate, its sources, types, and manufacturing.**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
5	**2**	**Learn about aggregate tests**	**Tests for aggregates: methods for taking samples, moisture content, specific gravity,**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
6	**2**	**Identify the unit weight of aggregate, gradation, and porosity**	**Unit weight of packed and unpacked aggregate, gradation, porosity**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam**

				Field lesson	Daily evaluation
7	2	Identify the absorbency of aggregates and the shape of aggregate grains	Absorption capacity of aggregate, abrasion, shape of particles, surface texture of particles, swelling of sand.	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
8	2	Identify the properties of the water used	Water, properties of water used in concrete, aggregate washing water, curing water.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
9	2	Identify additives for concrete	Additives for concrete, economic factors in the use of additives and uses of additives.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
10	2	Identify the properties of fresh concrete	Properties of fresh concrete, proportions used in regular concrete, effect of paste type on its properties.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
11	2	Identify the texture, bleeding and shrinkage of fresh concrete	Texture of fresh concrete, bleeding, shrinkage, unit weight, yield and quantity of cement in fresh concrete.	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
12	2	Identify the pouring, compacting and pumping of concrete	Pouring, compacting and curing concrete.	Lecture Laboratory Summer training	Written tests Semester exams Final exam Daily evaluation
13	2	Identify reinforced and unreinforced concrete, their properties and uses	Reinforced and unreinforced concrete, its mechanical properties, components, and uses.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation
14	2	Learn about concrete tests	Concrete tests and their applications.	Lecture Laboratory Summer training Field lesson	Written tests Semester exams Final exam Daily evaluation

15	**2**	**Conducting site visits to buildings under construction.**	**Site visit to a building under construction.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
16	**2**	**Identify steel, its specifications and types**	**Structural steel, its specifications, types, and uses.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
17	**2**	**Learn about the details of steel and its uses.**	**Steel details, rivets, welding, screws, and their uses.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
18	**2**	**Learn about flashing methods**	**Methods of inspection of concrete works and concrete production plants, and inspection during pouring.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
19	**2**	**Conducting a field visit to concrete factories**	**A visit to concrete production plants.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
20	**2**	**Identify soil properties**	**Soil, physical properties of soil,**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
21	**2**	**Identify soil permeability and resistance to shear, subsidence and compaction.**	**Soil permeability, shear resistance, subsidence, soil compaction.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
22	**4**	**Learn about on-site soil investigations**	**Field investigations and on-site soil tests**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**

23	**2**	**Identify the types of foundations and their uses**	**Foundations, their types, and uses.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
24	**2**	**Learn about fluid mechanics and the physical properties of fluids**	**Fluid mechanics and hydraulics, definition of fluids, physical properties of fluids.**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
25	**2**	**Identify density, viscosity, water pressure, cohesion, and surface tension**	**Density, viscosity, water compressibility, cohesion and adhesion, surface tension, capillary action, hydrostatic pressure**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**
26	**2**	**Identify flow situations**	**Types of open sewers and flow conditions.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
27	**2**	**Learn about calculating drainage**	**Applied problems for calculating drainage and flow velocity.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
28	**2**	**Identify the speed and pressure in open and closed sewers**	**Distribution of speed and pressure in open and closed sewers.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
29	**2**	**Identify applied issues**	**Solve applied problems about velocity distribution in open and closed sewers.**	**Lecture Laboratory Summer training Field lesson**	**Written tests Semester exams Final exam Daily evaluation**
30	**2**	**Conducting visits to work sites**	**A site visit to see structural steel, its types, steel connections, rivets, welding, and screws.**	**Lecture Laboratory Summer training**	**Written tests Semester exams Final exam Daily evaluation**

11. Course Evaluation
20% first semester & 20% second semester

10% evaluation year 50% final exam	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Curriculum book + Internet
Main references (sources)	A collection of books in the field construction materials
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:					
Descriptive engineering (Drawing branch)					
2. Course Code:					
3. Semester / Year:					
First & second semester/ Second Year					
4. Description Preparation Date:					
7-2-2025					
5. Available Attendance Forms:					
Lectures					
6. Number of Credit Hours (Total) / Number of Units (Total)					
90 hours / 180 units					
7. Course administrator's name (mention all, if more than one name)					
Name:Ali Raheem Yousif Email: ali.yousif@atu.edu.iq					
8. Course Objectives					
Course Objectives	• **Lerning the pupil representation of points,lines and planes .** • **Expanding the student´s understanding**				
9. Teaching and Learning Strategies					
Strategy	Include the subject with engineering drawing				
10. Course Structure					
Week	**Hours**	**Required Learning**	**Unit or subject**	**Learning**	**Evaluation**

		Outcomes	name	method	method
1	3	Identify what Is the subject	Introduction – definitions	Lecture	degree
2	3	Drawing	Project point in The planes	Lecture	degree
3	3	Drawing	Rectal shapes in space	Lecture	degree
4	3	Drawing	Calculation the Real length of Rectals	Lecture	degree
5	3	Drawing	Real length of rectal by heights diference	Leturec	degree
6	3	Drawing	Rectal effects on space	Lecture	degree
7	3	Drawing	Applications on sixth week	Lecture	degree
8	3	Drawing	Planes positions In space	Lecture	degree
9	3	Drawing	Real shape of Plane in space	Lecture	degree
10	3	Drawing	Real shape of plane	Lecture	degree
11	3	Drawing	Applications on Tenth week	Lecture	degree
12	3	Drawing	Therelation between two planes	Lecture	degree
13	3	Drawing	Assistant planes And their cross	Lecture	degree
14	3	Drawing	Plane breakout point	Lecture	degree
15	3	Drawing	Applications on 14^{th} week	Lecture	degree
16	3	Drawing	Calculation the Distance of point From plane	Lecture	degree
17	3	Drawing	Application on 16^{th} week	Lecture	degree
18	3	Drawing	Introduction to isometric	Lecture	degree
19	3	Drawing	Applications on Shape separated	Lecture	degree
20	3	Drawing	Continuous	Lecture	degree
21	3	Drawing	Continuous	Lecture	degree
22	3	Drawing	Continuous	Lecture	degree
23	3	Drawing	Continuous	Lecture	degree
24-30	3	Drawing	Applications on Computer	Lecture	degree
		Drawing		Lecture	degree
11. Course Evaluation					

1st semester		2nd semester		Annual evaluation	Annual quest	Final exam	Final degree
Sheets	Exam	Sheet	Exam				
10	10	10	10	10	50	50	100

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Text book20%+internet80%
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:
Architectural Drawing (drawing branch)
2. Course Code:
3. Semester / Year:
First + second semester / second year
4. Description Preparation Date:
3-2-2025
5. Available Attendance Forms:
Lecture
6. Number of Credit Hours (Total) / Number of Units (Total)
240 hours / 480 units
7. Course administrator's name (mention all, if more than one name)
Name: Suad Mohammed Heil Email: inm.sad@atu.edu.iq Name: Athraa Hamza Hussein Email: athraaarhi@gmail.com
8. Course Objectives

Course Objectives	**General objective of the course: – Teaching the student to prepare integrated architectural plans and familiarize him with architectural symbols.** **The specific objective of the course is to enable the student to draw and read architectural plans and learn about…** **Special maps – with horizontal plans, sections, facades, and all architectural Details Related to building construction, in addition to drawing the building in three dimensions and in multiple ways.**

9. Teaching and Learning Strategies	
Strategy	1. Learn about drawing architectural plans. 2. Identify architectural symbols to read completed plans. 3. Identify the standards used in drawing. 4. Drawing plans, facades and sections. 5. Drawing the general site plan for the projects.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	8	Identify On the items Architectural (Facades, sections, perspective (details) and then drawn. Architectural drawing, its elements (Interfaces sections perspective (details)	Architectural drawing, its elements (Interfaces sections perspective (details)	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Second	8	being able to Furniture drawing in Charts Horizontal At different scales.	Drawing furniture in blueprints Horizontal scale 1/100, 1/50	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Third	8	Being able to draw Horizontal charts For residential building floors On the required scale.	Draw a horizontal plan for a residential house Scale 1/100 ground + first.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) That He offers it Student in end lecture
Fourth	8	Being able to draw Horizontal charts In an apartment building Multi stories	Draw a diagram Horizontal (ground + first) (For my students 1/50 scale with	Lecture and drawing on painting The	Evaluation Daily For paintings Drawing (A3) that

		On the required scale Furnishing	horizontal floor plan drawn Ground floor in a building Multiple floors with	drawing (A3 paper) during Lecture time	He offers it Student in end lecture
Fifth	8	Being able to draw Horizontal charts For ground floor And multiple floors In an apartment building	a. Draw a diagram Horizontal to the ground floor B. Draw a horizontal plan for repeated floors In a multi-storey building.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Sixth	8	being able to Draw diagrams Typical horizontal A residential	building with all its details According to the scale A diagram is required Typical horizontal A residential building consisting of Four apartments On a scale of 1/100	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Seventh	8	being able to Draw diagrams Horizontal for an apartment only The required scale with the furniture drawing.	Draw a diagram Horizontal to one of the apartments 1/50 scale with furnishing	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Eighth	8	A. Foundation plans for a residential house with dimensions at a scale of 1/50 B. Foundation plans for a house Residential with dimensions On a scale of 1/100	being able to Drawing foundation plans for a residential house with dimensions and according to the required scale	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Ninth	8	Being able to draw	Required	Lecture and	Evaluation

		Types of walls With clarification The basis and its connection With floor and ceiling And the curtain is to scale	Types of walls (bearing and non- bearing). Weight-bearing) with explanation The basis and its connection With floor and ceiling The curtain is in 1/20 scale	drawing on painting The drawing (A3 paper) during Lecture time	Daily For paintings Drawing (A3) that He offers it Student in end lecture
Tenth	8	Being able to draw details Floors are not clear Its layers At different scales.	Floor details to clarify Materials Various constructional materials Buffer and its symbols On a scale of 1/10- 1/20	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Eleventh	8	Being able to draw Ceilings details To clarify Its layers At different scales.	Details of ceilings, to clarify materials Construction Various insulating materials Its symbols are on a scale of 1/10-1/20	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Twelfth	8	Details of ceilings, to clarify materials Construction Various insulating materials Its symbols are on a scale of 1/10-1/20	Being able to draw Ceilings details To clarify Its layers At different scales.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Thirteenth	8	Being able to draw Stairs and their types Such as diagrams and interfaces And clips with scales Different with drawing Other details of the	A. Stairs and their types, drawing plans And sections, facades with scale 1/50-1/20 a. Detailed drawing of the group Blessings with The plate with	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture

		ladder	quarry detail		
Fourteenth-Sixteenths	8	Being able to draw Section in a residential house ,multiple building floors) with measurements Different	Drawing a cross-section of a multiple building Floors On a scale of 1/50-1/100	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Seventeenth	8	Being able to draw Shadows from several points, with their horizontal projection drawn and plotted In three dimensions.	A- Shadows of points, plumb lines, and vertical and inclined objects. B-Drawing shadows in three dimensions and their horizontal projection.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Eighteenth	8	Being able to draw Interface drawing Residential house of the required scale with shade.	Drawing the facade of a residential house on a scale of 1/100 with shadows.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Nineteenth	8	Being able to draw Interface drawing Residential house At the desired scale with shadows.	Drawing the facade of a residential house on a scale of 1/50 with shadows.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
twenty	8	Being able to draw Drawing a facade of a building Multi-storey At different scales With shadows.	Drawing of the facade of a multi-storey building with shadows at a scale of 1/100 And 1/50	Lecture and drawing on painting The drawing (A3 paper) during Lecture	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture

				time	
Twenty-one	8	being able to Painting brick walls In the English system And German (horizontal charts, interfaces, perspective) at the required scale	How to draw brick walls using the English and German system (horizontal plans, facades, perspective) scale 1:20	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Twenty-two	8	Being able to draw Walls with structured stone (Al-Halan), the method of installing it in the facades and the prefabricated pieces, and the method of installing it. How to use aluminum parts (coupon). A coupon And its installation in the facades.	A - How to paint walls with organized stone (Al-Halan), how to install it in facades and prefabricated pieces, and how to install it. B. How to use aluminum parts (A coupon). And its installation in the facades.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
twenty three	8	Being able to draw The various arches in the facades are made of brick or arranged stone in the facades. And drawing decorations Brick, stone and honey. .	A. The method of drawing the different arches in the facades from bricks or organized stone in the facades. B- Drawing brick, stone and stone decorations	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Twenty-fourth and twenty-fifth	8	Being able to draw a diagram The site is a group of residential buildings At the required scale, indicating the streets Surroundings, green areas and parking lots.	Draw a site plan for a group of residential buildings on a scale of 500/1, indicating the surrounding streets, green areas, and parking lots. Draw a site plan for a group of residential buildings on a scale of 500/1, indicating	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture

			the surrounding streets, green areas, and parking lots.		
twenty-sixth	8	Being able to draw perspective in terms of Methods drawing(vanishing point, dot Vanishing, three vanishing points) with Draw it in terms of location The observer (at level Consider below level Consideration - the highest level look)	A. Principles of perspective in terms of Methods drawing(vanishing point, dot Fade, three points fade) With cases applied to a cube basic. B. Perspective in terms of location The viewer (at the level of sight - below the level of sight - the highest level look)	Lecture and drawing On painting The drawing (A3 paper) During Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
Seventh , eighth and the twenty	8	Being able to draw Perspective for Dar Residential level Consider) my point Fade. –Perspective of a multi-storey building at eye level.	-A perspective of architecture Multi-storey at eye level. Perspective for Dar I live at eye level) my point Fade.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture
twenty-ninth and thirty	8	Being able to draw The internal perspective In a residential home with	Furnishing idea about The internal perspective and its rules, perspective To one of the facilities Interior in a residential house with Furnishing.	Lecture and drawing on painting The drawing (A3 paper) during Lecture time	Evaluation Daily For paintings Drawing (A3) that He offers it Student in end lecture

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
Daily submission (A3 drawing boards) = 20%
Two exams (Day Sketch) =5%
First course + second course = 20%
Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if	Architectural drawing + civil drawing

any)	
Main references (sources)	Architectural drawing methodical book
Recommended books and references (scientific journals, reports…)	Neufert book (elements of architectural design and construction)
Electronic References, Websites	Benefit from documented architectural sources from the Internet When it's needed.

Course Description Form

1. Course Name:					
Structural drawing (drawing branch)					
2. Course Code:					
3. Semester / Year:					
First & second semester/ Second year					
4. Description Preparation Date:					
3-2-2025					
5. Available Attendance Forms:					
Lectures+ Drawing					
6. Number of Credit Hours (Total) / Number of Units (Total)					
180 hours / 360 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Suad Mohammed Heil Email: inm.sad@atu.edu.iq					
8. Course Objectives					
Course Objectives	Teaching students to draw and read different structural plans for engineering works				
9. Teaching and Learning Strategies					
Strategy	The student can understand the function of each part of the structure fr the structural side and know the standard specification for the structu part concrete and structural steel.				
10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	**6**	**Learn about Stresses in structure, transition**	**Stresses in structure, transition loads, kinds of different**	**Theoretical lectures, dialogue,**	**Quizzes, documented examinations,**

		loads, Learn about kinds of different stresses which happened in structure, kinds of resistance for concrete and steel.	stresses which happened in structure, kinds of resistance for concrete and steel.	brainstormin g, examples and questions used to achieve the goals, reports	quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
2	6	Learn about Structural steel use, the typical section for structural steel train students how to extract details of special tables for structural steel, composite sections.	Structural steel use, the typical section for structural steel train students how to extract details of special tables for structural steel, composite sections.	Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
3	6	Learn about Explaining the ways to join the structural steel section (bolts, welds), type's connections, and weld symbols.	Explaining the ways to join the structural steel section (bolts, welds), type's connections, and weld symbols.	Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
4	6	Learn about Details of connection structural steel column with bases, details of structural steel column with each other's, placing drawing &shop drawing.	Details of connection structural steel column with bases, details of structural steel column with each other's, placing drawing &shop drawing.	Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
5	6	Learn about Connections of structural steel beams with each other, connections beams to columns.	Connections of structural steel beams with each other, connections beams to columns.	Theoretical lectures, dialogue, brainstormin g, examples and questions	Quizzes, documented examinations, quarterly exams, final exams, oral

				used to achieve the goals, reports	questions and discussions during the lectures, home works and reports
6	6	Learn about Draw exercises about all above by computer.	Draw exercises about all above by computer.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
7	6	Learn about Draw details of structural steel building with two plans (shop& site)	Draw details of structural steel building with two plans (shop& site)	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
8	6	Learn about Structural steel composite (for each connection by bolts, welds)	Structural steel composite (for each connection by bolts, welds)	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
9	6	Learn about Reinforced concrete, symbols used for special drawings, types of slabs, and draw a plan for one-way reinforced slabs.	Reinforced concrete, symbols used for special drawings, types of slabs, and draw a plan for one-way reinforced slabs.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the

					lectures, home works and reports
10	6	Learn about Two-way slabs (plans & sections)	Two-way slabs (plans & sections)	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
11	6	Learn about Draw a plan for slab which contain one-way and two-way slab.	Draw a plan for slab which contain one-way and two-way slab.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
12	6	Learn about Compose an as-built drawing for the above drawing.	Compose an as-built drawing for the above drawing.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
13	6	Learn about Beams, types of reinforcement steel, position of cut &bent of steel, use of stirrups, draw types of beams.	Beams, types of reinforcement steel, position of cut &bent of steel, use of stirrups, draw types of beams.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports

14	**6**	**Learn about Draw a sheet for the beam with a used table for reinforcement steel by the student.**	**Draw a sheet for the beam with a used table for reinforcement steel by the student.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
15	**6**	**Learn about Draw typical cross-sections for reinforced concrete columns, and the way of connections.**	**Draw typical cross-sections for reinforced concrete columns, and the way of connections.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
16	**6**	**Learn about Draw longitudinal sections column in multiflorous buildings depending on reinforcement table for column and with cross-sections.**	**Draw longitudinal sections column in multiflorous buildings depending on reinforcement table for column and with cross-sections.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
17	**6**	**Learn about Draw longitudinal sections column in multiflorous buildings depending on reinforcement table for column and with cross-sections.**	**Draw longitudinal sections column in multiflorous buildings depending on reinforcement table for column and with cross-sections.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
18	**6**	**Learn about Types of foundation, draw the sample for single**	**Types of foundation, draw the sample for single footing with**	**Theoretical lectures, dialogue,**	**Quizzes, documented examinations,**

		footing with sections, splices of reinforcement steel of column with footing.	**sections, splices of reinforcement steel of column with footing.**	**brainstormin g, examples and questions used to achieve the goals, reports**	**quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
19	**6**	**Learn about Combined footing, the reasons of use, draw details of combined footing, symmetrical and not symmetrical (draw by computer).**	**Combined footing, the reasons of use, draw details of combined footing, symmetrical and not symmetrical (draw by computer).**	**Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
20	**6**	**Learn about Strap footings and sections.**	**Strap footings and sections.**	**Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
21	**6**	**Learn about Piles and types piles caps (draw by computer).**	**Piles and types piles caps (draw by computer).**	**Theoretical lectures, dialogue, brainstormin g, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
22	**6**	**Learn about Stairs and types, details of steel reinforcement for stair, and connect to lower and upper landing.**	**Stairs and types, details of steel reinforcement for stair, and connect to lower and upper landing.**	**Theoretical lectures, dialogue, brainstormin g, examples and questions**	**Quizzes, documented examinations, quarterly exams, final exams, oral**

				used to achieve the goals, reports	questions and discussions during the lectures, home works and reports
23	6	Drawing details of the stair's elevators.	Drawing details of the stair's elevators.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
24	6	Learn about Reinforced concrete walls types of retaining walls, draw details of steel reinforcement (draw by computer).	Reinforced concrete walls types of retaining walls, draw details of steel reinforcement (draw by computer).	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
25	6	Learn about Site visit for building under construction (from steel reinforcement)	Site visit for building under construction (from steel reinforcement)	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
26	6	Learn about Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand	Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand and other by	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the

		and other by computer.	**computer.**		**lectures, home works and reports**
27	**6**	**Learn about Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand and other by computer.**	**Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand and other by computer.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
28	**6**	**Learn about Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand and other by computer.**	**Draw reinforcement building (slabs, beams, columns, foundations) with details of connection members with each other (draw part of drawing with hand and other by computer.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
29	**6**	**Learn about Preparing executive drawings for a section of the previous drawings for the project in weeks 26, 27, and 28.**	**Preparing executive drawings for a section of the previous drawings for the project in weeks 26, 27, and 28.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
30	**6**	**Learn about Preparing executive drawings for a section of the previous drawings for the project in weeks 26, 27, and 28.**	**Preparing executive drawings for a section of the previous drawings for the project in weeks 26, 27, and 28.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**

11. Course Evaluation					
الدرجة النهائية	امتحان نهائي	سعي سنوي	تقييم سنوي	الفصل الثاني	الفصل الاول
100	50	50	10	20	20

12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	Structural drawing
Main references (sources)	Curriculum book + Internet
Recommended books and references (scientific journals, reports…)	A collection of books in the field of Structural drawing
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:	
Highway drawing (drawing branch)	
2. Course Code:	
3. Semester / Year:	
First Semester / Second year	
4. Description Preparation Date:	
2-2-205	
5. Available Attendance Forms:	
Lectures+ drawing	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 Hours / 45 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Suad Mohammed Heil Email: inm.sad@atu.edu.iq	
8. Course Objectives	
Course Objectives	Teach the student to draw plans for the work of sanitary engineering.
9. Teaching and Learning Strategies	
Strategy	To enable the student to draw and read the details of sanitary engineering works in the field of water purification and distribution, as well as sewage networks and dirty water purification, with an understanding of the basics related to filtration and distribution

	operations.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Learn about the work of sanitary engineering, its importance, and the types of sanitary drawings, then explaining and drawing all the sanitary symbols for sanitary maps (types of pipes, valves, sanitary accessories).	The work of sanitary engineering, its importance, and the types of sanitary drawings, then explaining and drawing all the sanitary symbols for sanitary maps (types of pipes, valves, sanitary accessories).	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
2	3	Learn about the parts of the water liquefaction plant and the stages of water purification, then draw a layout for a typical liquefaction plant and take a section in it.	The parts of the water liquefaction plant and the stages of water purification, then draw a layout for a typical liquefaction plant and take a section in it.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
3	3	Learn about Scientific visit to one of the water liquefactions stations.	Scientific visit to one of the water liquefactions stations.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
4	3	Learn about the filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	The filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
5	3	Learn about the filtration process with, drawing the	The filtration process with, drawing the types	Theoretical lectures, dialogue,	Quizzes, documented examinations,

		types of filtration tanks, such as the rapid sand filter and the pressure filter.	of filtration tanks, such as the rapid sand filter and the pressure filter.	brainstorming , examples and questions used to achieve the goals, reports	quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
6	3	Learn about Water distribution networks in the city and the joints used in the networks. Draw a diagram of two types of water distribution methods in the city with a drawing of the valves used.	Water distribution networks in the city and the joints used in the networks. Draw a diagram of two types of water distribution methods in the city with a drawing of the valves used.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
7	3	Learn about Water tanks in cities and the nature of their work in securing a fixed rate of water for a city with a typical tank.	Water tanks in cities and the nature of their work in securing a fixed rate of water for a city with a typical tank.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
8	3	Learn about Distribution of water inside buildings with a map of the water installations of a residential house.	Distribution of water inside buildings with a map of the water installations of a residential house.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
9	3	Learn about Drawing water installations for multi-story buildings with all the necessary details of pipes, overhead tanks, and pumping pumps.	Drawing water installations for multi-story buildings with all the necessary details of pipes, overhead tanks, and pumping pumps.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
10	3	Learn about The sewage network (sewage) for the	The sewage network (sewage) for the multi-story	Theoretical lectures, dialogue,	Quizzes, documented examinations,

		multi-story house and buildings, with a sewage map for a two-story house (using the computer).	house and buildings, with a sewage map for a two-story house (using the computer).	brainstorming , examples and questions used to achieve the goals, reports	quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
11	3	Learn about How to dispose of liquid waste with, drawing a diagram of a sewage network and a contour diagram for a specific area with a cross-sectional drawing.	How to dispose of liquid waste with, drawing a diagram of a sewage network and a contour diagram for a specific area with a cross-sectional drawing.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
12	3	Learn about Inspection basins, types, uses, drawing them with details.	Inspection basins, types, uses, drawing them with details.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
13	3	Learn about stages of sewage filtration with, drawing a general plan of the dirty water purification and taking a section of it (using a computer).	stages of sewage filtration with, drawing a general plan of the dirty water purification and taking a section of it (using a computer).	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
14	3	Learn about biological treatment with a detailed drawing of a biological filter.	biological treatment with a detailed drawing of a biological filter.	Theoretical lectures, dialogue, brainstorming , examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
15	3	Learn about Explanation and drawing of septic tanks and sewers as a method of sewage drainage, with all the	Explanation and drawing of septic tanks and sewers as a method of sewage drainage, with all the necessary details and	Theoretical lectures, dialogue, brainstorming , examples and questions used to	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during

	necessary details and dimensions, using a computer.	dimensions, using a computer.	achieve the goals, reports	the lectures, home works and reports	

11. Course Evaluation

الدرجة النهائية	الامتحان النهائي	السعي	التقييم	اللوحات	الشهر الثاني	الشهر الاول
100	50	50	10	20	10	10

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Road drawing and irrigation drawing**
Main references (sources)	**Curriculum book + Internet**
Recommended books and references (scientific journals, reports…)	**A collection of books in the field of road drawing and irrigation drawing**
Electronic References, Websites	**Check out the websites in this field**

Course Description Form

1. Course Name:
Mechanical drawing (drawing branch)
2. Course Code:
3. Semester / Year:
First Semester / First year
4. Description Preparation Date:
3-2-2025
5. Available Attendance Forms:
Lectures+ drawing
6. Number of Credit Hours (Total) / Number of Units (Total)
45 hours / 45 units
7. Course administrator's name (mention all, if more than one name)
Name:Ali Raheem Yousif Email: ali.yousif@atu.edu.iq
8. Course Objectives

Course Objectives	Learning the pupil to draw the mechanical assembly by board and by computer

9. Teaching and Learning Strategies

Strategy	Using the modern programs for drawing

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Lern the pupil Assembly	Rivets-types-symbols-how to Use	Drawing	Degree
2	3	Learn the pupil About assembly drawing	Drawing assembly connected by rivets	Drawing	Degree
3	3	Learn the pupil about connection by bolt and nut	Bolt-nut-types-Symbols-how to Draw	Drawing	Degree
4	3	Learn the pupil to Draw assembly	Drawing assembly By board	Drawing	Degree
5	3	Different assemblies	Identify different figures	Drawing	Degree
6	3	Using computer to Draw assembly Connected by rivets And bolt with nut	Drawing by computer	Drawing	Degree
7	3	Learn about welding	Welding-types-symbols	Drawing	Degree
8	3	Learn about gears	Gears-typs-Definition-symbols	Drawing	Degree
9	3	Using program to Draw gears ass. directly	Drawing gears ass.	Drawing	Degree
10	3	Learn about cams And follower	Cams-types-follower Types –how to draw	Drawing	Degree
11	3	Learn about springs And uses	Springs-types-dim. How to draw	Drawing	Degree
12	3	Learn about air ducts	How to draw ducts of air	Drawing	Degree
13	3	Contiuous	Drawing a sheet	Drawing	Degree
14	3	Learn about relation Between parts	Drawing assembly Of several parts	Drawing	Degree
15	3	Learn about Separate ass.	Separation-how to draw	Drawing	Degree

11.Course Evaluation

الدرجة النهائية	الامتحان النهائي	السعي	التقييم	اللوحات	الشهر الثاني	الشهر الاول
100	0	50	10	20	10	10

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Curriculum 20% + Al-Mustansiriya University lectures + Internet 80%
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name:	
Electrical drawing (drawing branch)	
2. Course Code:	
3. Semester / Year:	
Second Semester / Second year	
4. Description Preparation Date:	
3-2-2025	
5. Available Attendance Forms:	
Lectures+ drawing	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours / 45 units	
7. Course administrator's name (mention all, if more than one name)	
Name:Ali Raheem Yousif	**Email: ali.yousif@atu.edu.iq**
8. Course Objectives	
Course Objectives	**Learn the pupil about the electrical establishments And electronic circuits**
9. Teaching and Learning Strategies	
Strategy	**Using the modern programs for drawing**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Learn about electrical symbols	Electrical symbols -their drawing	Drawing	Degree
2	3	Symbols drawing and Their position in computer	Drawing the symbols By hand and by Computer	Drawing	Degree
3	3	Learn about electrical circuits in institute	Visithng the electric lab	Drawing	Degree
4	3	Drawing a sheet	Drawing by computer	Drawing	Degree

5	**3**	**Drawin lamps circuit**	**Drawing different Circuit**	**Drawing**	**Degree**
6	**3**	**Drawing a sheet by computer**	**Using computer in Drawing**	**Drawing**	**Degree**
7	**3**	**Drawing simple office**	**Simple idea for establishments by computer**	**Drawing**	**Degree**
8	**3**	**Drawing the electrical Establishments of small House**	**Example about Drawing the electrical Circuits of house**	**Drawing**	**Degree**
9	**3**	**Drawing by computer**	**Example about Drawing the electrical Circuits of house by computer**	**Drawing**	**Degree**
10	**3**	**Learn about distribution of electrical installations**	**Establishments of building of many Floors**	**Drawing**	**Degree**
11	**3**	**Learn about distribution of electrical installations**	**Establishments of building of many Floors**	**Drawing**	**Degree**
12	**3**	**Learn about installation the connections**	**Scientific vist**	**Drawing**	**Degree**
13	**3**	**Learn about factory establishments**	**Electrical establishments in a factory and distribution panel**	**Drawing**	**Degree**
14	**3**	**Drawing an electrical connections in the hall in a factory**	**Distribution the different connections in a factory**	**Drawing**	**Degree**
15	**3**	**Drawing a sheet**	**Drawing the control panel and connections in a factory**	**Drawing**	**Degree**

11.Course Evaluation

الدرجة النهائية	الامتحان النهائي	السعي	التقييم	اللوحات	الشهر الثاني	الشهر الاول
100	50	50	10	20	10	10

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Latest versions of electrical drawing
Main references (sources)	

Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	Check out the websites in this field

Course Description Form

1. Course Name:	
sanitary drawing (Drawing branch)	
2. Course Code:	
3. Semester / Year:	
Second Semester / Second year	
4. Description Preparation Date:	
4-2-2025	
5. Available Attendance Forms:	
Lectures+ drawing	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45 hours / 45 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Suad Mohammed Heil Email: inm.sad@atu.edu.iq	
8. Course Objectives	
Course Objectives	Teach the student to draw plans for the work of sanitary engineering.
9. Teaching and Learning Strategies	
Strategy	To enable the student to draw and read the details of sanitary engineering works in the field of water purification and distribution, as well as sewage networks and dirty water purification, with an understanding of the basics related to filtration and distribution operations.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Learn about the work of sanitary engineering, its importance, and the types of sanitary drawings, then explaining and drawing all the sanitary symbols for sanitary maps	The work of sanitary engineering, its importance, and the types of sanitary drawings, then explaining and drawing all the sanitary symbols for	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions

		(types of pipes, valves, sanitary accessories).	sanitary maps (types of pipes, valves, sanitary accessories).		during the lectures, home works and reports
2	3	Learn about the parts of the water liquefaction plant and the stages of water purification, then draw a layout for a typical liquefaction plant and take a section in it.	The parts of the water liquefaction plant and the stages of water purification, then draw a layout for a typical liquefaction plant and take a section in it.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
3	3	Learn about Scientific visit to one of the water liquefactions stations.	Scientific visit to one of the water liquefactions stations.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
4	3	Learn about the filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	The filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
5	3	Learn about the filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	The filtration process with, drawing the types of filtration tanks, such as the rapid sand filter and the pressure filter.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and

					reports
6	3	Learn about Water distribution networks in the city and the joints used in the networks. Draw a diagram of two types of water distribution methods in the city with a drawing of the valves used.	Water distribution networks in the city and the joints used in the networks. Draw a diagram of two types of water distribution methods in the city with a drawing of the valves used.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
7	3	Learn about Water tanks in cities and the nature of their work in securing a fixed rate of water for a city with a typical tank.	Water tanks in cities and the nature of their work in securing a fixed rate of water for a city with a typical tank.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
8	3	Learn about Distribution of water inside buildings with a map of the water installations of a residential house.	Distribution of water inside buildings with a map of the water installations of a residential house.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
9	3	Learn about Drawing water installations for multi-story buildings with all the necessary details of pipes, overhead tanks, and pumping pumps.	Drawing water installations for multi-story buildings with all the necessary details of pipes, overhead tanks, and pumping pumps.	Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports	Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports
10	3	Learn about the sewage network (sewage) for	The sewage network (sewage) for the	Theoretical lectures,	Quizzes, documented

		the multi-story house and buildings, with a sewage map for a two-story house (using the computer).	**multi-story house and buildings, with a sewage map for a two-story house (using the computer).**	**dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
11	**3**	**Learn about How to dispose of liquid waste with, drawing a diagram of a sewage network and a contour diagram for a specific area with a cross-sectional drawing.**	**How to dispose of liquid waste with, drawing a diagram of a sewage network and a contour diagram for a specific area with a cross-sectional drawing.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
12	**3**	**Learn about Inspection basins, types, uses, drawing them with details.**	**Inspection basins, types, uses, drawing them with details.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
13	**3**	**Learn about stages of sewage filtration with, drawing a general plan of the dirty water purification and taking a section of it (using a computer).**	**stages of sewage filtration with, drawing a general plan of the dirty water purification and taking a section of it (using a computer).**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**
14	**3**	**Learn about biological treatment with a detailed drawing of a biological filter.**	**biological treatment with a detailed drawing of a biological filter.**	**Theoretical lectures, dialogue, brainstorming, examples and**	**Quizzes, documented examinations, quarterly exams, final**

				questions used to achieve the goals, reports	**exams, oral questions and discussions during the lectures, home works and reports**
15	**3**	**Learn about Explanation and drawing of septic tanks and sewers as a method of sewage drainage, with all the necessary details and dimensions, using a computer.**	**Explanation and drawing of septic tanks and sewers as a method of sewage drainage, with all the necessary details and dimensions, using a computer.**	**Theoretical lectures, dialogue, brainstorming, examples and questions used to achieve the goals, reports**	**Quizzes, documented examinations, quarterly exams, final exams, oral questions and discussions during the lectures, home works and reports**

13. Course Evaluation

الدرجة النهائية	الامتحان النهائي	السعي	التقييم	اللوحات	الشهر الثاني	الشهر الاول
100	50	50	10	20	10	10

14. Learning and Teaching Resources

Required textbooks (curricular books, if any)	**Health drawing**
Main references (sources)	**Curriculum book + Internet**
Recommended books and references (scientific journals, reports…)	**A collection of books in the field of health drawing**
Electronic References, Websites	**Check out the websites in this field**

Course Description Form

1. Course Name:
Architecture Presentation (Drawing branch)
2. Course Code:
3. Semester / Year:
First + Second semester / second Year
4. Description Preparation Date:
5-2-2025
5. Available Attendance Forms:

Ceremony and Sculptures workshop
6. Number of Credit Hours (Total) / Number of Units (Total)
180 hours / 360 units
7. Course administrator's name (mention all, if more than one name)
Name: Nadya Hussein Muslim Email: nadya.muslim@atu.edu.iq Name: Athraa Hamza Hussein Email: athraaarhi@gmail.com

8. Course Objectives	
Course Objectives	General objective of the course: - Teaching the student how to display architectural projects and plans. The specific objective of the course: - To enable the student to draw and show architectural plans (horizontal, facade sections, perspective) in addition to the sense of space and methods for making models, models, and architectural supplements.

9. Teaching and Learning Strategies	
Strategy	• **Learn about drawing geometric shapes and then converting these shape into maquettes** • **Recognizing the scales used in drawing and reducing and enlarging maquettes.** • **Learn how to create an integrated project in terms of the general locati of the project, its furniture and design** **The building block required for the project.**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
First	6	Identify and become familiar with a topic Architectural display, its elements, types, and uses in projects And architectural plans.	is architectural rendering, its elements, types, and uses in architectural projects and plans.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	written tests, semester exams, Exams final, Evaluation Daily For drawing boards
Second	6	Ability to use technology Pencils in making gradients	color gradations between black and white.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	written tests, semester exams, Exams final, Evaluation Daily For drawing boards
Third	6	Being able to use the pencil	texture is its uses in	Lecture and drawing	written tests, semester

		technique to create texture in different shapes.	creating color gradations and using pencils.	on painting Drawing (A3 paper) During lecture time	exams, Exams final, Evaluation Daily For drawing boards
Fourth	6	Being able to use the pencil technique to draw geometric types of decorations.	decorations, their types, and methods of drawing them using pencils	Lecture and drawing on painting Drawing (A3 paper) During lecture time	written tests, semester exams, Exams final, Evaluation Daily For drawing boards
Fifth	6	Identify models Architecture and various projects drawn with pencils using the computer.	displaying models of architectural plans and various projects drawn with pencils using a computer.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	written tests, semester exams, Exams final, Evaluation Daily For drawing boards
Sixth	6	Being able to use the primary and secondary color technique, and the relationship between them, after learning about color, its theories, and the color circle.	Color, its theories, the color circle, primary and secondary colors, and the relationship between them.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Seventh	6	Being able to use the wooden pencil technique to draw color gradations and theories of making relationships between colors.	Using color gradations and theories to create relationships between colors using wooden pencils.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Eighth	6	Ability to use wood colors to apply color gradients and create geometric	Applying color gradations and theories in creating geometric and floral decorations using wood colors.	Lecture and drawing on painting Drawing (A3 paper)	During lecture time. Rating from During submission Paintings

		decorations.		During lecture time	Journal at the end of the lecture
Ninth	6	Ability to draw and display furniture in horizontal plans, sections, and facades at different drawing scales.	Drawing furniture in horizontal plans, sections, and facades on a drawing scale of 1:50 and 1:100.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Tenth	6	Being able to use colors in a ground floor plan while using furniture and displaying them.	Using colors to create a ground floor plan with the use of furniture.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Eleventh	6	A. Being able to use the computer to draw architectural plans and projects drawn in ink. B - Displaying architectural facades covered with aluminum pieces (coupon Al-Coupon).	A- Drawing the shadow of a point B- and vertical C- and inclined objects. B - Drawing the shadow in isometric fom C-and in its horizontal projection	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Twelfth:	6	Being able to use the computer to draw architectural plans and projects in color after learning about them through display.	Presentation of architectural plans and projects in color and using the computer.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Thirteenth	6	Using colors to show a site map for residential complexes.	Using colors to show a site map of residential complexes.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture

Fourteenth and Fifteenth:	6	Collage, its types, uses for creating a model with geometric or floral decorations and in multiple colors.	Collage, its types, uses, and modeling of geometric or floral decorations in multiple colors.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Sixteenth	6	Being able to use canson paper to create a horizontal plan of aresidential house at different drawing scales.	Using collage to create a horizontal plan for a residential house on a drawing scale of 1:50 and 1:100.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Seventeen Th	6	A- Presenting architectural plans and projects drawn in ink and using a calculator. B - Displaying architectural facades covered with aluminum pieces (coupon Al-Coupon). Ink pens, their types, and their uses in various architectural plans.	A- Presentation B- of architectural plans C- and projects drawn in ink and using a calculator.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Eighteenth	6	Being able to use Types of ink pens, to show various architectural plans.	Ink pens, their types, and their uses in various architectural plans.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture
Nineteen	6	Being able to draw types of trees, and ways to show them in location, interface and perspective.	Trees, their types, and methods of drawing them in terms of location, facades, and perspective.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Twenty	6	Being able to draw People and ways to	people and methods of	Lecture and drawing	During lecture time.

		display them in plans, interfaces, and perspective.	drawing in facades and perspective.	on painting Drawing (A3 paper) During lecture time	Rating from During submission Paintings Journal at the end of the lecture.
Twenty-One	6	Being able to use the previously mentioned display techniques in the lectures in drawing a perspective of a house with two vanishing points.	Using one of the methods of showing (pencil, wooden colors, collage, ink pens) in a perspective drawing of a house with two vanishing points.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Twenty-Two	6	The same exercise in using the previously mentioned display techniques in the lectures in drawing an internal perspective (of a residential house) of one of the spaces using a single vanishing point.	The same exercise as the previous one to draw an interior perspective (of a residential house) of a space using a single vanishing point.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Twenty-Three	6	Being able to make simple models using chanson cardboard and motherboard.	Using cartoons to make models of simple shapes (cube, cylinder, pyramid, etc.).	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Twenty-Four	6	Ability to work The previous figures are in the form of a geometric formation installed on a base to create a feeling of emptiness.	Using the previous models to create a geometric formation that is fixed on a base to create a feeling of emptiness.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
Fifth, sixth ,seventh And twenty	6	Ability to work A model of a residential house in the condition of being cut down, showing the distribution of furniture to the required scale.	Create a model of a residential house in the state of dismantling, showing the distribution of furniture on a scale of 1:50.	Lecture, drawing, and making simple models using chanson cardboard	During lecture time. Rating from During submission Paintings Journal at the end of

				and motherboard. During lecture time.	the lecture.
Fifth,sixth, Seventh and Twenty	6	Being able to do something A model of a residential house in the condition of being cut down, showing the distribution of furniture to the required scale.	Create a model of a residential house in the state of dismantling, showing the distribution of furniture on a scale of 1:50.	Lecture and drawing on painting Drawing (A3 paper) During lecture time	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.
The eighth and Ninth And the twenty And the thirty	6	Being able to do work An external model of a residential house at different scales, illustrating the architectural complements	Make an external model of a residential house on a scale of 1:50 or 1:100, explaining the architectural additions.	Lecture, drawing, and making simple models using chanson cardboard and motherboard. During lecture time.	During lecture time. Rating from During submission Paintings Journal at the end of the lecture.

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
Daily submission (A3 drawing boards) = 20%
Two exams (Day Sketch) =5%
First course + second course = 20%
Final exam 50%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	A systematic book on engineering perspective
Main references (sources)	Methodical book-Modeling and Architectural Demonstration
Recommended books and references (scientific journals, reports…)	Books specialized in fine arts colleges
Electronic References, Websites	Benefiting from sources specialized in architectural displayThe Internet when you need it.

Note :The Arabic language cannot be translated to English because it losses its meaning.