Academic Program Description Form

University name: Al-Furat Al-Awsat Technical University

College/Institute: Karbala Technical Institute

Scientific Department: Department of Civil Technologies

Name of the academic or professional program: Diploma

Name of final certificate: Diploma in Civil, Building and Construction Technologies

Academic system: Annual System

Description preparation date: 2/15/2024

File Completion Date: 1/3/2024

Signature: A.H. Adheem

Head of Department Name:

Assist. Prof. Ali Hadi Adheem

Date: 1/3/2024

Signature: Laith

Scientific Associate Name:

Assist. Prof. Laith Hassan Jawad

Date: 1/3/2024

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Signature: Assist. Prof. Ali Neamah Hasan 3-7-2024

Date:

Fadil M. Dahir

Prof. Dr. Fadil M. Dahir

Approval of the Dean

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

Introduction:

The Department of Civil Technology at the Karbala Technical Institute/Al-Furat Al-Awsat Technical University was established in 2011 to grant a diploma in civil technology. The department follows the annual system. During two academic years, 136 units must be achieved. According to the curriculum at the annual academic level, comprehensive curricula for technical diploma studies have been prepared to ensure that the graduate has the theoretical basics and applied aspects of civil technology.

The department seeks to attract highly qualified academic and administrative staff by ensuring continuous development of staff skills in relation to the department's achievements and encouraging scientific research work;

Giving priority to practical applied research.

The Civil Technologies Department provides the labor market with specialized personnel in inspecting building materials, laboratory soil testing, AutoCAD 2D and 3D skills, using surveying equipment for building projects, and preparing maps. It also provides the labor market with qualified technical personnel to carry out various civil works sections, conduct laboratory and field tests, implement maps and surveys, and calculate quantities and dimensions of civil works projects. They will have the ability to apply knowledge in estimating and calculating quantities and specifications of civil works projects. Moreover, the ability to maintain

laboratory equipment and solve problems of the construction industry to develop its production to obtain a sustainable environment. 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.

Technical Institute – Karbala	1. **Educational Institution**
Civil Technologies	2. **Scientific Department**
building and construction	3. **Name of the academic or professional program**
Technical diploma	4. **Name of the final certificate:**
Annual	5. **Academic system**: **Annual / Courses / Other**

ABET	6. **Accredited Certification Program**
There is a close relationship with the labor market through communication with official, semi-official and unofficial departments, focusing on laboratory tests and civil works in force in those departments, as the school curricula are updated based on that.	7. **Other external influences:**
2024/2/18	8. **Date the description was prepared**

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: The Civil Technologies Department is moving towards expanding the base of technical education and its modern applications and building a close relationship with various sectors of society in the field of exchanging scientific and practical experiences and activating the role of scientific research in various areas of development.

Program Mission: The department adopts the dissemination of scientific and technical knowledge in the field of civil engineering sciences to graduate national cadres at a level of education that will be able to absorb modern technologies and support the process of scientific and technical development to keep pace with global developments and to fulfill the following:

- Using computer and Internet technologies in education and training.

- Opening up to society in the field of construction industry and activating the relationship with the private sector in the field of engineering consultation, training and technical qualification.
- Develop future plans to develop educational and training curricula and graduate technical cadres in the field of building and construction.
- Focus on scientific research between academics in the department and industrial staff to solve the problems of the construction industry and develop its production.

Program Objectives: Graduating qualified technical personnel to carry out various civil works sections, conduct laboratory and field tests, implement maps and surveys, and calculate quantities and dimensions of civil works projects.

Completing the largest number of applied scientific research in cooperation with relevant ministries and departments.

Ensuring continuous cooperation between the department and development sectors in the engineering and consulting fields.

Curriculum Structure: All courses/study subjects included in the academic program are in accordance with the approved learning system (annual) according to the requirements of (the Ministry of Higher Education and Scientific Research) with the number of study units.

First academic year/annual system

Notes	Type of subject	Number of units	Number of hours			Subject	Number
			Sum	practical	Theoretical		
	Specialized	8	4	2	2	Construction materials	1
taught in English	Specialized	6	3	1	2	Engineering Mechanics	2
	Specialized	8	4	2	2	Surveying (1)	3
	Specialized	6	3	2	1	Concrete materials	4
taught in English	Specialized	6	3	-	3	Mathematics	5

	Specialized	6	3	2	1	Computer applications (1)	6
	Specialized	12	6	6	-	Engineering drawing	7
	Help	6	3	3	-	Parameters	8
	general	4	2	-	2	Human rights and democracy	9
	Help	4	2	-	2	Technical English	10
		66	33	18	15	Total	

Second academic year/annual system

Notes	Type of subject	Number of units	Number of hours			Subject	Number
			Sum	practical	Theoretical		
	Specialized	8	4	2	2	Concrete technology	1
	Specialized	8	4	4	-	Construction techniques	2
	Specialized	8	4	2	2	Soil mechanics	3
taught in English	Specialized	12	6	5	1	Civil drawing	4
	Specialized	6	3	2	1	Surveying (2)	5
	Specialized	4	2	-	2	Construction machines	6
taught in English	Specialized	6	3	2	1	Calculator Apps (2)	7
	Specialized	6	3	2	1	Quantity surveying	8
	Specialized	4	2	-	2	Buildings and factory construction	9
	Specialized	4	2	2	-	The project	10
		66	33	21	12	the total	

Learning Outcomes: : A compatible set of knowledge, skills, and values that the student has acquired after successfully completing the academic program. The learning outcomes for each course must be determined in a way that achieves the program's objectives.

The Department of Civil Technologies is moving towards expanding the base of technical education and its modern applications and building a close relationship

with various sectors of society in the field of exchanging scientific and practical experiences and activating the role of scientific research in various areas of development.

A- Cognitive objectives

A1- The graduate has the ability to think critically on his own, solve problems, manage resources and time, describe the general specialization and its concepts in a scientific and engineering way, and make the appropriate changes for that.

A2- The ability to perform engineering analysis and scientific thinking by applying laws in mathematics and engineering and adhering to guidelines and instructions for any activity in the organizational and administrative framework in implementing a project or confronting an engineering problem, solving and evaluating it, submitting a proposal or plan, reformulating it, translating it, or interpreting it.

A3- The student must be able to speak and write in an effective scientific and engineering style in Arabic and English.

A4- Adherence to the ethics of practicing the profession and the ability to demonstrate high professional competence, in addition to commitment to personal appearance and behavior.

A5- To be familiar with international civil engineering standards, estimate market needs, apply quality management concepts in engineering work, and acquire skills in information technology.

A6- To be interested in protecting the environment from pollution from factory and industrial wastes and others.

B - The program's skill objectives

1 - The ability to apply civil engineering techniques while taking into account industrial and commercial constraints.

2 - Analyzing engineering problems, arriving at a solution, and being able to suggest appropriate alternatives.

3 - Scientific investigation and evaluation.

4 - Constructive engineering discussions and expressing opinions.

Teaching and learning strategies: Lectures, identifying and diagnosing problems through explanations, exercises, and classroom exercises, and practical applications make students aware of how to benefit from the specifications used and understand their application.

Evaluation methods:

1. Giving homework
2. Daily exams
3. Ask some questions

Academic Program Description Form

University name: **Al–Furat Al–Awsat Technical University**

College/Institute: **Karbala Technical Institute**

Scientific Department: **Department of Civil Technologies**

Name of the academic or professional program: **Diploma**

Name of final certificate: **Diploma in Civil, Building and Construction Technologies**

Academic system: **annual system**

Description preparation date: **2/15/2024**

File Completion Date: 1/3/2024

Signature:
Head of Department Name:
Assit. Pro. Ali Hadi Adheem
Date:

Signature:
Scientific Associate Name: **Assit. Pro. Laith Hassan Jawad**
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

1. Program Vision

The Civil Technologies Department is moving towards expanding the base of technical education and its modern applications and building a close relationship with various sectors of society in the field of exchanging scientific and practical experiences and activating the role of scientific research in various areas of development.

2. Program Mission

The department adopts the dissemination of scientific and technical knowledge in the field of civil engineering sciences to graduate national cadres at a level of education that will be able to absorb modern technologies and support the process of scientific and technical development to keep pace with global developments and to fulfill the following:

Using computer and Internet technologies in education and training.

Opening up to society in the field of the construction industry and activating the relationship with the private sector in the field of engineering consultation, training and technical qualification.

Develop future plans to develop educational and training curricula and graduate technical cadres in the field of building and construction. Focus on scientific research between academics in the department and industrial staff to solve the problems of the construction industry and develop its production.

3. Program Objectives

Graduating qualified technical personnel to carry out various civil works sections, conduct laboratory and field tests, implement maps and surveys, and calculate quantities and dimensions of civil works projects.

Completing the largest number of applied scientific research in cooperation with relevant ministries and departments.

Ensuring continuous cooperation between the department and development sectors in the engineering and consulting fields.

4. Program Accreditation

Does the program have program accreditation? And from which agency? NO

5. Other external influences

Is there a sponsor for the program? NO

6. Program Structure

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

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

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First	TC	Civil Technologies	**16**	**33**
Second	TC	Civil Technologies	**13**	**20**

8. Expected learning outcomes of the program

Knowledge	
1. The graduate has the ability to think critically on his own 2. The ability to perform engineering analysis and scientific thinking by applying the laws of mathematics and engineering. 3. The student must be able to speak and write in an effective scientific and engineering style in Arabic and English. 4. Adherence to the ethics of practicing the profession and the ability to demonstrate high professional competence, in addition to commitment to personal appearance and behavior. 5. To be familiar with international civil engineering standards	1. Solving problems, managing resources and time, describing the general specialty and its concepts in a scientific and engineering manner, and making appropriate changes for that. 2. Commitment to the guidelines and instructions for any activity in the regulatory and administrative framework in implementing a project or confronting an engineering problem, solving it, evaluating it, submitting a proposal or plan, reformulating it, translating it, or interpreting it. 3. The ability to demonstrate high professional competence in addition to commitment to personal appearance and behavior. 4. Estimating market needs, applying quality management concepts in engineering work, and acquiring skills in information technology. 5. To be interested in protecting the environment from pollution from factory and industrial wastes and others.
Skills	
1. Ability to apply civil engineering techniques. 2. Analysis of engineering problems.	1. Ability to apply civil engineering techniques taking into account industrial and commercial constraints. 2. Analyzing engineering problems, arriving at a solution, and being able to suggest appropriate alternatives.
3. Scientific investigation and evaluation.	3. Constructive engineering discussions and expressing opinions.
1. Presenting the engineering or design problem and asking	1. Encouraging the development of students' engineering thinking in memorizing and guessing and motivating them towards critical thinking and thinking at the stage before remembering.

to think about possible solutions or developments. 2. Developing Internet research skills to expand the cognitive horizon.	2. Developing Internet research skills to expand the cognitive horizon. 3. Bringing out the creative ideas of some gifted students.
3. Using brainstorming to bring out creative ideas for some gifted students.	

9. Teaching and Learning Strategies

Teaching and learning strategies and methods adopted in implementing the program in general.

There are many teaching and learning methods used in the building and construction branch, and the most important of these methods are: (theoretical and practical lecture, discussion and dialogue, field visits, seminars on specific topics, theoretical and practical student research, and office activities), which helps students reach the following results: -

1- The engineering ability to distinguish between correct information and incorrect information.

2- Ease of scientific formulation and ease of correction.

3- The ability to memorize and guess.

4- The ability to link engineering concepts, principles and instructions.

5- The ability to recall, link, and interpret.

Evaluation methods

- Engineering projects and seminars (seminars).
- Scientific discussion, oral dialogue, and semester and final exams.
- Homework assignments.
- Practical activities and case studies.

- Writing and submitting reports and taking notes on the engineering experiences gained during field visits.

Achievement tests to determine the level of the learner's acquisition of information and skills in a previously learned subject, through his answers to questions and paragraphs that represent the content of the subject.

10. Evaluation methods

The branch has relied on clear, high-quality assessment methods and tools for student learning in order to maintain the quality of the graduate and the academic reputation of the branch and department. This is embodied in the university's regulations and the requirements for continuous evaluation of students, provided that there are several types of evaluation methods in order to ensure the quality The quality of the graduate, which constitutes the final outcome of the educational process, and the most important methods of evaluation are:

A - Objective tests to measure knowledge of engineering facts, their comprehension, application of scientific knowledge in new situations, and measurement of memory through the following: -

- True and false questions.
- Multiple choice questions.
- Interview questions (matching items).
- Completion questions.

B-Engineering tests related to the following matters:-

- Remember facts and figures.
- Understanding scientific material and engineering principles.

- The ability to recall, link and interpret.
- Apply knowledge in a simple way to interpret data, diagnose and solve problems.

It is done through the following:-

- Communication test/open questions:-
- Questions that have a specific answer.
- Questions that do not have a specific answer. Which is based on motivating the student to:
- Having the ability to answer freely.
- Possessing the skill in organization.
- Possessing the skill in arranging ideas.

Avoid cheating and confront it.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	1				√	
Assistant Professor	1	2			√	
Teacher	2				√	
assistant teacher	3	3			√	

Professional Development

Mentoring new faculty members
Orienting new faculty members is considered one of the most important points because it has a great impact on the continuation of distinguished performance and the active role played by faculty members in the educational process. To overcome the various difficulties and challenges faced by new faculty members at the university at the beginning of their enrollment, this orientation is organized by the deanship and under the generous patronage of the President of the University because of its importance in academic circles. Induction guidance generally focuses on five main axes that are subject to change depending on organizational changes and feedback: introducing new faculty members to their rights and duties, students' rights and obligations, program quality and academic accreditation, learning resources, and scientific research programs at the university.
Professional development of faculty members
Professional development is important and important in achieving quality in higher education. The roles of the faculty member are generally limited to teaching, evaluation, guidance, guidance, writing, translation, professional development, community service, and scientific research, and they are classified into four main areas related to students, the educational institution, the local community, and its role toward itself. As for quality requirements and their relationship with faculty members, it turns out that Quality requires the quality of faculty members themselves, as they are an effective element in achieving quality in light of the input they have. The means of professional development for faculty members have generally focused on: 1_ Self-development based on the personal efforts of the faculty member through reading and listening to seminars and lectures, attending conferences and discussion panels, conducting studies and research, and writing and translating. 2_ Institutional development: This is the development that is planned and supervised by a specialized unit in the educational institution, which can employ continuous training courses, workshops, discussion panels, hosting visiting professors, and exchanging visits and research contributions. Training is considered the most important means of professional development. The importance of professional development methods, and the importance of professional development in raising the level of inputs, processes and outputs in the educational system, especially since professional development will reflect positively on developing performance levels in various fields, achieving individual commitment and responsibility and confirming the spirit of teamwork, and these elements constitute the basics of individual and collective responsibility. In achieving quality education, therefore, professional development is a

requirement to achieve quality. Without it, achieving quality will be difficult and the desired performance that is consistent with quality requirements will not be achieved.

12. Acceptance Criterion

(Setting regulations related to enrollment in the college or institute, whether central admission or others)

Central admission for preparatory studies, vocational schools, and parallel admission

13. The most important sources of information about the program

- The guide for student affairs procedures and admission controls and conditions
- Orders issued by the Ministry and the University
- Guide to administering university examinations for preliminary studies

14. Program Development Plan

The focus in the Department of Civil Technologies / Building and Construction Branch in general is on continuous development. The department always seeks to develop the scientific and administrative process and overcome all the difficulties and obstacles that hinder the educational program by developing human resources to develop personality.

The following procedures explain the steps implemented or in the process of implementation in this area:

1. Continuous development of faculty members through training programs and workshops inside and outside the department, university, and country.

2. Increasing extracurricular activities, such as holding conferences, scientific seminars, and personal and sports creativity, locally, regionally, and internationally.

3. Encouraging faculty members to obtain the highest academic and administrative ranks.

4. Providing modern scientific sources and books for the department's library to keep pace with the rapid progress in engineering sciences.

5. Providing specialized software in mechanical engineering and the necessary computers for this, along with Internet lines, for all teachers.

Program Skills Outline

Required program Learning outcomes														
Ethics				Skills				Knowledge				Basic or optional	Course Name	Course Code	Year/Level
C4	C3	C2	C1	B4	B3	B2	B1	A4	A3	A2	A1				
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Construction materials	**TC1**	**First**
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Concrete materials	**TC2**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Surveying (1)	**TC3**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Engineering drawing	**TC4**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Engineering mechanics	**TC5**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	mathematics	**TC6**	
✓	✓			✓	✓	✓		✓	✓			**Help**	Calculator applications	**TC7**	
✓	✓			✓	✓	✓		✓	✓			**Help**	Technical English	**TC8**	
✓	✓			✓	✓	✓		✓	✓			**Help**	English	**TC9**	
✓	✓			✓	✓	✓		✓	✓			**General**	Human rights and democracy	**TC10**	
✓	✓			✓	✓	✓		✓	✓			**Help**	Factories	**TC11**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Concrete technology	**TC20**	**Second**
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Soil mechanics	**TC21**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Surveying (2)	**TC22**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Civil drawing	**TC23**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Quantity surveying	**TC24**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Buildings and factory construction	**TC25**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Construction machines	**TC26**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	Calculator applications	**TC27**	
✓	✓			✓	✓	✓		✓	✓			**Help**	English	**TC28**	
✓	✓			✓	✓	✓		✓	✓			**Help**	Baath Party crimes in Iraq	**TC29**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	construction techniques	**TC30**	
✓	✓			✓	✓	✓		✓	✓			**Specialized**	The project	**TC31**	

Course Description Form

1. Course Name:
Construction techniques
2. Course Code:
TC30
3. Semester / Year:
year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total) 4
120 hours / 4 Units
7. Course administrator's name (mention all, if more than one name)
Name: sarah moih jawad Email: sarah.jawad.ikr@atu.edu.iq
8. Course Objectives

Course Objectives	•Providing the student with manual skills.... •qualifying him to carry out construction works. And constructi works •to be qualified upon graduation to efficiently supervise work
Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the m important of these methods are:- (theoretical and practical lectu discussion and dialogue, field visits, discussion circles on speci topics, theoretical and practical student research, office activities)

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
the first	4	Cognitive outcomes	Foundation planning, using surveying equipment.	lecture	questions and answers
the second	4	Cognitive outcomes	Excavations, and supporting the sides of the excavation.	Discussion	Asking questions
the third	4	Cognitive outcomes	Making and strengthening a foundation for a wall c support.	lecture	Listening and asking questions
the fourth	4	Cognitive a emotional outcomes	Showing a scientific fi about pile works, type how they work, and th machines used for that	Dialogue a critic m	Case study
Fifth	4	Cognitive a skills	Brick construction wo English bonding, German bonding, othe types of bonding.	discussion	Case studies
sixth	4	Cognitive a skills	Block construction (block, thermostone).	Discussion and mini lesso	Mini lesson
Seventh	4	My knowledge, my skills	Wooden template wor training on making a wooden template for a column, bridge, stairs and roofs.	Role playir	discussion
VIII	4	Rate me	Pouring regular and reinforced concrete an using manual mixing, well as training on automatic mixing.	discussion	Case study
And the nint	4	Cognitive	A scientific visit to the site of making a wood mold and pouring concrete.	a lecture	Listening and speaking

The tenth	4	My knowledge and skills	Reinforcing works, rebar, the correct way use it, making reinforcement models for a column, roof, and bridge.	discussion	Questions
eleventh	4	My knowledge and skills	Iron works, iron structural sections and aluminum sections, an when they are not available, a scientific film is shown for that.	Lecture and critic m	Asking questions
twelve	4	My knowledge and skills	Application with cashi and sticker.	Lecture and critic m	to listen
thirteenth	4	And sentimenta	Moisture-preventing works, training on the use of some moisture-repellent materials and how to use them optimally, such as asphalt felt, bituminou materials, according to what is available.	Discuss and liste	Asking questions
fourteenth	4	My Skills	Showing a scientific fi about thermal insulatic materials: their types, how to use them, and their benefits.	Dialogue a discu ion	Work groups
Fifteenth	4	Cognitive	Whitewashing works, whitewashing of a wal using plaster.	discussion	Work groups
sixteen	4	Cognitive	Ficus and prose works	Discuss and liste	Mini lesson
And the sevent nth	4	My knowledg and skills	1. Using cement morta	Lecture and critic m	Practical exercise
eighteen	4	My knowledg and skills	Using cement mortar - Noura.	Discuss and liste	And work groups
nineteenth	4	Cognitive	Packaging works withAl-Furfouri Kashi	discussion	Asking questions

The twentiet	4	My knowledg and skills	Wall covering works, wall covering using solutions.	Discussion and critic m	Asking questions
And the twenty first	4	Cognitive and emotional	Secondary ceilings (Moroccan), making a model of a Moroccan ceiling, training on ho to install them.	Discussion and critic m	Case study
twenty two	4	Cognitive	Dyeing work (training on how to use it and h to adapt each type to t dyed surface).	discussion	Case study
twenty third	4	Cognitive	Sanitary works: Traini the student on how to sewage pipes, clear water pipes, and the locations of sinks, bathtubs, toilets, etc.	discussion	Asking questions
twenty fourth	4	Discussion and critici	Case study	Discussion and critic m	Case study
25th	4	Discussion and critici	Asking questions	Discussion and critic m	Asking questions
twenty-sixth	4	discussion	Asking questions	discussion	Asking questions
27th	4	Cognitive outcomes	Foundation planning, using surveying equipment.	lecture	Asking questions
Twenty-eigh	4	Cognitive outcomes	Excavations, and supporting the sides of the excavation.	Discussion	Case study
Twenty nine and Thirty	4	Cognitive outcomes	Making and strengthening a foundation for a wall c support.	lecture	Asking questions

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)	Construction material checks

Main references (sources)	Building Construction, Zuhair Sako and Arthenlevon, 19
Recommended books and references (scientific journals, reports...)	((Properties of materials and their tests)) Part On Prof. Dr. Mahmoud Daham and Prof. Dr. Mohan Mahdi, 2007 -
Electronic References, Websites	Building Construction, Zuhair Sako and Arthenlevon, 1983

Course Description Form

13.Course Name**:**	
Surveying 1	
14.Course Code:	
TC3	
15.Semester / Year:	
Year	
16.Description Preparation Date:	
2024	
17.Available Attendance Forms:	
Presence	
18.Number of Credit Hours (Total) / Number of Units (Total)	
120 Hours - 4 Units	
19.Course administrator's name (mention all, if more than one name)	
Name: Raeda K. Ali Email: raeda.k.ali@atu.edu.iq	
20.Course Objectives	
Course Objectives	**General subject goal:** teach students the basics of space and use it for the purposes of civil engineering and calculations related **The goal of the subject:** the rehabilitation of the student use the different surveying equipment for ci construction and implementation of maps for projects a enable it to planning, supervision and implementation these projects
21.Teaching and Learning Strategies	
Strategy	Lectures, identifying and diagnosing problems through explanation exercises and classroom exercises, practical applications to enable students to understand how to benefit from the specifications used and understand their application. Getting to know the theodolite device.

	2-Learn about methods for measuring horizontal angles with the theodolite device. 3- Identify polygons and how to ribbed them. 4- Identify methods for measuring the horizontal distances of the sides of a polygon. 5-Learn how to raise beams for polygons. 6 - Learn how to calculate the horizontal and vertical components the sides of a polygon and calculate the coordinates. There are many teaching and learning methods used, and the most importa of these methods are: - (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

22. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Cognitive outcomes	Definition of space fields uses its divisio and units of measurement.	lecture	questions and answers
2nd	4	Cognitive outcomes	Measure the horizon distances on flat lan (guidance) horizonta distance measureme process on the land c irregular gradient.	Discussion	Asking questions
3rd	4	Cognitive outcomes	Horizontal distance measurement on sloping land (regula gradient) (if aware o height difference, Azaalmt degree slop of the land, if the lan has learned downhil angle).	lecture	Listening and asking questions
4th	4	Cognitive and emotional outcomes	To set up and drop columns (Accommodations ways and methods o projection), overcoming obstacle (inhibitions)	Dialogue and criticis	Case study

			encountered in measuring horizonta distances.		
5th	4	Cognitive and skills	The survey tape (Overstuffing cases when lifting)	discussion	Case studies
6th	4	Cognitive and skills	Flat panel flat panel lifting parts ways (X mode.	Discussion a mini lesson	Mini lesson
7th	4	My knowledg my skills	Lifting the front intersection method, the rotation method (keying error and ho to correct it) flat pan survey advantages a disadvantages.	Role playing	discussion
8th	4	Cognitive and skills	Definitions settlemer related purposes	discussion	Case study
9th	4	Cognitive	How to calculate the levels of the points i way the surface of th balance and solving examples	a lecture	Listening and speaking
10th	4	My knowledg and skills	How to calculate the points levels rise and fall in a way and solving examples	discussion	Questions
11th	4	My knowledg and skills	Dual settlement spherical Earth and t effect of light on the work of the fractures settlement.	Lecture and criticis	Asking questions
12th	4	My knowledg and skills	Settlement inverted mutual settlement (reverse) with soluti examples	Lecture and criticis	to listen
13th	4	And sentimental	Sources of errors in t work of the settleme degree of precision t amount of allowable error.	Discuss and listen	Asking questions

14th	4	My Skills	Longitudinal sections drawing longitudinal section solution examples	Dialogue and discussn	Work groups
15th	4	Cognitive	Cross-sections to fin the levels of cross-section of the cross-section drawing poir	discussion	Work groups
16th	4	Cognitive	Creation line accoun Creation mile line to find the levels of Creation line points aware of the tendenc (to draw a line to the proposed project).	Discuss and listen	Mini lesson
17th	4	My knowled and skills	Calculate the amoun of land the occasiona use Altersemeh road laws and coordinates sports sections.	Lecture and criticis	Practical exercis
18th	4	My knowled and skills	Calculate the volume of dirt quantities of drilling and filling.	Discuss and listen	And work group
19th	4	Cognitive	Check and adjust the budget compromise settlement lines devi (budget settlement	discussion	Asking question
20th	4	My knowled and skills	contour lines properties period contour factors upon which the period set contour Glade conto contour lines (direct method).	Discussion a criticis	Asking question
21st	4	Cognitive ar emotional	Methods of determination of the contour lines (indire methods), and the method of sections method of control points squares metho (retina settlement).	Discussion a criticis	Case study

22nd	4	Cognitive	Drawing contour lin (calculation method and the method of sp the difference).	discussion	Case study
23rd+	4	Cognitive	Downgrades volume account for tanks (tank) drawing sections of the conto lines.	discussion	Asking questions
24th	4	Discussion a criticism	Area calculations using Plan miter device.	Discussion a criticis	Case study
25th	4	Discussion a criticism	Deviations deviation ring Manual local attractions.	Discussion a criticis	Asking questions
26th	4	discussion	Survey (lifting) using compass and practic exercises on how to survey the compass accounts.	discussion	Asking questions
27th	4	Cognitive outcomes	curves horizontal curves kinds (circula gradient) elements o the curved ring simp and draw each type. Twenty	lecture	Asking questions
28th	4	Cognitive outcomes	Ring simple curved design (equations so) free simple curved ring.	Discussion	Case study
29th+30th	4	Cognitive outcomes	Vertical design curv vertical curves.	lecture	Asking questions

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)	
Main references (sources)	1) Book of Plane Surveying and Topography/ Fouad Malallah Fandakli 2) Detailed Surveying and topography / Mahmoud Hosni Abdel Rahim

	3) 2. The Book of Surveying / Labib Nasief Sallou,1985 Construction Survey/William Irvine1976 ,
Recommended books and references (scientific journals, reports...)	Engineering and Cadastral Surveying / Ziad Abdel-Jabbar Al-Bakr, 1989
Electronic References, Websites	https://civiltoday.com/surveying/13-definition-and-importance-of-surveying

Course Description Form

1. Course Name**:**	
Engineering Drawing	
2. Course Code:	
TC4	
3. Semester / Year:	
Year	
4. Description Preparation Date:	
2024	
5. Available Attendance Forms: Presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
180 Hours / 6 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: sarah moih jawad Email: sarah.jawad.ikr@atu.edu.iq	
8. Course Objectives	
Course Objectives	Subject goal: teach students the principles of the preliminary engineering drawing and computer drawing programs efficiently and rapidly to enable him to express his thoughts through him. The goal of Subject: the rehabilitation of the student to draw and read engineering maps with knowledge of architectural and structural terms that are used in the maps.
9. Teaching and Learning Strategies	
Strategy	

	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	6	Cognitive outcomes	the basics engineering drawing, the to used, to install painting, types lines, writing line engineerin	lecture	questions a answers
2nd	6	Cognitive outcomes	engineering operations, halving straight pie halving the ang linking strai with a circle a linking strai arc, draw equilateral triangle, fi hexagonal, straight tangent two circles ins and out, tangent of t circles from ho and abroad	Discussion	Asking questions
3rd	6	Cognitive outcomes	ellipse, application drawing geomet shapes using ba engineering operations	lecture	Listening a asking questions
4th	6	Cognitive a emotional outcomes	projection principles, how develop	Dialogue a criticism	Case study

			dimensional drawing, projection exercises		
5th	6	Cognitive a skills	draw perspect Alaizumtra	discussion	Case studies
6th	6	Cognitive a skills	projected l perspective drawing Alaizumtra	Discussion and m lesson	Mini lesson
7th	6	My knowled my skills	Seventh section	Role playing	discussion
8th & 9th	6	Rate	AutoCAD applications, definition of relationship between AutoCAD program and use in completion two-dimensiona drawings (2D) a three-dimension (3D) and open new page in program, determine the a of the drawi (Limits), drawi plate frame a table data, with application writi within spreadsheet Text)	discussion	Case study
10th	6	My knowledg and skills	identify the ty of lines and method of acc to and use AutoCAD software putting them multiple lay	discussion	Questions

			(Layers) a different col and differ thickness (L weight		
11th	6	My knowled and skills	drawing projections three-dimension forms a dimensions them by usi multiple lay (Layers)	Lecture a criticism	Asking questions
12th & 13th	6	My knowled and skills	drawing projections three-dimension forms a dimensions them by usi multiple lay (Layers)	Lecture a criticism	Practical exercise
14th	6	My Skills	drawing projections three-dimension forms usi different colors different thickn of lines and changing characteristics (properties	Dialogue a discussion	Work groups
15th	6	Cognitive	projected find missing a continue to dr projections	discussion	Work groups
16th	6	Cognitive	put additions fees (Hatch a gradient), and method of addi additional inscriptions on program fr external sources	Discuss and listen	Mini lesson

17th	6	My knowled and skills	draw the sha holographic manner (Isomet snap)	Lecture a criticism	Practical exercise
18th	6	My knowled and skills	drawing sectio in the sa manner (Isomet snap)	Discuss and listen	work groups
19th	6	Cognitive	drawing projections three-dimension forms a dimensions them by usi multiple lay (Layers)	discussion	Asking questions
20th	6	My knowled and skills	drawing projections three-dimension forms a dimensions them by usi multiple lay (Layers)	Discussion a criticism	Asking questions
21st	6	Cognitive a emotional	method repeating shap using command (Po array & ar Rectangular)	Discussion a criticism	Case study
22nd 23rd	6	Cognitive	modus operan (Block) to rep the geomet shapes and method of stora and recall	discussion	Case study and Asking questions
24th	6	Discussion a criticism	drawing an integrated plate containing the types of fees (2D) and (3D) and containing a spreadsheet	Discussion a criticism	Case study

			and explain the fees.		
25th	6	Discussion a criticism	presentation formats w different scenes a single scre using command (vi ports)	Discussion a criticism	Asking questions
26th	6	discussion	method transmission f between files a how to open m than one f through window it)	discussion	Asking questions
27th	6	Cognitive outcomes	singled geomet shapes (Cu prism, pyramid)	lecture	Asking questions
28th	6	Cognitive outcomes	single geomet shapes (pyran lump, Cone)	Discussion	Case study
29th	6	Cognitive outcomes	scale and meth of printing usi the plot	lecture	Asking questions
30th			export fees formula (dwg) (pdf) as well (psd) creates virtual printers	lecture	Asking questions

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 any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

Course Description Form

1. Course Name**:**
Engineering Mechanics
2. Course Code:
TC5
3. Semester / Year:
Year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
90 hours/ 3units
7. Course administrator's name (mention all, if more than one name)
Name: Hussein younis Email: Inkr.hus@atu.edu.iq
8. Course Objectives

Course Objectives	**General objective**: teaching students analyze the forces and loads hanging over bodies and extract the stresses and strain as a result of these forces and their relationship to the constituent materials of these bodies. **Specific objective**: analysis of structures and find the forces and stresses in its parts as a result of external loads and its relation to the dimensions of the various parts in engineering structures to withstand the stresses inflicted by safely and economy

9. Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most important of these methods are:- (theoretical and practical lecture, discussion and dialogue, field visits, discussion circles on specific topics, theoretical and practical student research, office activities)

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

1st	3	Cognitive outcomes	Definition Mechanics General revi for Physi Fundamentals Trigonometry Scalar and Vec quantities.	lecture	questions a answers
2nd	3	Cognitive outcomes	Resolution a Composition Forces , Trian forces low a Forces Polygon	Discussion	Asking questions
3rd	3	Cognitive outcomes	Moment of Forc	lecture	Listening a asking questions
4th	3	Cognitive a emotional outcomes	Couples. The	Dialogue a criticism	Case study
5th	3	Cognitive a skills	Resultant of Concurrent and non-Concurrent Coplanar fo system.	discussion	Case studies
6th	3	Cognitive a skills	Distributed Loa	Discussion and m lesson	Mini lesson
7th	3	My knowled my skills	Equilibrium , F Body Diagr (F.B.D) Equilibrium Equations Equilibrium concurrent force non –concurr forces a parallel forces.	Role playing	discussion
8th & 9th	3	Rate	Definition Mechanics General revi for Physi Fundamentals Trigonometry	discussion	Case study

			Scalar and Vec quantities.		
10th	3	My knowledg and skills	Resolution a Composition Forces , Trian forces low a Forces Polygon	discussion	Questions
11th	3	My knowlec and skills	Types of Bea and Supports Equilibrium Beams	Lecture a criticism	Asking questions
12th & 13th	3	My knowlec and skills	Trusses , Analy of Trusses : Joi and Sectic Methods	Lecture a criticism	Practical exercise
14th	3	My Skills	Friction , T nature of frictio Theory of fricti , friction lov Types of frictio Applications.	Dialogue a discussion	Work groups
15th	3	Cognitive	Center of grav and centroids simple a Composite area Applications.	discussion	Work groups
16th	3	Cognitive	Applications. Moments Inertia (Simp Composite area	Discuss and listen	Mini lesson
17th	3	My knowledge and skills	Strength Materials Fundamental concept Definition Stress , Types Stress , Factor Safety.	Lecture a criticism	Practical exercise

18th	3	My knowledge and skills	Applications Stress Subject.	Discuss and listen	work groups
19th	3	Cognitive	Strain , Hoo Low, Stre Strain relationship stress-strain diagram .	discussion	Asking questions
20th	3	My knowledge and skills	Lateral Strain Poisson's Ratio Applications Strain and stress	Discussion a criticism	Asking questions
21st	3	Cognitive a emotional	Shear fo Diagram (S.F. and Bendi Moment Diagr (B.M.D) beams , She force and Bendi Moments Equations .	Discussion a criticism	Case study
22nd	3	Cognitive	Types of Bea and Supports Equilibrium Beams	discussion	Case study
23rd+	3	Cognitive	Trusses , Analy of Trusses : Joi and Sectio Methods	discussion	Asking questions
24th	3	Discussion and criticism	Friction , T nature of frictio Theory of fricti , friction lov Types of frictio Applications.	Discussion a criticism	Case study
25th	3	Discussion and criticism	Applications draw the she force and bendi moment equatio .	Discussion a criticism	Asking questions
26th	3	discussion	Bending Stress Beams a Applications.	discussion	Asking questions

27th	3	Cognitive outcomes	Shear Stress Beam a Applications.	lecture	Asking questions
28th	3	Cognitive outcomes	Two-material Composite Beams.	Discussion	Case study
29th+30th	3	Cognitive outcomes	Applications draw the sh force and bendi moment equatic .	lecture	Asking questions

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, any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

1. Course Name:
Soil Mechanics
2. Course Code:
TC21
3. Semester / Year:
Year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
120 Hours - 4 Units
7. Course administrator's name (mention all, if more than one name)
Name: M.M. Marwa Hani Mohsen Email: **marwaa.mohsen@atu.edu.iq**

8. Course Objectives	
Course Objectives	**Main objective :** Known the student about the mechanical properties of the soil in which they can estimate the impact of the selected foundation and the construction that arias on different types of the soil . **Secondary objective**: Rehabilitation the student and improves their skill needed in the soil classification and conduct the necessary tests (laboratory or field) and the relationship of construct that arias on it .

9. Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Cognitive outcomes	Soil definition, introduction to geological rock types, how to be rocks from the s	lecture	questions and answers
2nd	4	Cognitive outcomes	Soil components physical properti of the soil (moisture conten porosity, air voic wet and dry density, saturate and submerged density and specific gravity).	Discussion	Asking questions
3rd & 4th	4	Cognitive outcomes	Granular analysi of soil (sieving a hydrometer).	lecture	Listening and asking questions
5th	4	Cognitive and emotional outcomes	Plasticity characteristics in the soil (liquidity	Dialogue and criticism	Case study

			limit, plasticity limit and shrinka limit).		
6th&7th	4	Cognitive and skills	Soil classificatio using a standardized classification method (Unified Classification System).	discussion	Case studies
8th&9th	4	Cognitive and skills	Soil permeability coarse soil permeability, fin soil permeability and methods of measurement in the field and laboratory.	Discussion and m lesson	Mini lesson
10th	4	My knowledg my skills	Types of stresses in the soil, the to stress and effecti stress.	Role playing	discussion
11th	4	Cognitive and skills	Lateral Earth Pressure of the s with an explanation of th types of filters.	discussion	Case study
12th	4	Cognitive	Soil Stabilizatio mechanical method (Compaction).	a lecture	Listening and speaking
13th	4	My knowledg and skills	Types of laboratory and field compaction tests.	discussion	Questions
14th&15th	4	My knowledg and skills	Other methods to Stabilized soil properties, Stabilization wi (cement, asphalt and limestone dust).	Lecture and criticism	Asking questions
16th&17th	4	My knowledg and skills	Modern methods of soil stabilizati	Lecture and criticism	to listen

			: types and meth of materials used (Reinforced Eart		
18th	4	And sentimental	Californian Bearing Ratio (CBR) and its importance in th implementation the highway.	Discuss and listen	Asking questions
19th&20th	4	My Skills	Consolidation in the soil and its relationship to th occurrence of Settlement.	Dialogue and discussion	Work groups
21st	4	Cognitive	Swelling and Collapse.	discussion	Work groups
22nd	4	Cognitive	Definition of the soil shear strengt and its importan in the calculation of the amount of soil Bearing Capacity.	Discuss and listen	Mini lesson
23rd	4	My knowled and skills	Unconfined Compression Te	Lecture and criticism	Practical exercise
24th	4	My knowled and skills	Direct Shear Tes	Discuss and listen	And work groups
25th&26th	4	Cognitive	Triaxial Compression Te	discussion	Asking questions
27th	4	My knowled and skills	In Situe Shear Test.	Discussion and criticism	Asking questions
28th	4	Cognitive an emotional	Types of foundations and their relationship to the amount of bearing soil.	Discussion and criticism	Case study
29th	4	Cognitive	Shallow Foundation and Deep Foundation as Piles .	discussion	Case study
30th	4	Cognitive	A simple introduction to th work of soil	discussion	Asking questions

			investigations (S Exploration) and the types of models and the method of preparation and take them deep experiential drilling to be carried out on sit		

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, i any)	
Main references (sources)	Book of Plane Surveying and Topography / Fou Malallah Fandakli 2. The Book of Surveying / Labib Salloum
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description

1. Course Name: Computer Applications 1
2. Course Code: TC7
3. Semester/Year: Annual
4. Date of Description Preparation: 2024
5. Available Attendance Modes: In-person
6. Total Study Hours: 90 hours per year / Total Units: 3

7. Course Coordinator Name (if more than one name, specify): [Not provided]	
Name : hiba Yassin Theban Email: hiba.theban@atu.edu.iq	
1. Course Objectives	
The objectives of the course material.	Introducing students to the calculator along with an idea about its prospects and uses in various fields, as well as about programming principles, and equipping them with the skill to use the calculator to execute pre-prepared programs for application in their specialized field.
1. Teaching and learning strategies	
The strategy	Lectures, identifying and diagnosing problems through explanation, exercises, and in-class training sessions, practical applications to help students understand how to utilize and apply the processes used. 1- Turning on and off the computer. 2- Accessing and working on the CAD Auto program. 3- Accessing Word, printing, and saving documents. 4- Creating equations in Excel.

1-Course Structure:					
First	**3**	Cognitive Outcomes	Windows Operating System: The concept of the Windows system, its advantages, and basic requirements. Operating the system, the main components	Lecture	Questions and Answers Top of Form

			of the desktop screen, the concep2 \t of icons, interacting with mouse activities, the importance and components of the taskbar, utilizing the Start menu to access programs, and shutting down the computer		
Second and third	**3**	Cognitive Outcomes	Understanding the concept of program windows and identifying their main components, interacting with desktop icons such as Documents, My Computer, and Recycle Bin, and getting to know My Computer in terms of drives, folders, and files, as well as how to work with floppy disk formatting, copying folders and files, utilizing cut and paste, and knowing the properties of drives, folders, and files. Dealing with the Recycle Bin and how to delete and restore files through its functionality. Top of Form	Lecture and Discussion	Asking Questions
Fourth and Fifth	**3**	Cognitive and Affective Outcomes	Autocad program : Understanding the program, its name origin, the significance of the program, the contents of the program window, how to create a new file, save it, and methods of selecting most Autocad commands. Top of Form	Dialogue, Critique, and Discussion	Case Studies

Sixth and Seventh and Eighth	**3**	Cognitive and Skills-Based	Toolbars in Autocad program and how to hide, show, and customize them, creating a specialized interface for the program, Grid, Ortho, Snap, (Status bar, Command line, and Drawing Limits), Units, Zoom Limits	Discussion Mini-lesson	Mini-Lesson : Discussion: Case Study
Ninth	**3**	Cognitive		Discussion Lecture	Listening and Asking Questions
Tenth	**3**	Cognitive	Auxiliary Commands and Drawing Limits Units , Zoom Limits	Discussion Lecture	Listening and Asking Questions
Eleventh - Thirteenth	**3**	Cognitive and Skills-Based	Basic Drawing Commands: D	Lecture and Critique	Listening and Asking Questions
Fourteenth	**3**	Cognitive and Skills-Based	Basic Drawing Commands: D	Lecture and Critique	Listening and Asking Questions
Fifteenth	**3**	Cognitive and Skills-Based	Basic Drawing Commands: D	Lecture and Critique	Listening and Asking Questions
Sixteenth-Seventeenth Eighteenth	**3**	Cognitive and Skills-Based	Modify Commands Menu	Lecture and Critique	Asking Questions in Workgroups
Nineteenth -Twentieth	**3**	Cognitive and Skills-Based	Modify Commands Menu	Lecture and Critique	Asking Questions in Workgroups
Twenty-first - twenty-fourth	**3**	Cognitive, Skills-Based, and Affective	Commands for Text with Dimension Microsoft Word Printing Program: How to operate it, write with it, save, change font types, modify the document in terms of margins or page	Discussion and Listening Top of Form	Workgroups and Practical Exercise

			orientation, use tables, and print within i		
The twenty-fifth	**3**	Skills-Based	Microsoft Word Printing Program: How to open it, write with it, save documents, change font types, edit the page in terms of margins or page orientation, use tables, and print within the document. Top of Form	Dialogue and Discussion	Workgroups and Practical Exercise
twenty-sixth	**3**	Skills-Based	Microsoft Word Printing Program: How to operate it, write with it, save, change font types, edit the document in terms of margins or page orientation, use tables, and print within it.	Dialogue and Discussion	Workgroups and Practical Exercise
The twenty-seventh twenty-eighth	**3**	Cognitive	Microsoft Excel Program: How to operate it, input numerical values into columns, save, add new columns or rows, apply some functions like addition and other arithmetic operations	Discussion	Asking Questions
twenty-ninth thirty-	**3**	Cognitive	Microsoft Excel Program: How to operate it, enter numerical values into columns, save, add new columns or rows, apply some functions like addition and other arithmetic operations.	Discussion	Asking Questions

1- Course Evaluation

Distribution of grades out of 100 according to the tasks assigned to the student, such as daily preparation, daily exams, oral and monthly exams, written reports, etc.	
1. Learning and Teaching Resources	
Required Textbooks (Methodology if applicable)	Methodological Course
Primary References (Sources)	-
Recommended Supplementary Books and References (Scientific Journals, Reports...)	
Electronic References, Websites	Specialized Websites

Course Description Form

1. Course Name:	
Civil Drawing	
2. Course Code:	
TC23	
3. Semester / Year:	
Annual System	
4. Description Preparation Date:	
2024	
5. Available Attendance Forms:	
In-person	
6. Number of Credit Hours (Total) / Number of Units (Total)	
180 Hours - 6 Units	
7. Course administrator's name (mention all, if more than one name)	
Name: Assi. Prof. Dr. Ali Hadi Azim Email: **Inkr.ali@atu.edu.iq**	
8. Course Objectives	
Course Objectiv	Teaching students the construction details, as well as the details of all construction works, so that they are qualified to understand the executive plans and transfer their information to the construction site and the staff to

	implement them. Students also learn the principles used in preparing sets of executive plans.

9. Teaching and Learning Strategies

Strategy	Lectures: identifying and diagnosing problems through explanations, exercises, classroom activities, and practical applications, so that students understand how to benefit from the processes used and understand their application. 1. Scientific lectures. 2. Discussions. 3. Creating engineering drawings. • Learn about engineering planning. • Learn how to read engineering plans. • Identify the architectural and construction terms used in plans. • Drawing construction details. • Engage in drawing steel structures.

10. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	6	Cognitive and skill-based outcomes	Introduction to structural drawing, architectural and terminological symbols, lines in plans, drawing models for building and construction materials, drawing scale, executive plans, and types of brick and block construction.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework

2	6	Cognitive and skill-based outcomes	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.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
3	6	Cognitive and skill-based outcomes	Drawing longitudinal and cross-sections, as well as detailed sections of the finishing layers for floors, ceilings, and surfacing.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
4	6	Cognitive and skill-based outcomes	Introduction to sanitary drawing, structures, and furniture for water and sanitary installation, followed by creating the network of water and sanitary facilities based on the existing horizontal plans.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
5	6	Cognitive and skill-based outcomes	Drawing out the structural details of the inspection basins and connecting them to the sanitary facility network.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz

6	6	Cognitive and skill-based outcomes	Drawing the structural details of the house plan's septic tanks and storage (drains).	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
7	6	Cognitive and skill-based outcomes	Introduction to concrete and construction principles, concrete bearing capacity with various loads, the necessary types of reinforcement steel, and drawing symbols used in plans and construction details.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
8	6	Cognitive and skill-based outcomes	Concrete slabs, their types, the transmission of loads through them, and the necessary reinforcement, along with drawing the structural details of one-way solid slabs.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
9	6	Cognitive and skill-based outcomes	Drawing the structural details of two-way solid slabs.	Lecture method, by using the whiteboard and the projector, and then practical application	Quiz

				using computers.	
10	6	Cognitive and skill-based outcomes	Drawing the structural details of one- and two-way polygonal slabs.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
11	6	Cognitive and skill-based outcomes	Introduction/Types of concrete joists and drawing the structural details of simply supported joists with sections.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
12	6	Cognitive and skill-based outcomes	Drawing structural details for continuous joists and sections.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
13	6	Cognitive and skill-based outcomes	Drawing the structural details of the monofilament joists along with their sections.	Lecture method, by using the whiteboard and the projector, and then practical application	Quiz

				using computers.	
14	6	Cognitive and skill-based outcomes	An introduction with a drawing of prestressed precast joists' structural details.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
15	6	Cognitive and skill-based outcomes	Drawing out a horizontal plan (key) for the joists of a structural building and establishing tables and details of the joists.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
16	6	Cognitive and skill-based outcomes	Drawing the structural details of the different types of concrete columns, drawing the longitudinal and cross-sections, and showing the columns' reinforcement.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
17	6	Cognitive and skill-based outcomes	Drawing structural details and vertical sections to illustrate the bonding of reinforcing steel for columns of successive floors.	Lecture method, by using the whiteboard and the projector, and then practical application	Homework

				using computers.	
18	6	Cognitive and skill-based outcomes	Introduction to foundations, their types and principles of operation, and drawing the structural details of the single foundation, combined foundation, and wall foundations.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
19	6	Cognitive and skill-based outcomes	Drawing the structural details of continuous foundations and mat foundations.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
20	6	Cognitive and skill-based outcomes	Drawing the structural details of the foundations of the pillars and their types with the cap.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
21	6	Cognitive and skill-based outcomes	Identifying concrete stairs and their types: a straight staircase, a half-straight staircase, a spiral staircase, and drawing their structural details.	Lecture method, by using the whiteboard and the projector, and then practical application	Homework

				using computers.	
22	6	Cognitive and skill-based outcomes	Drawing structural details of joints in buildings, expansion joints, structural joints.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
23	6	Cognitive and skill-based outcomes	Drawing the structural details of the reinforced walls of elevators and basement walls.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
24	6	Cognitive and skill-based outcomes	Introduction to manufactured and prefabricated construction, as well as drawing the structural details for wall connections with prefabricated ceilings.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
25	6	Cognitive and skill-based outcomes	Introduction to steel structures, their sections, tables, and how to obtain section specifications and details.	Lecture method, by using the whiteboard and the projector, and then practical application	Homework

				using computers.	
26	6	Cognitive and skill-based outcomes	Drawing the structural details for the connection of steel parts according to their load bearing.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
27	6	Cognitive and skill-based outcomes	Bonding of steel foundations and bases, bonding of steel columns, bonding of joists to each other.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Homework
28	6	Cognitive and skill-based outcomes	Details of the gable steel drawing and its side connections.	Lecture method, by using the whiteboard and the projector, and then practical application using computers.	Quiz
29 & 30	6	Cognitive and skill-based outcomes	Using the computer and its applications in the structural drawing of reinforced concrete structures.	Lecture method, by using the whiteboard and the projector, and then practical application	Homework

				using computers.	

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, any)	Curricular source
Main references (sources)	Civil technology/structural drawing/general administration for curriculum design and implementation.
Recommended books and references (scientific journals, reports...)	Architectural technology book, working drawings 1
Electronic References, Websites	

Course Description Form

13.Course Name: **Concrete Technology**
14.Course Code: TC21
15.Semester / Year: Year
16.Description Preparation Date:
17.Available Attendance Forms: Presence

18.Number of Credit Hours (Total) / Number of Units (Total) 3
19.Course administrator's name (mention all, if more than one name)
Name: Email:
20.Course Objectives

Course Objectives	The aim is mainly on how to understand concrete performance ordinary construction practice. That understanding is based knowledge of its constituents, and their physical and chem interactions in different environments.

21.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	3	Cognitive outcomes	General principles f concrete (definition, composition, its ow terminology, characteristics)	lecture	questions and answers
2nd	3	Cognitive outcomes	Portland cement, manufacturing, chemical composit types	Discussion	Asking questions
3rd	3	Cognitive outcomes	Other types of cement,(natural, expanding, alumino with their properties	lecture	Listening and asking questions
4th	3	Cognitive and emotional outcomes	Cement properties, fineness, loss on ignition, soundness heat of hydration	Dialogue and criticism	Case study
5th	3	Cognitive and skills	Setting time (initial a final), compressive strength, tensile strength	discussion	Case studies
6th	3	Cognitive and skills	Aggregate, classification, sampling, particle shape, surface texture, aggregate strength.	Discussion and m lesson	Mini lesson

7th	3	My knowledg my skills	Mechanical properti of aggregate, (SG, weight, gradation, porosity, absorption abrasion, bulking in sand	Role playing	discussion
8th	3	Rate	Sulfate, organic, clayey contents, alk silica reaction	discussion	Case study
9th	3	Cognitive	Heavy and low weig aggregate, types, (natural +artificial), properties	a lecture	Listening and speaking
10th	3	My knowledg and skills	Properties of low density aggregates and uses	discussion	Questions
11th	3	My knowledg and skills	Cementitious mater ,(silica fume, fly ash metakaolin, GGBFS	Lecture and criticism	Asking questions
12th	3	My knowledg and skills	Water for concrete, mixing water, curing water, (properties a specifications)	Lecture and criticism	to listen
13th	3	And sentimental	Concrete fibers, (typ and specifications)	Discuss and listen	Asking questions
14th	3	My Skills	Concrete admixture types, retarders, accelerators, plasticizers, air entraining agents, anti-freezing	Dialogue and discussion	Work groups
15th	3	Cognitive	Chemical compositi of admixtures, and tests	discussion	Work groups
16th	3	Cognitive	Physical requireme for concrete admixtures accordi to specifications	Discuss and listen	Mini lesson
17th	3	My knowled and skills	General principles f concrete (definition, composition, its ow terminology, characteristics)	Lecture and criticism	Practical exercise
18th	3	My knowled and skills	Portland cement, manufacturing, chemical compositi types	Discuss and listen	And work groups
19th	3	Cognitive	Other types of cement,(natural, expanding, alumino with their properties	discussion	Asking questions
20th	3	My knowled and skills	Cement properties, fineness, loss on ignition, soundness heat of hydration	Discussion and criticism	Asking questions
21st	3	Cognitive an emotional	Setting time (initial a final), compressive	Discussion and criticism	Case study

			strength, tensile strength		
22nd	3	Cognitive	Aggregate, classification, sampling, particle shape, surface texture, aggregate strength.	discussion	Case study
23rd+	3	Cognitive	Mechanical properti of aggregate, (SG, weight, gradation, porosity, absorption abrasion, bulking in sand	discussion	Asking questions
24th	3	Discussion a criticism	Sulfate, organic, clayey contents, alk silica reaction	Discussion and criticism	Case study
25th	3	Discussion a criticism	Heavy and low weig aggregate, types, (natural +artificial), properties	Discussion and criticism	Asking questions
26th	3	discussion	Properties of low density aggregates and uses	discussion	Asking questions
27th	3	Cognitive outcomes	Cementitious mater ,(silica fume, fly ash metakaolin, GGBFS	lecture	Asking questions
28th	3	Cognitive outcomes	Water for concrete, mixing water, curing water, (properties a specifications)	Discussion	Case study
29th+30th	3	Cognitive outcomes	Concrete fibers, (typ and specifications)	lecture	Asking questions

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)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

25.Course Name:

Surveying 2
26.Course Code:
TC22
27.Semester / Year:
Year
28.Description Preparation Date:
2024
29.Available Attendance Forms:
In-person
30.Number of Credit (Total) / Number of Units (Total)
90 Hours - 3 Units
31.Course administrator's name (mention all, if more than one name)
Name: Raeda K. Ali Email: raeda.k.ali@atu.edu.iq
32.Course Objectives

Course Objectives	• to prepare technician specialist that they can carry out the basic of planning and implementation of major engineering projects and small as they enter the large and small businesses. • The graduate person can survey the land to determine the topography and elevations in order to prepare the specific map for projects then conduct the soil cut and fill. • Identify ways trails of all kinds and to prepare profiles and maps thus use the software and modern application in their respective fields.

33.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

34. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	3	Cognitive outcomes	To identify the device Al-	lecture	questions and answers

			theodolite / part uses, types, set u the machine, rea the horizontal ar vertical trends fo different species		
2nd	3	Cognitive outcomes	Check and adjus the Al-theodolit device for all kinds of vertical and horizontal tests and then fi a fixed device	Discussion	Asking questions
3rd	3	Cognitive outcomes	Methods of measuring horizontal angle Altheodoleight device	lecture	Listening and asking questions
4th	3	Cognitive and emotional outcomes	Ribbing, types o polygons, its purpose, its uses	Dialogue and criticism	Case study
5th	3	Cognitive and skills	Measuring internal horizon angles closed polygon and corrected	discussion	Case studies
6th	3	Cognitive and skills	Methods of measuring the horizontal distance to the sides of the polygon.	Discussion and m lesson	Mini lesson
7th	3	My knowledg my skills	Drawing closed and open polygons	Role playing	discussion
8th	3	Cognitive and skills	Survey area and raise the trusses monuments to a Theodolite and tape	discussion	Case study
9th	3	Cognitive	Practical Exerci of the horizonta component and vertical	a lecture	Listening and speaking

			component directions		
10th	3	My knowledg and skills	Practical Exerci of the horizonta and vertical coordinates for open polygon.	discussion	Questions
11th	3	My knowledg and skills	Measure the vertical angles E Theodolite in different ways	Lecture and criticism	Asking questions
12th	3	My knowledg and skills	Exercise on finding height o building could reach the base	Lecture and criticism	to listen
13th	3	And sentimental	Exercise on finding height o building is not possible to reacl the base	Discuss and listen	Asking questions
14th	3	My Skills	Exercise on finding height o building measuring three angles high and low	Dialogue and discussion	Work groups
15th	3	Cognitive	How curved horizontal layou tape only	discussion	Work groups
16th	3	Cognitive	Curves / and kir	Discuss and listen	Mini lesson
17th	3	My knowled and skills	Horizontal curv (curved element of ring Simple) and the equation used in the desig of the curved rir simple	Lecture and criticism	Practical exercise
18th	3	My knowled and skills	Determine how the horizontal curves / tangent method built on columns ways (Baker way) - built on column	Discuss and listen	And work groups

			tendon way (offsett) - the division of the tendons		
19th	3	Cognitive	Determine how the curves using two devices Theodolite	discussion	Asking questions
20th	3	My knowled and skills	Chart of the horizontal curve	Discussion and criticism	Asking questions
21st	3	Cognitive ar emotional	All type of curv / components / calculate the length of the vertical curve	Discussion and criticism	Case study
22nd	3	Cognitive	Accounts relate to the vertical curve	discussion	Case study
23rd+	3	Cognitive	Triangulation, purposes, use, choose triangulation points, triangulation networks	discussion	Asking questions
24th	3	Discussion a criticism	Measuring the baseline for triangulation an the work of the fortifications of the measuring tape	Discussion and criticism	Case study
25th	3	Discussion a criticism	Measure the horizontal angle of the triangulation network and wo accounts and fortifications necessary.	Discussion and criticism	Asking questions
26th	3	discussion	Al-takeomitrah space, Al-takeomitr types devices.	discussion	Asking questions

27th	3	Cognitive outcomes	Identification of modern electron measurement devices and hov to use them to measure the horizontal and vertical distance	lecture	Asking questions
28th	3	Cognitive outcomes	Year project on the construction a road or draina channel with du needed to complete the project with horizontal and vertical curves account	Discussion	Case study
29th+30th	3	Cognitive outcomes	Iterance to the station device us overall station device to measu lengths of trave and internal angles and coordinates	lecture	Asking questions

35.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	
36.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	4) Book of Plane Surveying and Topography/ Fouad Malallah Fandakli 5) Detailed Surveying and topography / Mahmoud Hosni Abdel Rahim 6) 2. The Book of Surveying / Labib Nasief Sallou,1985 7) Construction Survey/William Irvine1976
Recommended books and references (scientific journals, reports...)	Engineering and Cadastral Surveying / Ziad Abdel-Jabbar Al-Bakr, 1989
Electronic References, Websites	https://civiltoday.com/surveying/13-definition-and-importance-of-surveying

Course Description Form

37.Course Name: Construction Equipment
38.Course Code: TC26
39.Semester / Year: year
40.Description Preparation Date:
41.Available Attendance Forms: Presence
42.Number of Credit Hours (Total) / Number of Units (Total) 2
60 Hours/ Units 2
43.Course administrator's name (mention all, if more than one name)
Name: Email:
44.Course Objectives

Course Objectives	• to determine t productivity of the machi and how they operate a supervise the completion the work well
45.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and t most important of these methods are:- (theoretical a practical lecture, discussion and dialogue, field vis discussion circles on specific topics, theoretical and practi student research, office activities)

46. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**

the first	2	Cognitive outcomes	Construction equipment, the importance of the machines, and ways to ge them, and the pros and cons own or rent the machines, with the presentatio of a scientific film.	lecture	questions and answers
the second	2	Cognitive outcomes	Cost and exper of owning the machines (writ off costs, investment maintenance a repairs).	Discussion	Asking questions
the third	2	Cognitive outcomes	Supplement the cost and expen of owning the machines, operating costs (fuel costs, oil costs, explain Math question about an integrated account all costs).	lecture	Listening and asking questions
the fourth	2	Cognitive and emotional outcomes	Special machines, standard machines, and the trade-offs between them with the presentation of scientific film.	Dialogue and criticism	Case study
Fifth	2	Cognitive and skills	Engineering foundations fo Engineering Works machin	discussion	Case studies

			include (resistance movement and the effect of inclination).		
sixth	2	Cognitive and skills	Supplement engineering foundations fo engineering works machine (the impact of the rise, the Bulge and contraction of the soil on account sizes)	Discussion and mini lesso	Mini lesson
Seventh	2	My knowledg my skills	Almqlah (doze include: Description of the machine, types, productivity calculation) wi the presentatio of a scientific film.	Role playing	Asking questio
VIII	2	Rate me	Loading shove (Alhvl) include (types, includi teams, productivity ar expense, Alhvl cycle work, coordination o work) with the presentation of two films scientists.	discussion	Listening and asking question
ninth	2	Cognitive	A visit to the scientific work sites that is available by	a lecture	Listening and speaking

			different machines. IX		
The tenth	2	My knowledg and skills	Drilling machines, the overall rig, drilling rig wit facial display scientific film.	discussion	Questions
eleventh	2	My knowledg and skills	Drilling machines (background Shovel, Shovel Naaourah, Sco shellfish) with the presentatio of a scientific film.	Lecture and criticism	Asking questio
twelve	2	My knowledg and skills	Machinery and transport units, paved and non paved roads trucks, truck classification according to multiple factor tippers, productivity account with th presentation of scientific film.	Lecture and criticism	to listen
thirteenth	2	And sentimental	Balancing the number of dum trucks with the volume of drilling machines, lorries, tractors and trailers, trucks railway.	discussion	Asking questio
fourteenth	2	My Skills	Terraced inclu (types and benefits with productivity	Discuss and liste	Work groups

			account) with t presentation of scientific film.		
Fifteenth	2	Cognitive	Skimmers type and productivi benefits accou with the presentation of scientific film	discussion	Work groups
sixteen	2	Cognitive	Abrasive perform productive use abrasive schem in productivity account.	Discuss and liste	Mini lesson
And the seventeent	2	My knowled and skills	A scientific vis to the business sites with the presentation of scientific film.	Lecture and criticism	Practical exercise
eighteen	2	My knowled and skills	Soil compactio machines inclu important type where they are used with the presentation of scientific film.	Discuss and liste	work groups
nineteenth	2	Cognitive	Supplement machines Alhd productivity ar expense, onion theory of pressure for th distribution of weights	discussion	Asking questions
The twentieth	2	My knowled and skills	Supplement Alhdl Alhadlat vibratory machines, productivity account Alhad	Discussion and criticism	Asking questions
And the twenty-firs	2	Cognitive ar emotional	Transport and refine concrete	Discussion and criticism	Case study

			compaction equipment.		
twenty two	2	Cognitive	Accounts relat to the vertical curve	discussion	Case study
twenty third	2	Cognitive	Asphalt types and specifications the production plants.	discussion	Asking questio
twenty fourth	2	Discussion a criticism	sphalt specifications mattresses, Alvarchat spee types of butterflies wit the presentatio of a scientific film.	Discussion and criticism	Case study
25th	2	Discussion a criticism	Scientific visit the asphalt production pla	Discussion and criticism	Asking questio
twenty-sixth	2	discussion	Almkhandqat types, producti rates account with the presentation o scientific film.	discussion	Asking questio
27th	2	Cognitive outcomes	Tunnels importance, types with the presentation o scientific film.	lecture	Asking questio
Twenty-eighth	2	Cognitive outcomes	Mechanical rig incision tunnel ventilation tunnels with th presentation o scientific film.	Discussion	Case study
Twenty nine	2	Cognitive outcomes	Conveyer belts calculate the c of transport be conveyor belts parts	lecture	Asking questio

Thirty	2	Cognitive outcomes	Conveyer belts calculate the c of transport be conveyor belts parts	lecture	Asking questio

47.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	
48.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

49.Course Name: **Concrete Technology**	
50.Course Code: TC20	
51.Semester / Year: Year	
52.Description Preparation Date:2024	
53.Available Attendance Forms: Presence	
54.Number of Credit Hours (Total)120 / Number of Units (Total) 4	
55.Course administrator's name (mention all, if more than one name)	
Name: saif mazen Email: **Saif.aziz.ikr@atu.edu.iq**	
56.Course Objectives	
Course Objectives	The aim is mainly on how to understand concr performance in ordinary construction practice. T understanding is based on knowledge of constituents, and their physical and chemi interactions in different environments.

57.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most important of these methods are:- (theoretical and practical lecture, discussion and dialogue, field visits, discussion circles on specific topics, theoretical and practical student research, office activities) 1- How to conduct tests for fresh concrete (slump test, compaction factor test, etc.) 2 - The effect of mixing ratios on the bearing capacity of solid concrete. 2 – Workability of lightweight concrete. 4- Operate the equipment used in examinations skillfully

58. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Cognitive outcomes	General principles for concrete (definition, composition, its own terminology, characteristics) Normal, reinforced, cast place, pre-cast, pre-mixed, pre-tensioned	lecture	questions and answers
2nd	4	Cognitive outcomes	Concrete mixing & production, mixing types, mixing time	Discussion	Asking questions
3rd	4	Cognitive outcomes	Fresh concrete, workability, consistency, fresh concrete tests, Flowability, penetration, slump,	lecture	Listening and asking questions

			compaction factor test, VB test, factors affecting concre workability		
4th	4	Cognitive and emotional outcomes	Fresh concrete properties Bleeding, segregation, plastic shrinkage fresh unit weigh	Dialogue and criticism	Case study
5th	4	Cognitive and skills	Air voids (effect & measurement) unit weight, yiel cement content i fresh concrete, density + absolu volume formula	discussion	Case studies
6th	4	Cognitive and skills	General principles for concrete (definition, composition, its own terminology, characteristics) Normal, reinforced, cast place, pre-cast, pre-mixed, pre-tensioned	Discussion and m lesson	Mini lesson
7th	4	My knowledg my skills	Concrete mixing & production, mixing types, mixing time	Role playing	discussion
8th	4	Rate	Fresh concrete, workability, consistency, fresh concrete tests, Flowability, penetration, slump,	discussion	Case study

			compaction factor test, VB test, factors affecting concre workability		
9th	4	Cognitive	Normal Concret casting, transporting, compaction	a lecture	Listening and speaking
10th	4	My knowledg and skills	Normal Concrete curing, hot weather concreting, Cold weather concreting	discussion	Questions
11th	4	My knowledg and skills	Concrete pumping, pumped concrete properties, Pumping tools	Lecture and criticism	Asking questions
12th	4	My knowledg and skills	Pre-mixed concrete, advantages, production, mixing trucks	Lecture and criticism	to listen
13th	4	And sentimental	Hardened concr strength, nature, types	Discuss and listen	Asking questions
14th	4	My Skills	Hardened concr tests, compressiv splitting, flexura	Dialogue and discussion	Work groups
15th	4	Cognitive	Factors influenced concrete strength, Factors influenc concrete strengt results	discussion	Work groups
16th	4	Cognitive	Concrete shrinkage, (dryi deferential, carbonation)	Discuss and listen	Mini lesson

17th	4	My knowled and skills	Concrete additives, (advantages, uses, constituents, Precautions)	Lecture and criticism	Practical exercise
18th	4	My knowled and skills	Types of Concrete additives (retarders, accelerators, air entraining, silica fume, Water proofing, weight loosing	Discuss and listen	And work groups
19th	4	Cognitive	Concrete mix design ACI method	discussion	Asking questions
20th	4	My knowled and skills	Concrete mix design BS method	Discussion and criticism	Asking questions
21st	4	Cognitive ar emotional	Concrete mix design examples	Discussion and criticism	Case study
22nd	4	Cognitive	Mix design Examples for Concrete associated with additives	discussion	Case study
23rd+	4	Cognitive	Nondestructive testing, (radiation, hardness, pulse waves, Resonance frequency)	discussion	Asking questions
24th	4	Discussion a criticism	Using fibers in concrete, Plastic, glass, steel, wood	Discussion and criticism	Case study
25th	4	Discussion a criticism	Using polymers in concrete, Polymer concret	Discussion and criticism	Asking questions

26th	4	discussion	Special types of concrete, (light weight, heavy weight, under water concreting, Pre-cast concret	discussion	Asking questions
27th	4	Cognitive outcomes	Special types of concrete, (high performance, high strength, self-compacting, Reactive powde concrete, rolled compacted concrete	lecture	Asking questions
28th	4	Cognitive outcomes	Concrete repairing & rehabilitation, Using epoxy, carbon fiber	Discussion	Case study
29th+30th	4	Cognitive outcomes	Concrete mix design ACI method	lecture	Asking questions

59.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	
60.Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

1. Course Name**: Technology Of Construction**

2. Course Code: TC21

3. Semester / Year: Year

4. Description Preparation Date:

5. Available Attendance Forms: Presence

6. Number of Credit Hours (Total) / Number of Units (Total) 4

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

Name:
Email:

8. Course Objectives

Course Objectives	The aim is mainly on how to understand concr performance in ordinary construction practice. T understanding is based on knowledge of constituents, and their physical and chemi interactions in different environments.

9. Teaching and Learning Strategies

Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	4	Cognitive outcomes	Foundations planning, usi surveying equipment.	lecture	questions a answers
2nd	4	Cognitive outcomes	Excavations, Supported Excavation side	Discussion	Asking questions

3rd	4	Cognitive outcomes	Reinforcing wo of the foundati of a wall or a pi Making and	lecture	Listening a asking questions
4th	4	Cognitive a emotional outcomes	Showing scientific mo for the piles wor types and how th work and machines used f	Dialogue a criticism	Case study
5th	4	Cognitive a skills	Brick wo English Bo Flemish Bond other types Bonds.	discussion	Case studies
6th	4	Cognitive a skills	Building w blocks (bloc thermostone).	Discussion and m lesson	Mini lesson
7th	4	My knowled my skills	Shuttering Wor training on work of Shutteri for column , be , Stairs a ceilings.	Role playing	discussion
8th & 9th	4	Rate	Foundations planning, usi surveying equipment.	discussion	Case study
10th	4	My knowled and skills	Casting of norr and reinforc concrete using hand mixing , well as training mechanical mixture.	discussion	Questions
11th	4	My knowled and skills	Scientific visit the work s Shuttering a casting concrete	Lecture a criticism	Asking questions

12th & 13th	4	My knowled and skills	Reinforcement work, st reinforcement , correct way to u it, the work reinforcement the column a ceiling and be models.	Lecture a criticism	Practical exercise
14th	4	My Skills	Hardened concr tests, compressi splitting, flexura	Dialogue a discussion	Work groups
15th	4	Cognitive	Factors influenced concrete strength, Factors influenc concrete streng results	discussion	Work groups
16th	4	Cognitive	Concrete shrinkage, (dryi deferential, carbonation)	Discuss and listen	Mini lesson
17th	4	My knowledge and skills	Concrete additives, (advantages, uses, constituents, Precautions)	Lecture a criticism	Practical exercise
18th	4	My knowledge and skills	Types of Concrete additives (retarders, accelerators, air entraining, silica fume, Water proofi weight loosing	Discuss and listen	work groups
19th	4	Cognitive	Concrete mix design ACI method	discussion	Asking questions
20th	4	My knowledge and skills	Concrete mix design BS method	Discussion a criticism	Asking questions

21st	4	Cognitive a emotional	Concrete mix design examples	Discussion a criticism	Case study
22nd	4	Cognitive	Mix design Examples Concrete associated w additives	discussion	Case study
23rd+	4	Cognitive	Nondestructive testing, (radiation, hardness, pulse waves, Resonance frequency)	discussion	Asking questions
24th	4	Discussion and criticisn	Using fibers in concrete, Plastic, glass, ste wood	Discussion a criticism	Case study
25th	4	Discussion and criticisn	Using polymers in concrete, Polymer concret	Discussion a criticism	Asking questions
26th	4	discussion	Special types of concrete, (light weight, heavy weight, under water concreting, Pre-cast concret	discussion	Asking questions
27th	4	Cognitive outcomes	Special types of concrete, (high performance, high strength, self-compacting, Reactive pow concrete, roll compacted concrete	lecture	Asking questions
28th	4	Cognitive outcomes	Concrete repairing & rehabilitation,	Discussion	Case study

			Using epo carbon fiber		
29th+30th	4	Cognitive outcomes	Concrete mix design ACI method	lecture	Asking questions

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, any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

25.Course Name:	
English 1	
26.Course Code:	
27.Semester / Year:	
Annual System	
28.Description Preparation Date:	
6/9/2023	
29.Available Attendance Forms:	
In-person	
30.Number of Credit Hours (Total) / Number of Units (Total)	
30 h / 2 u	
31.Course administrator's name (mention all, if more than one name)	
Name: Jaafar Haasan Jasim Email: Jaafar.ejam@atu.edu.iq	
32.Course Objectives	
Course Objectives	1. Students acquire English language skills: listening, speaking, reading, and writing

	2. Enhancing the student's abilities to understand technical words in English. 3. Familiarity with the English language and making a comparison with the mother tongue, Arabic

33.Teaching and Learning Strategies

Strategy	Cognitive Strategies: • Identifying modern linguistic vocabulary and how to use it. • Identifying common linguistic errors and ways to avoid them. • Identifying the exact meaning of the word in the mother tongue, Arabic. Methods: • Lecture. • Discussion with students and students among themselves. • Preparing reports and projects related to the subjects of the lecture. • Visual aids.

34. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	1	Students understand the topic	Hello!	Lecture and discussion	Quiz
2-3	2	Students understand the topic	WB unit 1 / Your world	Lecture and discussion	Open-book exercise
4-5	2	Students understand the topic	WB unit 2 / All about you	Lecture and discussion	Quiz
6-7-8	3	Students understand the topic	WB unit 3/Family & friends/WB unit 4	Lecture and discussion	Open-book exercise
9	1	Students understand the topic	The way I live	Lecture and discussion	Quiz
10	1	Students understand the topic	WB unit 5	Lecture and discussion	Open-book exercise

11-12	2	Students understand the topic	Every day / WB unit 6	Lecture and discussion	Quiz
13	1	Students understand the topic	My favourites	Lecture and discussion	Open-book exercise
14	1	Students understand the topic	WB unit 7	Lecture and discussion	Quiz
15-16	2	Students understand the topic	Where I live / WB unit 8	Lecture and discussion	Open-book exercise
17-18	2	Students understand the topic	Times past / WB unit 9	Lecture and discussion	Quiz
19-20	2	Students understand the topic	We had a great time! / WB unit 10	Lecture and discussion	Open-book exercise
21	1	Students understand the topic	I can do that!	Lecture and discussion	Quiz
22	1	Students understand the topic	WB unit 11	Lecture and discussion	Open-book exercise
23-24	2	Students understand the topic	Please & thank you/ WB unit 12	Lecture and discussion	Quiz
25-26	2	Students understand the topic	Here and now/ WB unit 13	Lecture and discussion	Open-book exercise
27-28	2	Students understand the topic	It's time to go! / WB unit 14	Lecture and discussion	Quiz
29-30	2	Students understand the topic	Review	Lecture and discussion	Open-book exercise

35.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.	
36.Learning and Teaching Resources	
Required textbooks (curricular books, any)	New Headway - Beginner
Main references (sources)	Headway Series

Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Google Books

Course Description Form

13.Course Name**:**	
Engineering Mechanics	
14.Course Code:	
TC5	
15.Semester / Year:	
Year	
16.Description Preparation Date:	
2024	
17.Available Attendance Forms:	
Presence	
18.Number of Credit Hours (Total) / Number of Units (Total)	
90 hours/ 3units	
19.Course administrator's name (mention all, if more than one name)	
Name: Hussein younis Email: Inkr.hus@atu.edu.iq	
20.Course Objectives	
Course Objectives	**General objective**: teaching students analyze the forces and loads hanging over bodies and extract the stresses and strain as a result of these forces and their relationship to the constituent materials of these bodies. **Specific objective**: analysis of structures and find the forces and stresses in its parts as a result of external loads and its relation to the dimensions of the various parts in engineering structures to withstand the stresses inflicted by safely and economy
21.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a

	dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

22. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	3	Cognitive outcomes	Definition of Mechanics , General review for Physical Fundamentals , Trigonometry , Scalar and Vect quantities.	lecture	questions and answers
2nd	3	Cognitive outcomes	Resolution and Composition of Forces , Triang forces low and Forces Polygon	Discussion	Asking questions
3rd	3	Cognitive outcomes	Moment of Forc	lecture	Listening and asking questions
4th	3	Cognitive and emotional outcomes	Couples. The	Dialogue and criticism	Case study
5th	3	Cognitive and skills	Resultant of Concurrent and non-Concurrent Coplanar force system.	discussion	Case studies
6th	3	Cognitive and skills	Distributed Loads	Discussion and m lesson	Mini lesson
7th	3	My knowledg my skills	Equilibrium , Fr Body Diagram (F.B.D) , Equilibrium Equations , Equilibrium of concurrent forc , non –concurre	Role playing	discussion

			forces and parallel forces.		
8th & 9th	3	Rate	Definition of Mechanics , General review for Physical Fundamentals , Trigonometry , Scalar and Vect quantities.	discussion	Case study
10th	3	My knowledg and skills	Resolution and Composition of Forces , Triang forces low and Forces Polygon	discussion	Questions
11th	3	My knowledg and skills	Types of Beams and Supports , Equilibrium of Beams	Lecture and criticism	Asking questions
12th & 13th	3	My knowledg and skills	Trusses , Analy of Trusses : Joints and Sections Metho	Lecture and criticism	Practical exercise
14th	3	My Skills	Friction , The nature of frictio Theory of fricti , friction lows, Types of frictio Applications.	Dialogue and discussion	Work groups
15th	3	Cognitive	Center of gravit and centroids o simple and Composite area Applications.	discussion	Work groups
16th	3	Cognitive	Applications. Moments Inertia (Simple Composite area	Discuss and listen	Mini lesson

17th	3	My knowledge and skills	Strength of Materials : Fundamental concept , Definition of Stress , Types o Stress , Factor c Safety.	Lecture and criticism	Practical exercise
18th	3	My knowledge and skills	Applications on Stress Subject.	Discuss and listen	work groups
19th	3	Cognitive	Strain , Hook's Low, Stress-Strain relationship ; stress-strain diagram .	discussion	Asking questions
20th	3	My knowledge and skills	Lateral Strain , Poisson's Ratio Applications on Strain and stres	Discussion and criticism	Asking questions
21st	3	Cognitive a emotional	Shear force Diagram (S.F.D and Bending Moment Diagra (B.M.D) for beams , Shear force and Bendi Moments Equations .	Discussion and criticism	Case study
22nd	3	Cognitive	Types of Beams and Supports , Equilibrium of Beams	discussion	Case study
23rd+	3	Cognitive	Trusses , Analy of Trusses : Joints and Sections Metho	discussion	Asking questions
24th	3	Discussion and criticisn	Friction , The nature of frictio Theory of fricti , friction lows, Types of frictio Applications.	Discussion and criticism	Case study

25th	3	Discussion and criticism	Applications to draw the shear force and bendi moment equatic .	Discussion and criticism	Asking questions
26th	3	discussion	Bending Stress Beams and Applications.	discussion	Asking questions
27th	3	Cognitive outcomes	Shear Stress in Beam and Applications.	lecture	Asking questions
28th	3	Cognitive outcomes	Two-material Composite Beams.	Discussion	Case study
29th+30th	3	Cognitive outcomes	Applications to draw the shear force and bendi moment equatic .	lecture	Asking questions

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, i any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

13.Course Name**:**
Engineering Drawing
14.Course Code:
TC2
15.Semester / Year:

Year
16.Description Preparation Date:
2024
17.Available Attendance Forms: Presence
18.Number of Credit Hours (Total) / Number of Units (Total)
180 Hours / 6 Units
19.Course administrator's name (mention all, if more than one name)
Name: Email:
20.Course Objectives

Course Objectives	Subject goal: teach students the principles of the preliminary engineering drawing and computer drawing programs efficiently and rapidly to enable him to express his thoughts through him. The goal of Subject: the rehabilitation of the student to draw and read engineering maps with knowledge of architectural and structural terms that are used in the maps.

21.Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

22. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	6	Cognitive outcomes	the basics engineering drawing, the to used, to install painting, types lines, writing line engineerin	lecture	questions a answers
2nd	6	Cognitive outcomes	engineering operations,	Discussion	Asking questions

			halving straight pie halving the ang linking strai with a circle a linking strai arc, draw equilateral triangle, fi hexagonal, straight tangent two circles ins and out, tangent of t circles from ho and abroad		
3rd	6	Cognitive outcomes	ellipse, application drawing geomet shapes using ba engineering operations	lecture	Listening a asking questions
4th	6	Cognitive a emotional outcomes	projection principles, how develop dimensional drawing, projection exercises	Dialogue a criticism	Case study
5th	6	Cognitive a skills	draw perspect Alaizumtra	discussion	Case studies
6th	6	Cognitive a skills	projected l perspective drawing Alaizumtra	Discussion and m lesson	Mini lesson
7th	6	My knowled my skills	Seventh section	Role playing	discussion
8th & 9th	6	Rate	AutoCAD applications, definition of relationship between AutoCAD program and	discussion	Case study

			use in t completion two-dimensiona drawings (2D) a three-dimension (3D) and open new page in t program, determine the a of the drawi (Limits), drawi plate frame a table data, with t application writi within t spreadsheet Text)		
10th	6	My knowledg and skills	identify the typ of lines and t method of acc to and use AutoCAD software putting them multiple lay (Layers) a different col and differe thickness (L weight	discussion	Questions
11th	6	My knowlec and skills	drawing projections three-dimension forms a dimensions p them by usi multiple lay (Layers)	Lecture a criticism	Asking questions

12th & 13th	6	My knowled and skills	drawing projections three-dimension forms a dimensions p them by usi multiple lay (Layers)	Lecture a criticism	Practical exercise
14th	6	My Skills	drawing projections three-dimension forms usi different colors different thickn of lines and changing characteristics (properties	Dialogue a discussion	Work groups
15th	6	Cognitive	projected find missing a continue to dr projections	discussion	Work groups
16th	6	Cognitive	put additions fees (Hatch a gradient), and method of addi additional inscriptions on program fr external sources	Discuss and listen	Mini lesson
17th	6	My knowled and skills	draw the sha holographic manner (Isomet snap)	Lecture a criticism	Practical exercise
18th	6	My knowled and skills	drawing sectio in the sa manner (Isomet snap)	Discuss and listen	work groups
19th	6	Cognitive	drawing projections three-dimension forms a dimensions p them by usi	discussion	Asking questions

			multiple lay (Layers)		
20th	6	My knowlec and skills	drawing projections three-dimension forms a dimensions p them by usi multiple lay (Layers)	Discussion a criticism	Asking questions
21st	6	Cognitive a emotional	method repeating shap using command (Po array & arr Rectangular)	Discussion a criticism	Case study
22nd 23rd	6	Cognitive	modus operar (Block) to rep the geomet shapes and method of stora and recall	discussion	Case study and Asking questions
24th	6	Discussion a criticism	drawing an integrated plate containing the types of fees (2D) and (3D) and containing a spreadsheet and explain the fees.	Discussion a criticism	Case study
25th	6	Discussion a criticism	presentation formats w different scenes a single scre using command (vi ports)	Discussion a criticism	Asking questions
26th	6	discussion	method transmission fe between files a how to open m	discussion	Asking questions

			than one f through window it)		
27th	6	Cognitive outcomes	singled geomet shapes (Cu prism, pyramid)	lecture	Asking questions
28th	6	Cognitive outcomes	single geomet shapes (pyran lump, Cone)	Discussion	Case study
29th	6	Cognitive outcomes	scale and meth of printing usi the plot	lecture	Asking questions
30th			export fees formula (dwg) (pdf) as well (psd) creates virtual printers	lecture	Asking questions

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 any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

37.Course Name:
English 1
38.Course Code:
TC8
39.Semester / Year:
Annual System
40.Description Preparation Date:
2/10/2024
41.Available Attendance Forms:
In-person
42.Number of Credit Hours (Total) / Number of Units (Total)
30 h / 2 u

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

Name: Jaafar Haasan Jasim
Email: Jaafar.ejam@atu.edu.iq

44.Course Objectives

Course Objectives	1. Students acquire English language skills: listening, speaking, reading, and writing 2. Enhancing the student's abilities to understand technical words in English. 3. Familiarity with the English language and making a comparison with the mother tongue, Arabic

45.Teaching and Learning Strategies

Strategy	Cognitive Strategies: • Identifying modern linguistic vocabulary and how to use it. • Identifying common linguistic errors and ways to avoid them. • Identifying the exact meaning of the word in the mother tongue, Arabic. Methods: • Lecture. • Discussion with students and students among themselves. • Preparing reports and projects related to the subjects of the lecture. • Visual aids.

46. Course Structure

Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
1	1	Students understand the topic	Hello!	Lecture and discussion	Quiz
2-3	2	Students understand the topic	WB unit 1 / Your world	Lecture and discussion	Open-book exercise
4-5	2	Students understand the topic	WB unit 2 / All about you	Lecture and discussion	Quiz

6-7-8	3	Students understand the topic	WB unit 3/Family & friends/WB unit 4	Lecture and discussion	Open-book exercise
9	1	Students understand the topic	The way I live	Lecture and discussion	Quiz
10	1	Students understand the topic	WB unit 5	Lecture and discussion	Open-book exercise
11-12	2	Students understand the topic	Every day / WB unit 6	Lecture and discussion	Quiz
13	1	Students understand the topic	My favourites	Lecture and discussion	Open-book exercise
14	1	Students understand the topic	WB unit 7	Lecture and discussion	Quiz
15-16	2	Students understand the topic	Where I live / WB unit 8	Lecture and discussion	Open-book exercise
17-18	2	Students understand the topic	Times past / WB unit 9	Lecture and discussion	Quiz
19-20	2	Students understand the topic	We had a great time! / WB unit 10	Lecture and discussion	Open-book exercise
21	1	Students understand the topic	I can do that!	Lecture and discussion	Quiz
22	1	Students understand the topic	WB unit 11	Lecture and discussion	Open-book exercise
23-24	2	Students understand the topic	Please & thank you/ WB unit 12	Lecture and discussion	Quiz
25-26	2	Students understand the topic	Here and now/ WB unit 13	Lecture and discussion	Open-book exercise
27-28	2	Students understand the topic	It’s time to go! / WB unit 14	Lecture and discussion	Quiz

29-30	2	Students understand the topic	Review	Lecture and discussion	Open-book exercise

47.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.	
48.Learning and Teaching Resources	
Required textbooks (curricular books, any)	New Headway - Beginner
Main references (sources)	Headway Series
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Google Books

Course Description Form

1. Course Name**:**
Human Rights and Democracy
2. Course Code:
TC10
3. Semester / Year:
Year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total) 2
60 hours/2 units
7. Course administrator's name (mention all, if more than one name)
Name: M. M. Hussein Ali Muhammad Email: **hussain.muhammed@atu.edu.iq**
8. Course Objectives

Course Objectives	Subject goal: teach students the principles of the preliminary engineering drawing and computer drawing programs efficiently and rapidly to enable him to express his thoughts through him. The goal of Subject: the rehabilitation of the student to draw and read engineering maps with knowledge of architectural and structural terms that are used in the maps.

9. Teaching and Learning Strategies	
Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1st	2	Cognitive outcomes	Human Rig definition, goa human rights ancient civilizations, especially civilization Mesopotamia	lecture	questions a answers
2nd	2	Cognitive outcomes	Human Rights the heaver religions with emphasis Human Rights Islam	Discussion	Asking questions
3rd	2	Cognitive outcomes	Human rights in contemporary a modern history: international recognition human rights sir World War I, United Nations a the League	lecture	Listening a asking questions

4th	2	Cognitive a emotional outcomes	Regional recognition human rights: t European Convention Human Rig 1950, the Americ Convention Human Rig 1969, the Afric Charter on Hum Rights in 1981, t Arab Charter Human Rights 1994	lecture	Case study
5th	2	Cognitive a skills	Non-governmen human rig organizations (International Committee of t Red Cro Amnesty International, Human Rig Watch (HRW), t national hum rights organizations	discussion	Case studies
6th	2	Cognitive a skills	Human Rights the Ir constitutions between theory a reality	Discussion a mini lesso	Mini lesson
7th	2	My knowled my skills	The relationship between human rights and freedoms 1. In the Universal Declaration of Human Rights Covenants in t regional a	lecture	discussion

			national constitutions		
8th & 9th	2	Rate	Rights a economic, soc and cultural rig and the rights civil and politi rights	discussion	Case study
10th	2	My knowledg and skills	Modern hum rights: the facts the developm and the right to clean environme the right solidarity, the ri to religion	discussion	Questions
11th	2	My knowlec and skills	Guarantees the respect and protection of human rights at the international level.The United Nations and its specialized agencies in the provision of guarantees Local Organizations - role of the Arab League, European Union, African Union, Organization America States, Organization of ASEAN The regional n governmental organizations a	Lecture a criticism	Asking questions

			public opinion respect for a protection human rights		
12th & 13th	2	My knowled and skills	General Theory Freedom: T origin of the rig and freedoms, position of project's sta rights a freedoms, to u the term pub freedoms	Lecture a criticism	Practical exercise
14th	2	My Skills	Legal basis for rule of law	lecture	Work groups
15th	2	Cognitive	Organization public freedoms public authoritie	discussion	Work groups
16th	2	Cognitive	Equality: the modern evolution of the concept of equality The modern evolution of the idea of equality gender equality Equality betwe individuals according to th beliefs and th race	lecture	Mini lesson
17th	2	My knowled and skills	Democracy, definition, types	Lecture a criticism	Practical exercise
18th	2	My knowled and skills	The concepts democracy	lecture	work groups
19th	2	Cognitive	Democracy in Third World	discussion	Asking questions
20th	2	My knowled and skills	Democratic systems in world	lecture	Asking questions

21st	2	Cognitive a emotional	Basic freedor intellectual freedoms, economic a social freedoms	lecture	Case study
22nd 23rd	2	Cognitive	Freedom and a sense of security reassured Freedom of comi and going	lecture	Case study and Asking questions
24th	2	Discussion a criticism	Freedom of learning Freedom of the press Freedom assembly	lecture	Case study
25th	2	Discussion a criticism	Freedom of Association Freedom of actic	lecture	Asking questions
26th	2	discussion	Right to o property	lecture	Asking questions
27th	2	Cognitive outcomes	Freedom of tra and industry	lecture	Asking questions
28th	2	Cognitive outcomes	Women's Freedo	lecture	Case study
29th	2	Cognitive outcomes	Political parties a public freedoms	lecture	Asking questions
30th	2	Discussion a criticism	Scientific a technical progr and pub freedoms	lecture	Asking questions

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, any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Specialized websites

Course Description Form

1. Course Name:
Factories
2. Course Code:
TC11
3. Semester / Year:
Annual System
4. Description Preparation Date:
2024
5. Available Attendance Forms:
In-person
6. Number of Credit Hours (Total) / Number of Units (Total)
90 hours/ Units 3
7. Course administrator's name (mention all, if more than one name)
Name: Asst. Lect. Saif Mazin Email: Saif.aziz.ikr@atu.edu.iq
8. Course Objectives

Course Objectives	Acquiring the 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	Lectures, identifying and diagnosing problems through explanations, activities and classroom exercises, practical applications to enable students to understand how to benefit from the processes used and understand their application. 1- Carpentry models and using hand tools. 2 - File work and use of measuring tools and files. 3 - Carrying out measurement operations and used tools. 4- Cutting and bending metal sheets and rebar.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Cognitive outcomes	Industrial safety: general rules for	Lecture and discussion	Quiz

			accident prevention, health care equipment and methods of usage.		
2-3	2	Cognitive outcomes	Carpentry: The basic principles of carpentry models and the use of hand tools (cut-off saw, jigsaw, hammer, planer, drill, file).	Lecture and discussion	Open-book exercise
4-5	2	Cognitive outcomes	Using band saw machines, disc machines, planers, and press machines.	Lecture and discussion	Quiz
6-7	2	Cognitive outcomes	Filing: Training students on filing work and using measuring tools, files, automatic sawing devices, hooks, and drills.	Lecture and discussion	Open-book exercise
8-9	2	Cognitive outcomes	Lathe: Using different lathes, lathe operations (plane, internal draw, different gear teeth work).	Lecture and discussion	Quiz
10	2	Cognitive outcomes	Plumbing: industrial safety in casting, molds, mold formation, and plumbing work steps.	Lecture and discussion	Open-book exercise
11-12-13	2	Cognitive outcomes	Welding: A. Occupational safety and security precautions. B. Used tools and industrial safety equipment. C. Types of welding (gas, ultrasonic, pressure	Lecture and discussion	Quiz

			welding, electric arc welding).		
14	2	Cognitive outcomes	Metal cutting and bending: Devices and machines used in cutting and bending metal sheets and reinforcing steel bars.	Lecture and discussion	Open-book exercise
15	2	Cognitive outcomes	Plumbing: Training the student on the rolling mill machine and the process of planning on plates.	Lecture and discussion	Quiz
16	2	Cognitive outcomes	Measurement processes and tools used (tape, vernier, micrometer).	Lecture and discussion	Open-book exercise
17	2	Cognitive outcomes	Practical applications for carpentry work for civil constructions, including:	Lecture and discussion	Quiz
18	2	Cognitive outcomes	Making wooden doors (press doors, packing doors).	Lecture and discussion	Open-book exercise
19	2	Cognitive outcomes	Making wooden molds.	Lecture and discussion	Quiz
20-21	2	Cognitive outcomes	Applications on reinforcing steel, making roof, bridge and column reinforcement (cutting iron, bending iron and welding pieces).	Lecture and discussion	Open-book exercise
22-23	2	Cognitive outcomes	Exercises on cutting structural steel using riveting, screws and welding.	Lecture and discussion	Quiz

24-25	2	Cognitive outcomes	Stone and plastering works: cutting, sawing, smoothing, perforation.	Lecture and discussion	Open-book exercise
26-27-28	2	Cognitive outcomes	Connecting pipes to water installations, threading (using a vise), types of accessories for pipes and methods of joining, sanitary sewer installations, methods of joining.	Lecture and discussion	Quiz
29-30	2	Cognitive outcomes	Different types of pipes with their accessories, an activity in making a water and sewage installation network for a residential house.	Lecture and discussion	Open-book exercise

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, any)	Text book
Main references (sources)	
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Websites

Course description form

1. Course name
Baath Party crimes
2. Course Code

TC29

3. Semester/ year 2023/2024

4. The date this description was prepared is 2/10/2024

5. Available forms of attendance for the second stage

6. Number of study hours (total) 2 / Number of units (total) Number of units 2

60 Hours/ Units 2

7. Name of the course administrator (if more than one name is mentioned)

:Yamil - Name: Hussain Ali Muhammad Alhussain.muhammed@atu.edu.iq

8. objectives Course

Achieving international standards in education To emphasize self-respect and respect for -2 others Provide the ideal environment as much as -3 .possible to achieve the optimal learning state	**Objectives of the study subject**

9. Teaching and learning strategies

Are qualified to delve deeply into the study, equipped with a scientif thinking style and the ability to Academic research and investigation of scientific truth in all fields	**The stra teg**

10. Course structure

Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	week
oral test	a lecture	Concept Crimes . And its sections	knowledge And meaning And what it is Crimes And her relationship With others from Threads What are the ?crime sections throw lecture And a question Students on the topic	2	1

			knowledge And inquiry on to understand Students For the topic		
oral test	a lecture	identification the crime language And . terminologically	knowledge And meaning And what it is identification the crime language And terminologically Independently throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic	2	2
oral test A written test	a lecture discussion	. Sections Crimes Sections and types of crimes of the Baath regime	knowledge And all what Regard The with it crimes of the Baath regime in Iraq throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract	2 2	3 4

			questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	crimes System Resurrection according to documentation Law The court Criminal Iraqi Supreme 2005 _ ... AD	knowledge And all what Regard The with it crimes of the Baath regime in Iraq and what are their types throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	5
oral test	a lecture	Crimes . International	knowledge crimes System Resurrection according to documentation Law The court Criminal Iraqi _ Supreme 2005 lecture And a question Students on the topic Subtract questions on	2	6

			Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Species Crimes . International	knowledge International crimes throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	7
oral test	a lecture	Decisions Outgoing from The court Criminal The . upper one	knowledge Decisions Outgoing from The court Criminal The . upper one throw lecture And a question Students on the topic Subtract questions on Students and	2	8

			give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Crimes Mental And social And its effects, And highlighted Violations the system Baathist in Iraq	knowledge Relationship crimes Mental In And social Iraq, throwing lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	9
A written test	discussion	Crimes Mental	knowledge Mechanisms Crimes Psychological effects Crimes Mental throw lecture And a question Students on the topic Subtract questions on Students and	2	10

			give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Mechanisms . Crimes Mental	Identify on factors Militarization Society and position the system Baathist from Debt throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	11
oral test	discussion	antiquities Crimes Mental	Identify on Violations rights Human throw lecture And a question Students on the topic Subtract questions on Students and give the time For	2	12

			students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Crimes Social	Political Identify And the military For system throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	13
oral test	a lecture	Militarization the society	Identify on Places Prisons And detention For system Resurrection crimes Cemeteries Collective throwing lecture And a question Students on the topic Subtract questions on Students and	2	14

			give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	position the system Baathist from Debt	Crimes Identify Environmental lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	15
A written test	discussion	Violations Laws . Iraqi	knowledge pollution The warlike And radiological And an explosion Mine throw lecture And a question Students on the topic knowledge And inquiry on to understand Students For the topic	2	16

oral test	a lecture	photo Violations rights Human And crimes . Authority	knowledge And meaning And what it is Crimes And her relationship With others from Threads What are the ?crime sections throw lecture And a question Students on the topic knowledge And inquiry on to understand Students For the topic	2	17
oral test	discussion	some decisions Violations Political And the military For system . Resurrection	knowledge And meaning And what it is identification the crime language And terminologically Independently throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic	2	18
oral test	a lecture	Places Prisons And detention	knowledge And all what Regard The with it	2	19

		For system Resurrection	crimes of the Baath regime in Iraq throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Crimes Environmental For system Resurrection in Iraq	knowledge And all what Regard The with it crimes of the Baath regime in Iraq and what are their types throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	20

oral test	a lecture	pollution The warlike And radiological And an explosion . Mines	knowledge crimes System Resurrection according to documentation Law The court Criminal Iraqi _ Supreme 2005 lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	21
A written test	discussion	destruction the cities And the villages Policy the earth Scorched .	knowledge International crimes throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	22

oral test	a lecture	. drying Marshes	knowledge drying Marshes lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	23
oral test	discussion	Scraping Orchards Palm And trees And . crops	Economic In Iraq, throwing lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	24
oral test	a lecture	crimes Cemeteries . Collective	The knowledge regime's crimes against the people are shed lecture And a question Students on the topic	2	25

			Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	events Cemeteries Extermination Collective committed from the system Baathist in Iraq	Identify on factors Militarization the throw society lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	26
oral test	a lecture	Category Timeline For graves Extermination Collective in Iraq For the period AD - 2003 1963 AD	Identify on Violations rights Human throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To	2	27

			subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	discussion	Cemetery sites in Iraq	Identify Cemetery sites For system throw lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	28
A written test	a lecture	Preparing and distributing cemeteries in Iraq	Identify on Places Cemeteries and detention For system Resurrection crimes Cemeteries Collective throwing lecture And a question Students on the topic Subtract questions on Students and	2	29

			give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students		
oral test	a lecture	Mass graves martyrs database	Martyrs Identify cemeteries lecture And a question Students on the topic Subtract questions on Students and give the time For students To subtract questions And inquiries on the topic with to request Preparation from Students	2	30

11.Course evaluation

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

marks monthly exam 40
marks for daily and oral preparation and report writing 10
final exam score 50

12.Learning and teaching resources

The crimes of the Baath regime in Iraq	Required textbooks (methodology, if any)
Local governments / Dr. Zia's joy	Main references (sources)
Scientific journals, periodicals and resear And specialty	Recommended supporting books and references (scientific journals, reports....)
Internet sites (YouTube and Google) and other media Communication in the specialty	Electronic references, Internet sites

Course Description Form

1. Course Name:
PROJECT
2. Course Code:
TC31
3. Semester / Year:
Year
4. Description Preparation Date:
2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total) 2
60 Hours / 2 Units
7. Course administrator's name (mention all, if more than one name)
Name: Email:
8. Course Objectives

Course Objectives	**Objectives of the course: Teaching the student how to conduct research and practical and applied projects in various fields of work.** **Teaching the student how to search scientific sources and how to conduct research and projects with the help of specialized professors in the department, and to utilize the laboratories and equipment of the department and institute, as well as equipment in state departments, according to the available capabilities and in a manner commensurate with the nature of the project.**

9. Teaching and Learning Strategies

Strategy	There are many teaching and learning methods used, and the most import of these methods are:- (theoretical and practical lecture, discussion a dialogue, field visits, discussion circles on specific topics, theoretical a practical student research, office activities)