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

2026

Academic Program Description Form

University Name: Diyala

Faculty/Institute: Engineering

Scientific Department: Civil

Academic or Professional Program Name: BSc in Civil Engineering

Final Certificate Name: BSc in Civil Engineering

Academic System: Bologna Process

Description Preparation Date: 15/5/2026

File Completion Date: 15/5/2026

Signature:
Head of Department
Name: Dr. Abbas H. Mohammed
Date: 15/5/2026

Signature:
Scientific Associate
Name: Dr. Jabbar Q. Jabbar
Date: 15/5/2026

The file is checked by: Assist. prof. Dr. Salah N Farhan

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 15\5\2026

Signature:

Approval of the Dean

Prof. Dr. Anees A. Khadom

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

1. Program Vision

1- The department seeks to continuously develop curricula in line with modern scientific developments in the field of civil engineering, in addition to completing all scientific requirements in the department.
2- The department strives to improve the teaching staff by sending members of the department for postgraduate studies inside and outside the country and creating appropriate conditions for scientific research in order to obtain the required academic degrees.
3- The department aspires to develop the postgraduate studies program by introducing doctoral studies in various civil engineering specializations to support the department in particular and other government departments in general with specialized scientific cadres.
4- The department aspires to involve the largest possible number of teaching staff in engineering consulting through the engineering consulting office and the scientific office in the college to gain scientific experience and to provide service to various state institutions.

2. Program Mission

The department is constantly developing curricula to keep pace with modern scientific developments in the field of civil engineering in its various specializations. The department seeks to build advanced scientific laboratories by equipping modern laboratory equipment that contributes significantly to the field of postgraduate studies and scientific research, in addition to seeking to participate in conducting laboratory tests required by engineering projects at the governorate level as a whole.

3. Program Objectives

The educational objectives of the Bachelor of Civil Engineering program are to produce graduates (within a few years of graduation):

1. Prepare specialized engineers capable of meeting the needs of society in all sectors and all branches.
2. Work on developing the cognitive capabilities and technological skills necessary to prepare professional leaders in the field of civil engineering.
3. Build and develop programs that serve the field of continuing education and sustainable development of engineering capabilities through the development of advanced consulting and research capabilities.
4. Vertical expansion through the development of higher academic programs and the activation of productive research programs.
5. Work on achieving international accreditation for accredited academic programs

4. Program Accreditation
Not at the moment

5. Other external influences
No

6. Program Structure				
Program Structure	**Number of Courses**	**Credit hours**	**Percentage**	**Reviews***
University Requirements	**11**	**26**	**11 %**	
College Requirements	**6**	**32**	**13 %**	
Department Requirements	**40**	**182**	**76 %**	
Summer Training				
Other				

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours		
			Theoretical	Practical	Discussion
1st Year- 1st Semester	E101	Mathmatics I	4		1
	CE101	Engineering Mechanics I	3		
	U103	Computer Skills	1	2	2
	CE103	Construction Material I	2	2	
	CE105	Engineering Drawings	2	4	
	U101	Human Right & Democracy	2		1

Year/Level	Course Code	Course Name	Credit Hours		
			Theoretical	Practical	Discussion
1st Year-2nd Semester	E102	Mathmatics II	4		2
	CE102	Engineering Mechanics II	3		1
	CE107	Engineering Statistics	2		
	U104	English Language	2		
	U102	Arabic Language	2		
	CE104	Construction Material II	2		2
	CE106	Engineering Geology	2		1
2nd Year-1st Semester	CE201	Strength of material I	3		2
	CE203	Applied Mathematics I	3		2
	CE205	Engineering Survey I	3	2	
	CE207	Concrete Technology I	2	2	1
	CE209	Fluid Mechanics I	2	2	2
	CE211	Building Construction	3		2
2nd Year-2nd Semester	CE202	Strength of material II	2		2
	CE204	Applied Mathematics II	2		2
	CE206	Engineering Survey II	2	2	
	CE208	Concrete Technology II	2	2	
	CE210	Fluid Mechanics II	2	1	1
	UD23	Computer II	2	2	
	UD21	English Language 2	2		
	UD22	Arabic Language 2	2		
	UD24	Crimes of the Baath Regime in Iraq	2		2
3rd Year-1st Semester	CE 301	Engineering Analysis	2		1
	CE303	Theory of Structure I	3		1
	CE305	Soil Mechanics I	3	2	1
	CE307	Reinforced Concrete I	3		1
	CE309	Highway Engineering	3	2	1
	CE311	Hydrology	2		1
	CE313	Construction management	3		1
3rd Year-2nd Semester	CE302	Numerical Methods	2		1
	CE304	Theory of Structure-II	3		1
	CE306	Soil Mechanic-II	3	2	1

Year/Level	Course Code	Course Name	Credit Hours		
			Theoretical	Practical	Discussion
	CE308	Reinforced Concrete - II	3		1
	CE310	Engineering Economy	2		
	CE312	Hydraulic Structures	2		1
	CE314	Structural drawing	1	3	1
4th Year-1st Semester	CE401	Reinforced Concrete Design I	3		1
	CE403	Foundation Engineering I	3		1
	CE405	Steel Structures Design I	2		1
	CE407	Sanitary Engineering I	2	2	1
	CE409	Construction Methods	2		
	CE411	Transportation Engineering	3		1
	E401	Graduation Project		3	
4th Year-2nd Semester	CE402	Reinforced Concrete Design II	3		1
	CE404	Foundation Engineering II	3		1
	CE406	Steel Structures Design II	2		1
	CE408	Sanitary Engineering II	2		1
	CE410	Water resources Engineering	2		1
	CE412	Estimation and Specifications	2		1
	E402	Graduation Project		3	
	E404	Engineering Professional Ethics	1		1

8. Expected learning outcomes of the program

Knowledge

1. The ability to identify, formulate and solve engineering problems in civil engineering by applying the principles of engineering, science and mathematics.
2. The ability to produce engineering designs that meet the required needs within certain constraints by applying the processes of analysis, synthesis and design
3. The ability to create and implement appropriate measurements and tests with quality assurance, analysis and interpretation of the results and the ability to make engineering judgments on them to reach conclusions.

Skills

1- The ability to realize the need to continue self-development of professional knowledge and

how to find, evaluate, collect and apply it correctly.

2- The ability to work effectively within work teams, set goals, plan activities, meet deadlines and manage risks and uncertainty.

Ethics

1- The ability to communicate effectively verbally with a group of people and in writing with different levels of knowledge and for different purposes.

2- The ability to recognize ethical and professional responsibilities in engineering issues and make sound judgments that take into account the consequences arising from them in the financial, environmental, societal and global fields.

9. Teaching and Learning Strategies

- Providing students with the basics and additional topics related to previous educational outcomes and skills to solve practical problems.
- Solving a group of practical examples by the academic staff.
- Students participate during the lecture in solving some practical problems.
- The department's scientific laboratories are monitored by the academic staff.

10. Evaluation methods

- Daily exams with practical and scientific questions.
- Participation marks for difficult competition questions among students.
- Assigning grades to homework assignments and reports assigned to them.
- Monthly exams for the curriculum in addition to the final exam.

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching	
	General	Special			Staff	Lecturer
Prof.	Civil Eng.	Structure			8	
Asst. Prof.	Civil Eng.	Structure			3	
LECT.	Civil Eng.	Structure			4	
Asst. LECT.	Civil Eng.	Structure			5	
Prof.	Civil Eng.	Soil and foundation mechanics			3	
Asst. LECT.	Civil Eng.	Soil and foundation mechanics			2	
Asst. Prof.	Civil Eng.	Water resources			1	
LECT.	Civil Eng.	Water resources			1	
Asst. LECT.	Civil Eng.	Water resources			3	
Prof.	Civil Eng.	Project Management			2	
LECT.	Civil Eng.	Project Management			3	
Asst. LECT.	Civil Eng.	Project Management			7	
Asst. Prof.	Civil Eng.	Geomatics			1	
LECT.	Civil Eng.	Geomatics			1	
Asst. LECT.	Civil Eng.	Geomatics			1	
Asst. Prof.	Civil Eng.	Building Materials			1	

Professional Development

Mentoring new faculty members
Faculty members are instructed to hold regular meetings and review questionnaires received from students with the Scientific Committee.
Professional development of faculty members
The teaching staff undergoes development through training, workshops, and seminars. Progress is evaluated by subject performance.

12. Acceptance Criterion

According to the rules and regulations of Ministry of Higher Education and Scientific Research.

13. The most important sources of information about the program

- ✓ College website.
- ✓ The department's website and contact the department by email.

14. Program Development Plan

- The courses are updated annually to keep up with developments in computer science
-The laboratories are also updated under academic curricula.
-Additionally, postgraduate programs are now being offered.

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Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
1st Year- 1st Semester	E101	Mathmatics I	Basic		√										
	CE101	Engineering Mechanics I	Basic						√						
	U103	Computer Skills	Basic						√						
	CE103	Construction Material I	Basic						√						
	CE105	Engineering Drawings	Basic						√						
	U101	Human Right & Democracy	Basic		√										
1st Year-2nd Semester	E102	Mathmatics II	Basic		√										
	CE102	Engineering Mechanics II	Basic		√								√		
	CE107	Engineering Statistics	Basic		√										
	U104	English Language	Basic					√							
	U102	Arabic Language	Basic					√							
	CE104	Construction Material II	Basic									√			
	CE106	Engineering Geology	Basic									√			
2nd Year-1st Semester	CE201	Strength of material I	Basic	√											
	CE203	Applied Mathematics I	Basic	√											
	CE205	Engineering Survey I	Basic	√											

	CE207	Concrete Technology I	**Basic**	√	√										
	CE209	Fluid Mechanics I	**Basic**										√		
	CE211	Building Construction	**Basic**									√			
2nd Year-2nd Semester	CE202	Strength of material II	**Basic**			√									
	CE204	Applied Mathematics II	**Basic**		√										
	CE206	Engineering Survey II	**Basic**	√	√										
	CE208	Concrete Technology II	**Basic**		√										
	CE210	Fluid Mechanics II	**Basic**	√	√										
	UD23	Computer II	**Basic**		√										
	UD21	English Language 2	**Basic**			√									
	UD22	Arabic Language 2	**Basic**		√										
	UD24	Crimes of the Baath Regime in Iraq	**Basic**			√									
3rd Year-1st Semester	CE 301	Engineering Analysis	**Basic**												
	CE303	Theory of Structure I	**Basic**	√				√							
	CE305	Soil Mechanics I	**Basic**		√										
	CE307	Reinforced Concrete I	**Basic**					√							
	CE309	Highway Engineering	**Basic**				√								
	CE311	Hydrology	**Basic**				√								
	CE313	Construction management	**Basic**		√							√			
3rd Year-2nd	CE302	Numerical Methods	**Basic**								√				

Semester	CE304	Theory of Structure-II	**Basic**		√										
	CE306	Soil Mechanic-II	**Basic**		√										
	CE308	Reinforced Concrete - II	**Basic**			√									
	CE310	Engineering Economy	**Basic**							√					
	CE312	Hydraulic Structures	**Basic**			√									
	CE314	Structural drawing	**Basic**							√					
4th Year-1st Semester	CE401	Reinforced Concrete Design I	**Basic**			√									
	CE403	Foundation Engineering I	**Basic**			√									
	CE405	Steel Structures Design I	**Basic**			√									
	CE407	Sanitary Engineering I	**Basic**			√									
	CE409	Construction Methods	**Basic**							√					
	CE411	Transportation Engineering	**Basic**			√									
	E401	Graduation Project	**Basic**								√				
4th Year-2nd Semester	CE402	Reinforced Concrete Design II	**Basic**			√									
	CE404	Foundation Engineering II	**Basic**			√									
	CE406	Steel Structures Design II	**Basic**			√									
	CE408	Sanitary Engineering II	**Basic**			√									
	CE410	Water resources Engineering	**Basic**				√								

	CE412	Estimation and Specifications	**Basic**								√				
	E402	Graduation Project	**Basic**								√				
	E404	Engineering Professional Ethics	**Basic**											√	

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

MODULE DESCRIPTOR

وصف مادة رياضيات ا

Module Information معلومات المادة الدراسية					
Module Title	**Mathematics I**			**Module Delivery**	
Module Type	**Basic**			**Theory** **Lecture** **Tutorial**	
Module Code	**E-101**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	UGI		**Semester (s) offered**	One	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Dhamyaa Ali kadhim		**e-mail**	Dmia_Ali_enge@uodiyala.edu.iq	
Module Leader's Acad. Title	Assistant lecturer		**Module Leader's Qualification**	M.SC.	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Mathematics I
Week 1	Cartesian coordinates, slope of lines, angle of inclination, functions, types of functions, graph of the functions, domain and range ,identifying functions, Circles and parabolas
Week 2	Introduction to vectors
Week 3	•Preliminaries Sum, differences, products and quotients of Composite functions, shifting a graph of a function, scaling and reflecting a graph of a function, Absolute value
Week 4	•Review of trigonometric function graph of trigonometric function, range and domain, identities
Week 5	•Limits and Continuity Properties, limits involving infinity, continuity
Week 6	•Transcendental functions Inverse function, graph of inverse function, Logarithmic and exponential functions, trigonometric functions , inverse trigonometric functions, hyperbolic functions, inverse hyperbolic functions
Week 7	•Derivatives Definition, rules of derivative, slopes , tangent lines, chain rule, derivative of trigonometric functions, Implicit differentiation, L hospital's rule
Week 8	derivative of inverse trigonometric functions, derivative of exponential and logarithmic functions
Week 9	•Applications of derivatives Speed and acceleration, Relative maximum and relative minimum
Week 10	Curve sketching with 1st and 2nd derivative
Week 11	Linearization
Week 12	rate of change problems
Week 13	Mean value theorem -Initial value problem
Week 14	Complex numbers**:** Basic definitions. The geometric representations of the complex numbers**,** argand diagram
Week 15	Basic operations with complex numbers, Euler's Formula
Week 16	**Final Exam**

MODULE DESCRIPTION

وصف مادة ميكانيك هندسي ا

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Mechanics I**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE101**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		UGI	**Semester of Delivery**		One
Administering Department		Civil Engineering	**College**		College of Engineering
Module Leader	Abbas H. Mohammed		**e-mail**		abbas_mohammed_eng@uodiyala.edu.iq
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**		E-mail
Peer Reviewer Name		Qassem Hamed Jalut	**e-mail**		qjalut@uodiyala.edu.iq
Scientific Committee Approval Date			**Version Number**		1.0

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Engineering Mechanics I
Week 1	Introduction to engineering mechanics: statics
Week 2	Resolution of forces into components(two dimensions)
Week 3	Principle of Moments and Couples
Week 4	Resolution of forces into components(three dimensions)
Week 5	Principle of Moments and Couples (three dimensions)
Week 6	Result of coplanar forces system(concurrent, parallel and non-concurrent and non- parallel)
Week 7	Result of Non coplanar forces system (concurrent, parallel and non-concurrent and non-parallel)
Week 8	Result of Non coplanar forces system (non-concurrent and non- parallel)
Week 9	Equilibrium and Free-Body Diagram
Week 10	Analysis of Frames in the Plane
Week 11	Analysis of Frames in the Plane
Week 12	Analysis of Frames in the Space
Week 13	Analysis of Frames in the Space
Week 14	Analysis of Trusses in the Plane
Week 15	Analysis of Trusses in the Plane
Week 16	**Preparatory week before the final Exam**

MODULE DESCRIPTION

وصف مادة مهارات الحاسوب

Module Information معلومات المادة الدراسية					
Module Title	**Computer Skills**			**Module Delivery**	
Module Type	**Basic**			☒**Theory** ☐**Lecture** ☒**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**U 103**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level		UGI	**Semester of Delivery**		one
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Mohammed AbdulMohsin		**e-mail**	mohameed-shareif@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistant Lecturer	**Module Leader's Qualification**		MSc
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**		1.0

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Computer Skills
Week 1	Overview of computers and their basic components and applications
Week 2	Operating computer using GUI operating systems
Week 3	The basic use of Microsoft Windows operating system
Week 4	**Microsoft Office Word:** Getting Started with Word
Week 5	**Microsoft Office Word:** Editing a Document and Formatting Text and Paragraphs
Week 6	**Microsoft Office Word:** Adding Tables and Inserting Graphic Objects
Week 7	**Microsoft Office Word:** Controlling Page Appearance and Proofing a Document
Week 8	**Microsoft Office Excel:** Getting Started with Excel
Week 9	**Microsoft Office Excel:** Sorting, Selecting and Subtotaling data
Week 10	**Microsoft Office Excel:** Formulas and Functions
Week 11	**Microsoft Office Excel:** Worksheet Formatting and Presentation
Week 12	**Microsoft Office PowerPoint:** Getting Started with PowerPoint
Week 13	**Microsoft Office PowerPoint:** Developing a PowerPoint Presentation, Adding Graphical Elements to Your Presentation and Modifying Objects in Your Presentation
Week 14	**Microsoft Office PowerPoint:** Adding Graphical Elements, tables and charts to Your Presentation and Modifying Objects in Your Presentation
Week 15	**Microsoft Office PowerPoint:** Prepare to deliver your presentation
Week 16	**Preparatory week before the final exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Computer Skills
Week 1	Introduction to the lab and get started with use of computer
Week 2	Basic use of Windows operating system
Week 3	General view of Windows OS tools with a focus on Microsoft Office tools
Week 4	**Microsoft Office Word:** Getting Started with Word
Week 5	**Microsoft Office Word:** Editing a Document and Formatting Text and Paragraphs
Week 6	**Microsoft Office Word:** Adding Tables and Inserting Graphic Objects
Week 7	**Microsoft Office Word:** Controlling Page Appearance and Proofing a Document
Week 8	**Microsoft Office Excel:** Getting Started with Excel
Week 9	**Microsoft Office Excel:** Sorting, Selecting and Subtotaling data
Week 10	**Microsoft Office Excel:** Formulas and Functions
Week 11	**Microsoft Office Excel:** Worksheet Formatting and Presentation
Week 12	**Microsoft Office PowerPoint:** Getting Started with PowerPoint
Week 13	**Microsoft Office PowerPoint:** Developing a PowerPoint Presentation, Adding Graphical Elements to Your Presentation and Modifying Objects in Your Presentation
Week 14	**Microsoft Office PowerPoint:** Adding Graphical Elements, tables and charts to Your Presentation and Modifying Objects in Your Presentation
Week 15	**Microsoft Office PowerPoint:** Prepare to deliver your presentation

MODULE DESCRIPTION

وصف مادة مواد البناء

Module Information معلومات المادة الدراسية					
Module Title	**Construction Material I**			**Module Delivery**	
Module Type	**C**			x**Theory** **Lecture** **Lab** x**Tutorial** **Practical** **Seminar**	
Module Code	**CE103**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Zainab Hataf Naji		**e-mail**	zainab-hataf@uodiyala.edu.iq	
Module Leader's Acad. Title	Lec.		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Construction Material I
Week 1	Introduction to building material , Types of bonding
Week 2	Classification of engineering materials, Factors affecting materials properties
Week 3	Mechanical properties of material , stress
Week 4	Mechanical properties of material , ,Deformation, strain, Stress – Strain Relationship
Week 5	Mechanical properties of materials(The tensile test , Stress-strain curve,Modulus of elasticity, Strength , Breaking Strength, Ultimate strength, Reduction of area, Elongation)
Week 6	Mechanical properties of materials(Ductility, Toughness, Brittleness, Resilience, Stiffness , Plasticity, Elasticity , Hardness, Creep, Fatigue)
Week 7	Bricks (characteristics, classification, clay brick, Raw materials,Harmful ingredients in clay bricks
Week 8	Bricks(Composition of good clay brick, manufacture of clay brick,characteristic of clay brick,)
Week 9	Bricks(Properties of bricks)
Week 10	Bricks(Sand – Lime bricks, Raw materials, Concrete bricks
Week 11	Bonding material (Gypsum plaster, Raw materials, Manufacture of gypsum plaster)
Week 12	Bonding material (Gypsum products)
Week 13	Bonding material (lime, Manufacture of lime, Raw materials - Lime stone rocks, Theory of calcinations, Properties of Quick Lime)
Week 14	Bonding material(Process of manufacture, Uses , Properties)
Week 15	Portland cement(Manufacture)

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Construction Material I
Week 1	Tensil Test
Week 2	Discussion of the results
Week 3	Test the Shape and Dimensions of the Bricks
Week 4	Test Bricks Absorption for water
Week 5	Discussion of the results
Week 6	Test Of Efflorscence in the Bricks
Week 7	Discussion of the results
Week 8	Determination Of Compressive Strength of the Bricks
Week 9	Discussion of the results
Week 10	Determination Modulus of Rupture for the Bricks
Week 11	Discussion of the results
Week 12	Test Gypsum Fineness
Week 13	Discussion of the results
Week 14	Test Standard Consistency for Gypsum
Week 15	Discussion of the results

MODULE DESCRIPTION

وصف مادة الرسم الهندسي

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Drawings**			**Module Delivery**	
Module Type	**C**			x **Theory** **Lecture** **Lab** x **Tutorial** **Practical** x **Seminar**	
Module Code	**CE105**				
ECTS Credits	**7**				
SWL (hr/sem)	**175**				
Module Level	1		**Semester of Delivery**	1	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Nisreen Jawad Rasheed		**e-mail**	Nisreen.j.r.h@uodiyala.edu.iq	
Module Leader's Acad. Title	Asist. Lecturer		**Module Leader's Qualification**	M.Sc.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Engineering Drawings
Week 1	Introduction to engineering drawing
Week 2	Basic Instruments that is used in engineering drawing - Types of lines
Week 3	Engineering Operations
Week 4	Engineering Operations
Week 5	Engineering Operations
Week 6	Pentagonal shape and hexagonal shape
Week 7	Projections
Week 8	Projections
Week 9	Projections
Week 10	Isometric Drawing
Week 11	Isometric Drawing
Week 12	Isometric Drawing
Week 13	Sections
Week 14	Auto-cad drawing
Week 15	Auto-cad drawing
Week 16	**Preparatory week before the final Exam**

MODULE DESCRIPTION

وصف مادة حقوق انسان وديمقراطية

Module Information معلومات المادة الدراسية					
Module Title	**Human Right &Democracy**			**Module Delivery**	
Module Type	B			☒Theory ☒Lecture ☐Lab ☒L Tutorial ☐Practical ☐Seminar	
Module Code	U101				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level			**Semester of Delivery**	one	
Administering Department	جميع اقسام الكلية		**College**	College of Engineering	
Module Leader	ايلاف واثق ابراهيم		**e-mail**	ilafibraheem@uodiyala.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**	MSc	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date	١٢/06/2023		**Version Number**		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Human Right &Democracy
Week 1	محاضرة تعريفية عن المادة واهميتها ..
Week 2	تعريف الحق والانسان وحقوق الانسان واهمية حقوق الانسان ,حقوق الانسان في الدين الإسلامي والحضارات القديمة.
Week 3	مصادر حقوق الانسان الدولية والإقليمية والمحلية.
Week 4	ضمانات حقوق الانسان الدستورية والقانونية وضمانات حقوق الانسان على الصعيد الدولي.
Week5	ضمانات حقوق الانسان في الإسلام
Week 6	دور المنضمات الإقليمية في حماية حقوق الانسان.
Week 7	خصائص حقوق الانسان وتعريف الحريات العامة وانواعه والمقارنة بينها وبين الحقوق القانون الدولي لحقوق الانسان والقانون الدولي الإنساني ومنظمة الصليب الأحمر.
Week 8	مستقبل حقوق الانسان وسبل تطويرها .
Week 9	العولمة وحقوق الانسان .
Week 10	تعريف الديمقراطية وتطورها التاريخي ومبادئها . الديمقراطية بين العالمية والخصوصية . اشكال الديمقراطية / الديمقراطية المباشرة.
Week 11	الديمقراطية شبه المباشرة والديمقراطية التمثيلية / اركان النظام التمثيلي / اشكال النظام التمثيلي.
Week 12	المجلس النيابي وانواعه / الانتخاب وشروطه / هيئة الناخبين.
Week 13	تنظيم عملية الانتخاب / تحديد الدوائر الانتخابية / القوائم الانتخابية / المرشحون/ الحملة الانتخابية / التصويت .
Week 14	نظم الانتخابات.
Week 15	علاقة الديمقراطية بحقوق الانسان وكيفية التأثير والتأثر فيما بينها.
Week 16	الامتحان النهائي

MODULE DESCRIPTOR

وصف مادة رياضيات II

Module Information معلومات المادة الدراسية					
Module Title	**Mathematics II**			**Module Delivery**	
Module Type	**Basic**			**Theory** **Lecture** **Tutorial**	
Module Code	**E 102**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	UGI		**Semester (s) offered**	Two	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Dhamyaa Ali kadhim		**e-mail**	Dmia_Ali_enge@uodiyala.edu.iq	
Module Leader's Acad. Title			**Module Leader's Qualification**	M.SC.	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Mathematics II
Week 1	**Integration:** Definition, antiderivative, definite and indefinite integral
Week 2	**Integration and transcendental functions:** (trigonometric and inverse trigonometric functions, exponential and logarithmic functions)
Week 3	**Integration and transcendental functions:** Integration and transcendental functions (hyperbolic and inverse hyperbolic functions)
Week 4	• **Numerical integration** Introduction, trapezoidal rule and Simpson's rule
Week 5	• **Methods of integration** Substitution method, integration by parts
Week 6	• **Methods of integration** Trigonometric substitution method
Week 7	• **Methods of integration** Integration by partial fraction method**.**
Week 8	• **Application of definite integrals** Areas under the curve, area between curves,
Week 9	• **Application of definite integrals** Volume by revolution
Week 10	• **Application of definite integrals** Length of curve in the plane**,** Area of surface of revolution
Week 11	• **Application of definite integrals** Center of mass, moment of inertia
Week 12	• **Application of definite integrals** Area by polar coordinates
Week 13	• **Matrix** Definition, matrix algebra
Week 14	• **Matrix** Determinant of matrix, Grammar's rule
Week 15	• **Matrix** Inverse of matrix, Gauss Elimination Method
Week 16	**Final Exam**

MODULE DESCRIPTION

وصف مادة ميكانيك هندسي II

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Mechanics II**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE102**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		UGI	**Semester of Delivery**		2
Administering Department		Civil Engineering	**College**	Civil Engineering	
Module Leader	Assal Tehseen Hussein		**e-mail**	assal_hussein_eng@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Qassem Hamed Jalut	**e-mail**	qjalut@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Engineering Mechanics II
Week 1	Friction
Week 2	Friction
Week 3	Centroids by integration
Week 4	Centroids by integration
Week 5	Centroids of composite areas bodies
Week 6	Centroids of composite areas bodies
Week 7	Moment of Inertia by integration
Week 8	Moment of Inertia by integration
Week 9	Moment of Inertia of composite areas bodies
Week 10	Moment of Inertia of composite areas bodies
Week 11	Polar Moment of Inertia, and Products of Inertia, Mohr circle
Week 12	Polar Moment of Inertia, and Products of Inertia, Mohr circle
Week 13	Kinematics-absolute motion
Week 14	Angular motion
Week 15	Curvilinear motion
Week 16	**Preparatory week before the final Exam**

MODULE DESCRIPTION

وصف مادة الاحصاء الهندسي

Module Information معلومات المادة الدراسية					
Module Title	Engineering Statistics			**Module Delivery**	
Module Type	C			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **L Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	CE107				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level		UGI	**Semester of Delivery**		Two
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Nahida Hameed Hamza		**e-mail**	Nahida_mml@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistant Lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Engineering Statistics
Week 1	Presentation and Description of Statistical Data (Introduction, Method of presenting data, Frequency distribution)
Week 2	Presentation and Description of Statistical Data (Graphic presentation of frequency distribution, Stem and leaf display, Forms of frequency distribution)
Week 3	Measures of Central Tendency (Arithmetic mean, Median)
Week 4	Measures of Central Tendency (Mode, Comparison between mean, median, and mode)
Week 5	Measures of Central Tendency (Quartiles, Deciles, and Percentiles)
Week 6	Measures of Dispersion (Range, Variance, Standard deviation)
Week 7	Measures of Dispersion (The mean deviation, Coefficient of variation)
Week 8	Measures of Dispersion (Coefficient of quartile variation, Measures of skewness, Kurtosis)
Week 9	Probability (Introduction, Sets, Events)
Week 10	Probability (Probability laws, Counting method, Conditional probability)
Week 11	Probability (Independent events, Baye's theorem)
Week 12	Random Variables, and, Probability Distribution (Randam variables, Discrete probability distribution)
Week 13	Random Variables, and, Probability Distribution (Mathematical expectation, Especial probability distribution, Continuous probability distribution)
Week 14	Random Variables, and, Probability Distribution (Normal distribution as an approximate to the binomial distribution, Application on the normal distribution)
Week 15	Random Variables, and, Probability Distribution (Other continuous probability distribution)
Week 16	**Preparatory week before the final Exam**

MODULE DESCRIPTION

وصف مادة اللغة الإنكليزية

Module Information معلومات المادة الدراسية					
Module Title	**English language**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory** **Lecture** **Tutorial** **Practical** **Seminar**	
Module Code	**U-104**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	UGI		**Semester (s) offered**	Two	
Administering Department			**College**	College of Engineering	
Module Leader	Inst. Mohammed E. Alwan		**e-mail**	Essa9781@uodiyala.edu.iq	
Module Leader's Acad. Title	Instructor		**Module Leader's Qualification**	MA	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Review Committee Approval			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	English language
Week 1	GRAMMAR, READING , MAIN COURSE SPEAKING, LISTENING ,VOCABULARY am/is/are my/your This is… Introduction dialogues, Everyday English dialogues Introductions, Good morning! Practicing introduction dialogues. People meet each other and introduce someone else. How are you? What's this in English? Numbers 1-10 and plurals.
Week 2	He/she/they His/her. Questions Where are they from?, Two people are on holiday in New York. Students ask and answer questions about where people are from. Countries, Numbers 10-20 A set of cities and countries: Brazil, Spain… Adjectives: awful, really good, fantastic, beautiful Nouns: centre, hospital, building, park
Week 3	Verb to be is recycled and extended to include negative and question forms. We're in Las Vegas! Roleplay: in a band. An interview with the band Metro 5. Jobs: a nurse, a doctor.. Personal information: surname, first name, address, married … Social expressions: I'm sorry, thanks, please…
Week 4	Possessive adjectives. Possessive 's. Has/ have Adjective + noun Irregular Plurals Paddy McNab and his family, My best friend. The alphabet, On the phone, Saying email addresses. Who are they? Listen and identify the people. The family: mother, son.. Describing a friend: very beautiful, really funny…
Week 5	Present Simple: I/you/we/they a/an Adjective + noun Colin Brodie from Dundee. Role play: At a party. Where is Colin? Who is he with? At a party: Flavia and Terry are at a party in London. The lexical set of sports/food/drinks. Languages and nationalities.
Week 6	Present Simple: He/she Question and negatives Adverbs of frequency Prepositions of time Lois Maddox Talking about daily routines, Asking and answering questions about daily routines, Lifestyle questionnaire Listening a phone conversation between Lois and Elliot. Days of the week. The time. Words that go together: watch TV, get up early…
Week 7	Question words Subject pronouns Object pronouns Possessive pronouns This and that A postcard from San Francisco, A holiday postcard. Describing lifestyles, preferences and places, Roleplay: conversations in town. Listening the requests with Can I……..? Adjectives: lovely, terrible, comfortable, friendly… Opposite adjectives: new/old, big/small Places: chemist, post office
Week 8	There is /are Prepositions: in, on, under, next to Vancouver-the best city in the world, What to do and where to go. Talking and asking about rooms and furniture, Giving directions. My home town, Steve talks about living in Vancouver. Rooms and furniture: living room, bedroom … In and out of town: beach, mountain, sailing,…
Week 9	Was/were born Past simple: irregular verbs It's a Jackson Pollock. Telling a story from pictures, Saying the dates in English. Magalie Dromand, Magalie dromand talks about her family. Saying years People and jobs Irregular verbs Have, do, go: have lunch, do homework, go shopping

Week 10	Past simple: regular and irregular Questions Negatives Ago Dialogues with simple past. Did you have a good weekend? Asking about holidays, A questionnaire, My last holiday, Roleplay: asking and giving directions. Angie and Rick are at work, Jack and Millie's holiday. Weekend activities: go to the cinema, have a meal… Time expressions: on Monday, last night… Sports and leisure: tennis, skiing, windsurfing… Play or go: play tennis, go skiing… Seasons: winter, summer…
Week 11	Can / can't, Adverbs, Adjective + noun Requests and offers The Internet, What can you do on the internet? Talking about what you can do, Talking about everyday problems, Five people talk about what they do on the internet. Verbs: draw, run, drive… Verb+noun: Listen to the radio, chat to friends Adjective+noun: fast car, busy city, dangerous sport Opposite adjectives: dangerous/ safe, old/modern, old/young.
Week 12	I'd like, You are what you eat, Discussion-what is a good diet? Conversation with Adam, Shopping: bread, milk, fruit, Please and thank you Some /any, Like and would like People from different parts of the world describe what they eat. Roleplay: Ordering a meal. Birthday wishes, What people want on their birthday. stamps, cheese, ham… Food: cereal, salad, pasta, fish… In a restaurant: menu, starter, desert, soup, salmon
Week 13	Present continuous, Present simple and present continuous. This week is different, Colin, a millionaire, gives money to homeless teenagers What's the matter? Why don't you ….? What is Nigel wearing? Nigel is on holiday, What's the matter. Colours: blue, red, green… Clothes: jacket, trousers, shoes and socks… Opposite verbs: buy/sell, love/hate, open/close…
Week 14	Future plans, Revision: question words, tenses. Seven countries in seven days, Life's big events: three people talk about their family, education, work and ambitions. A mini autobiography. Eddie is talking to a friend about his holiday plans, social expressions Transport: travel by bus, coach, motorbike, plane… Revision
Week 15	Irregular verbs, phonetic symbols, consonants and vowels.

MODULE DESCRIPTION

وصف مادة مواد البناء

Module Information معلومات المادة الدراسية					
Module Title	**Construction Material II**			**Module Delivery**	
Module Type	**C**			x **Theory** x **Lecture** **Lab** x**Tutorial** **Practical** **Seminar**	
Module Code	**CE104**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	1 1		**Semester of Delivery**	2	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Zainab Hataf Naji		**e-mail**	zainab-hataf@uodiyala.edu.iq	
Module Leader's Acad. Title	Lec.		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Construction Material II
Week 1	(Types of Cement, Types of Portland Cement)
Week 2	Timber(Classification of trees, Structure of wood, Seasoning of Timber)
Week 3	Timber(Defects in Timber, Preservation of Timber)
Week 4	Timber(Mechanical properties of wood)
Week 5	Tiles(Type, Flooring tiles, Roofing tiles, Wall tiles, Drain tiles, Glazed earthenware tiles)
Week 6	Tiles(Cement Tiles)
Week 7	Tiles(Manufacture of tiles, Porcelain vs. Ceramic tile)
Week 8	Metals(Classification, Ferrous metals, Nonferrous metals, cast iron)
Week 9	Metals(Wrought iron, Steel, Low carbon steel – mild steel)
Week 10	Metals(High carbon steel , Factors affecting physical properties of steel
Week 11	Glass (Characteristics of Glass)
Week 12	Glass(Types of Glass and their Uses in Construction Works)
Week 13	Blocks (Manufacture of blocks, concrete block, Silica blocks)
Week 14	Blocks (Glass block, Silica blocks,lime block,Burned clay block, Hurdy blocks)
Week 15	Bitumen(Introduction, Factors affect on bitumen)

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Construction Material II
Week 1	Test Initial Setting Time for Gypsum
Week 2	Discussion of the results
Week 4	Test Compression for Gypsum
Week 5	Discussion of the results
Week 6	Test the Shape and Dimensions of the Tiles
Week 7	Discussion of the results
Week 8	face Absorption of tiles
Week 9	Discussion of the results
Week 10	Totally Absorption of tiles
Week 10	Discussion of the results
Week 11	Absorbiton of Timber
Week 12	Discussion of the results
Week 13	Perpendicular Compression of Timber
Week 14	Discussion of the results
Week 15	Parallel Compression of Timber

MODULE DESCRIPTION

وصف مادة الجيولوجيا الهندسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Geology**			**Module Delivery**	
Module Type	C			☒ **Theory**	
Module Code	CE106			☐ **Lecture**	
ECTS Credits	4			☐ **Lab**	
SWL (hr/sem)	100			☒ **L Tutorial**	
				☐ **Practical**	
				☐ **Seminar**	
Module Level	1UGI		**Semester of Delivery**	Two	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader	Nahida Hameed Hamza		**e-mail**	Nahida_mml@uodiyala.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Engineering Geology**
Week 1	Introduction to geology engineering
Week 2	Engineering geology (definition and applications)
Week 3	Crystallography + types
Week 4	Minerals (definition and occurrence)
Week 5	Types of minerals
Week 6	Rocks (definition+ rock cycle)
Week 7	Igneous rocks (Definition and types)
Week 8	Sedimentary rocks (Definition and types)
Week 9	Metamorphic rocks (Definition and types)
Week 10	Weathering of rocks
Week 11	Erosion of rocks
Week 12	Physical properties of rocks (applications)
Week 13	Mechanical properties of rocks (applications)
Week 14	Soil (formation and types)
Week 15	Geotechnical and geological maps
Week 16	**Preparatory week before the final Exam**

MODULE DESCRIPTION

وصف مادة اللغة العربية

Module Information معلومات المادة الدراسية					
Module Title	**اللغة العربية**			**Module Delivery**	
Module Type	**نظري**			☒ **Theory**	
Module Code	**UD02**			☒ **Lecture**	
ECTS Credits	2			☒ **Lab**	
SWL (hr/sem)	50			☐ **Tutorial**	
				☐ **Practical**	
				☐ **Seminar**	
Module Level	1		**Semester of Delivery**	2	
Administering Department	Type Dept. Code		**College**	Type College Code	
Module Leader	Othman Khlan Farhan		**e-mail**	othaman@uodiyala.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name(if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023		**Version Number**	1.0	

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	اللغة العربية
Week 1	توضيح أهمية اللغة العربية وفوائدها بالنسبة للطالب الجامعي. اللغة، تفسير وتحليل أول عشرة آيات من سورة الكهف مع بيان فضل السور ة وسبب تسميتها واهم الاوجه البلاغية والنحوية.
Week 2	اللغة، تفسير وتحليل ثلاثة آيات من سورة الحجرات مع بيان فضل السور ة وسبب تسميتها واهم الاوجه البلاغية والنحوية.
Week 3	الادب، تحليل ثلاثة عشر سطراً من قصيدة سفر ايوب في الشعر الحر للشاعر العراقي بدر شاكر السياب مع حياة الشاعر _واهم الاوجه البلاغية والنحوية في القصيدة.
Week 4	الادب، تحليل ثمانية ابيات في الحماس للشاعر ابي الطيب المتنبي مع حياة الشاعر مع اهم الاوجه البلاغية والنحوية في القصيدة.
Week 5	قواعد اللغة العربية وأهميتها معرفة اقسام الكلام(الاسم والفعل والحرف)واهم علاماتها.
Week 6	قواعد اللغة العربية :- النكرة والمعرفة، انواع المعارف(العلم) شرح موضوع (اسم العلم والاسم المركب) مع الأمثلة.
Week 7	قواعد اللغة العربية، (الضمائر)شرح موضوع(ضمائر الرفع والنصب والجر) مع الامثلة.
Week 8	اللغة، تفسير وتحليل سورة الاعلى مع بيان فضل السور ة وسبب تسميتها واهم الاوجه البلاغية والنحوية.
Week 9	الادب، تحليل ثمانية ابيات من قصيدة (كن بلسما) للشاعر (ايليا ابي ماضي)مع حياة الشاعر مع اهم الحالات الاعرابية والبلاغية.
Week 10	قواعد اللغة العربية، شرح موضوع (اسماء الاشارة) مع الأمثلة وحالات الاعراب، شرح موضوع (المعرف بالإضافة) مع الأمثلة وحالات الاعراب.
Week 11	قواعد اللغة العربية، شرح موضوع (الحال)معرفة الحال وصاحبها وما هي انواع الحال مع الأمثلة وحالات الاعراب.
Week 12	الأملاء في اللغة العربية، علامات الترقيم واهميتها في اللغة العربية.
Week 13	قواعد اللغة العربية، شرح موضوع (العدد)معرفة تميز العدد وماهي اقسام العدد مع الأمثلة وحالات الاعراب.
Week 14	الأملاء في اللغة العربية، احكام الهمزة(حمزة الوصل، حمزة القطع، كتابة الهمزة في وسط الكلمة).
Week 15	الأملاء في اللغة العربية: احكام كتابة التاء المربوطة والمفتوحة والالف الممدودة والمقصورة.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Survey- I**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial**	
Module Code	**CE205**				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level		UGII	**Semester of Delivery**		one
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Nada Kadhim		**e-mail**	Nada.m.kadhim@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	-
Co-requisites module	None	**Semester**	-

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	In this course, students will learn: The activities involved in the planning and execution of surveys for the planning, design, construction, operation, and maintenance of engineered projects. • To train and educate civil engineering students to be competent engineering surveyors in the working environment • To provide the opportunities to further their careers and develop a wider understanding of the civil engineering surveying process • To understand the importance of professionalism, management, and problem solving techniques for civil engineering surveying
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Learning outcomes describe the measurable skills, abilities, knowledge or values that students should be able to demonstrate as a result of completing a course. By the end of this module the student should be able to: 1. Apply surveying and data handling techniques and use surveying equipment and software for the completion of a large practical land survey, setting out of construction works, and report preparation. 2. Apply prior understanding of materials, sustainability, and safety practice and construction techniques to an example of civil engineering construction.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. Land Surveying: Understand various land surveying techniques such as detailed topographical survey using Level; and plot production; calculations for setting out (plan position and vertical control); setting out for small projects. 2. Preparation of professional report and plan diagrams based on field application of surveying techniques and practice Preparation of professional report and plan diagrams based on field application of surveying techniques and practice 3. Construction Practice: Planning, execution and appraisal for the construction of a civil engineering activity; temporary works; materials and equipment requirements, method statements, resource management, health and safety assessment, sustainability assessment. 4. Professional reporting: Preparation and professional reporting of engineering practice and

	outcomes 5. Risk assessment: Awareness and application of risk assessment and health and safety requirements for all aspects of engineering practice. 6. Sustainability considerations: Awareness and application of sustainability considerations for all aspects of engineering practice. 7. Conceptual design client requirements; scheme design and evaluation
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The aim of this Module is to provide the student with a deep understanding of surveying and construction activities; practical application of topographic surveying skills, an awareness of the preliminary considerations involved in construction developments and knowledge of the materials and procedures employed in construction of small commercial/industrial building works.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل **In class lectures** **53** **In class tests** **10** **Tutorial** **15**	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل **Assignment** **20** **Preparation for tests** **20** **Homework** **32**	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1

Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10	3,11	
	Assignments	1	10	12	
	Project	1	10	12	
Summative assessment	Midterm Exam	1	10	7	
	Final Exam	1	50	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Types of surveying , elementary surveying , the use of surveying
Week 2	Introduction to Survey Control
Week 3	Units of measurements Drawing, scale, Errors in surveying : types of errors , precision, accuracy
Week 4	Traditional Distance Measurement
Week 5	Tape measurements corrections
Week 6	Equipment used , direct and indirect measurement of H. distances
Week 7	Levelling
Week 8	Level Traversing - Rise and Fall Method
Week 9	Level Traversing - Height of Collimation Method
Week 10	Adjustment of the Automatic Level
Week 11	Misclosure and Adjustment of Level Traverses
Week 12	Level Set-Out
Week 13	Errors in Levelling
Week 14	Corrections ,curvature and refractions errors, test and adjustment of levels ,

	Reciprocal leveling.
Week 15	Contouring
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Introduction and Scales
Week 2	Preparation of professional report
Week 3	Scales
Week 4	Traditional Distance Measurement
Week 5	Tape measurements corrections
Week 6	Tape survey , detail survey
Week 7	drawing of maps
Week 8	Type of leveling instruments
Week 9	Leveling between two points by leveling instrument.
Week 10	Closed leveling, closing error estimation.
Week 11	Profile by using leveling instrument
Week 12	Cross sections by leveling instrument.
Week 13	Levelling computations
Week 14	Contour lines and grid method
Week 15	Two peg test for level Inst.
Week 16	Other applications

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Surveying Author: Francis H. Moffitt, John D. Bossler Publisher: Addison-Wesley, 1998	Yes

	ISBN: 0673997529, 9780673997524	
Recommended Texts	2. Surveying and Levelling, Volume 1 Surveying and Levelling, S. S. Bhavikatti, ISBN 8190694227, 9788190694223 Author: S. S. Bhavikatti Publisher: I. K. International Pvt Ltd, 2009 ISBN: 8190694200, 9788190694209	No
Recommended Texts	3. Engineering Surveying Author: C. L. Berger Sons Publisher: General Books LLC, 2010 ISBN: 1152649876, 9781152649873	No
Websites	There are many!	

Grading Scheme
مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Strength of Materials I**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☒ **Tutorial**	
Module Code	**CE201**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		UGII	**Semester of Delivery**		one
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Huda Mohammed Mubarak		**e-mail**	Huda.mub@uodiyala.edu.iq	
Module Leader's Acad. Title		lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Abbas H. Mohammed	**e-mail**	abbas_mohammed_eng@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CE 202	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Extends the study of forces that was begun in engineering mechanics. 2. Deals with the relations between externally applied loads and their internal effects on bodies. 3. The properties of the materials of which a structure or machine is made effect both its choice and the dimensions that will satisfy the requirements of strength and rigidity. 4. Analyze forces and find out the different type of stress such as normal. Shear bearing and bending stress. 5. Find out the strain and deformation of materials. 6. Apply theories and laws in solving engineering problems. 7. Provide engineering students with advanced mechanical techniques that can be used for their future research.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Find out the normal stress, shearing stress, bearing stress. 2. Find out the axial deformation, shear deformation. 3. Find out the thermal stresses and deformation. 4. Find out the torsion and shear stress. 5. Draw axial force, shear force, and bending moment diagram. 6. Increasing student's self-confidence to perform his (homework, classwork and assessment) within the corresponding time. 7. Encouraging the teamwork between the students.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **Part A – Simple Stress** Average Normal Stress, Average Shear Stress, Allowable Stress, Design of simple connections **Part B – Simple Strain** Simple Strain, Strain, Stress – Strain Diagram, Hook's Law, Shear Deformation, Poisson's Ratio, Statically Indeterminate Members **Part C – Thermal Stress**

	Part D – Torsion Torsion, Torsion Formula Angle of Twist, Power Transmission **Part E – Shear and Moment Diagrams** Shear and Moment Diagrams, Equilibrium and Section Method, Graphical Method **Part F – Stresses in Beams** Stresses in Beams, Flexural Formula, Non symmetric Bending, Shear Formula, Shear Flow in Built –up Members, Shear Center

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (20)	3,8	LO #1, 2, 3, 4 ,5 and 7
	Assignments	1	10% (10)	4, 8, 12	LO # 1, 2, 3, 4, 5 and 6
	Project	1	10% (10)	12	
Summative assessment	Midterm Exam	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Average Normal Stress, Average Shear Stress
Week 2	Allowable Stress, Design of simple connections
Week 3	Simple Strain
Week 4	Strain, Stress – Strain Diagram, Hook's Law, Shear Deformation, Poisson's Ratio
Week 5	Statically Indeterminate Members
Week 6	Thermal Stress
Week 7	Torsion, Torsion Formula Angle of Twist, Power Transmission
Week 8	Torsion, Torsion Formula Angle of Twist, Power Transmission
Week 9	Shear and Moment Diagrams, Equilibrium and Section Method

Week 10	Shear and Moment Diagrams, Equilibrium and Section Method
Week 11	Shear and Moment Diagrams, Graphical Method
Week 12	Stresses in Beams, Flexural Formula
Week 13	Non symmetric Bending
Week 14	Shear Formula
Week 15	Shear Flow in Built –up Members, Shear Center
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	

Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Strength of Materials, By: Singer.	Yes
Recommended Texts	• Mechanics of materials 1, 3rd edition, E.J. Hearn. • Introduction to Mechanics of Solid, By: E. Popov. • Elements of Strength of Materials, By: Timishinko • Strength of Materials, Schaums outline of theory and problems, 4th edition, William A. NASH. • Strength of Materials (Mechanics of Solids), R.S. Khurmi.	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Fluid Mechanics I**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐**X Practical** ☐ **Seminar**	
Module Code	**CE209**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	UGII		**Semester of Delivery**	one	
Administering Department	Civil Engineering		**College**	college of Engineering	
Module Leader	Qassem H. Jalut		**e-mail**	qjalut@uodiyala.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Qassem Hamed Jalut		**e-mail**	qjalut@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	-
Co-requisites module	None	**Semester**	-

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	1. Introduce basic definitions and introductory concepts of fluid mechanics/statics 2. Properties of Fluids 3. Measurements of fluid pressures 4. Forces acting by fluid on plane surfaces 5. Forces acting by fluids on curved surfaces 6.Applications
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Investigate the important properties of Fluids 2. Analyze the different methods in measuring fluid pressures 3. Analyze forces acting on plane surfaces in two dimensions, 4. Analyze forces acting on curved surfaces in two dimensions, 5. Find out the resultant forces in two dimensions 6. Increasing student's self-confidence to perform his (homework, classwork and assessment) within the corresponding time. 7. Encouraging the teamwork between the students.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **Part A – Basic Concepts** Introduction, Fluids properties , Fluid pressures and its measurements. **Part B – Resultants of force on plane surfaces**

	Introduction: forces exerted by fluid in plane surfaces **Part C – Resultants of force on curved surfaces** forces exerted by fluid in curved surfaces and its resultant **Part D – Applications** Analysis for exerted forces both plane and curved surfaces. different fluid pressure measurements

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	4 and 9	LO #1 - #5
	Assignments	2	10% (10)	2 and 11	LO #1 - #7
	Project	1	10% (10)	Continuous	All
Summative assessment	Midterm Exam	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to fluid engineering mechanics: statics
Week 2	Units (S.I Units) used in the present course
Week 3	Principle of fluid properties
Week 4	Fluid density , specific weight and gravity
Week 5	Fluid viscosity
Week 6	Applications
Week 7	Fluid compressibility, Vapor pressure
Week 8	Capillarity and surface tension
Week 9	Pressure measurement

Week 10	Pressure measurement
Week 11	Analysis of forces exerted by fluid on plane surfaces
Week 12	Analysis of forces exerted by fluid on plane surfaces
Week 13	Analysis of forces exerted by fluid on curved surfaces
Week 14	Analysis of forces exerted by fluid on curved surfaces
Week 15	Analysis of forces exerted by fluid on curved surfaces
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Calibration of Pressure Gauge
Week 2	Properties of Fluid part1
Week 3	Properties of Fluid part2
Week 4	Properties of Fluid part3
Week 5	Stability of Floating Body part1
Week 6	Stability of Floating Body part2
Week 7	Centre of Pressure
Week 8	
Week 9	
Week 10	
Week 11	

Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	A Textbook of Fluid Mechanics, fourth edition. By R.K.RAJPUT, S, CHAND & COMPANY LTD 2011	Yes
Recommended Texts	Any other fluid engineering book	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Building construction**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE 211**				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level	UGII		**Semester of Delivery**	one	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The course aims to develop the students' knowledge and skills in building construction.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students will be able to: 1. Identify the different parts of the building structures. 2. Propose the suitable foundations for buildings and manage their construction. 3. Facilitate the concrete and brick works and manage their construction. 4. Select the suitable materials for finishing and manage their construction. 5. Propose the suitable joint for buildings and manage their construction. 6. Propose the suitable formwork and scaffolding for buildings and manage their construction.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **Part A – Foundation Works** • Earthworks (excavation, earth filling). Foundation: types of foundations (Wall, Strip, Isolated, Combined, Cantilever, Continuous, Raft, Buoyancy and Pier). • Piles: Factors influencing choice of piles, Classification of piles and piles test. Groundwater drainage methods. **Part B – Concert and Brick Works** • Brick works: types of brick. Mortars for brickwork, Engineering properties of brick and types of bonds. • Concrete works (Mixing, Transporting, Casting, Finishing). **Part C - Miscellaneous Construction Works** • Type of Floors and Roofs according to material and execution method (Jack arching, Reinforced concrete, Lift slab, Folded plates, curved roof). • Columns, Beams and girders. • Arches, lintels and sills.

	• Stairs (Classification of Stairs Based on Material and Shape, Planning and Layout of Stairs). Finishing Work for Wall and Ceiling. • Damp proofing for walls, floors and roofs (Causes of dampness, Materials used for damp protection, Methods of damp proofing). • Joints in buildings and its type (Control, Expansion and control). • Formwork and scaffolding (Characteristics, type, and Construction of formwork).

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Procure various materials required for practical exercises. 2-Arrange visit to nearby industries and workshop for understanding various construction material 3-Use video films to explain various processes. 4-Use different instructional strategies in classroom teaching. 5-Demonstrate different samples of various construction material like bricks, tiles, timber. 6- Guide student in undertaking micro projects. 7- The students will visit a nearby construction site at various stages of construction and observe the following • Technical aspects involved in workmanship • Exposure to Brick Masonry work. • Process of concrete mixing • Erection and removal of form work, centering/shuttering Students should submit a brief report of the visits on construction activities

	observed and methods, tools, equipment and materials being used.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**100**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	20% (20)	4 and 9	LO #1 - #5
	Assignments	2	10% (10)	2 and 11	LO #1 - #7
	Project	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to building construction.
Week 2	Earth Work
Week 3	Foundations and its type
Week 4	Piles: types of piles, piles test
Week 5	Concrete works.
Week 6	Brick works: types of brick, Engineering properties of brick, types of bonds.
Week 7	**Midterm Exam**
Week 8	Forms and scaffoldings.
Week 9	Floors and Roofs
Week 10	Column, beam and girders
Week 11	Arches. lintels and sills.
Week 12	Finishing Wall and Celling
Week 13	Damp proofing.
Week 14	Joints in buildings.
Week 15	Means of moving between levels
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	A CLASS NOTE ON BUILDING CONSTRUCTION FOR DIPLOMA IN CIVIL ENGINEERING (II/I) BY ER. SATISH MISHRA.	Yes
Recommended Texts	Building Construction Illustrated, Fifth Edition by Francis D.K. Ching.	No

Websites	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Applied Mathematics I**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**E201**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		UGII	**Semester of Delivery**		1
Administering Department			**College**		
Module Leader	Yahyia Majeed Hameed		**e-mail**	yahyia@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Qassem Hamed Jalut	**e-mail**	qjalut@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	1. Introduce basic definitions and introductory concepts of applied mathematics. 2. Introduce analytical geometry. 3. Introduce the hyperbolic functions. 4. Introduce the Inverse hyperbolic functions. 5. Introduce the partial derivatives. 6. Apply theories and laws in solving engineering problems. 7. Provide engineering students with advanced mathematical techniques that can be used for their future research. 8.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Find out equation and draw circles, parabola, ellipse and hyperbola. 2. Find out the hyperbolic functions , derivative and integral. 3. Find out the inverse hyperbolic functions , derivative and integral. 4. Find out the partial derivatives, functions of two or more variables and higher order partial derivatives. 5. Increasing student's self-confidence to perform his (homework, classwork and assessment) within the corresponding time. 6. Encouraging the teamwork between the students.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Principle of geometry

	Introduction, circles, parabola, ellipse and hyperbola. Part B – the hyperbolic functions Introduction, derivative and integral Part B – the inverse hyperbolic functions Introduction, derivative and integral. Part C Partial derivatives Introduction, functions of two or more variables and higher order partial derivatives, chain rule and application of chain rule.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem)	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2

الحمل الدراسي المنتظم للطالب خلال الفصل			
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Class work**	1	10% (10)	3 and 10	LO #1 - #5
	Home work	1	10% (10)	2 and 8	LO #1 - #7
	Exam	1	10% (10)	10	LO #1 - #7
	Report	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to equation of line and circle
Week 2	Conic section parabola, ellipse and hyperbola
Week 3	The hyperbolic functions
Week 4	Derivatives and integral of the hyperbolic functions
Week 5	Inverse hyperbolic functions
Week 6	Derivatives and integral of the inverse hyperbolic functions
Week 7	Partial derivatives
Week 8	Functions of two or more variables
Week 9	Geometric meaning of partial derivatives
Week 10	Higher order partial derivatives
Week 11	Chain rule
Week 12	Chain rule
Week 13	Application of chain rule
Week 14	Total differentials
Week 15	Relative minimum and maximum of functions of two variables
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Haward Anton, Irl Bivens and Stephen Davis, " Calculus", Seventh Edition, 1952	Yes
Recommended Texts	George B. Thomas, Jr, Maurice D. Weir and Joel Hass, "Thomas' Calculus", Twelfth Edition, 2010	No

Websites	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Concrete Technology I**			**Module Delivery**	
Module Type	**Core**			☐ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE207**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	UGII		**Semester of Delivery**	one	
Administering Department	Civil of Engineering		**College**	College of Engineering	
Module Leader	Zainab hataf naji		**e-mail**	zainab-hataf@uodiyala.edu.iq	
Module Leader's Acad. Title	Lecture		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	9. Introduce basic definitions and introductory concepts of concrete technology 10. Study the properties of cement, aggregate, water and admixtures 11. Study to test the best and most suitable materials to comply with the conditions of use in all required engineering works.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	7. Knowledge of the physical and chemical properties of cement 8. Know the types of cement and their uses 9. Knowing the properties of aggregate and how to choose it to suit the work 10. Knowing the most important types of additives and their effect on concrete
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Part A – Cement Cement and different types of cement (historical note, Manufacture of Portland cement & chemical. composition of Portland cement. Hydration of cement. Volume of product of hydration. Tests on physical properties of cement. Types of Portland cement, ordinary Portland cement, special type of Portland cement, rapid-hardening Portland cement, low heat Portland cement, sulfate-resisting cement, white cement, natural cement, expanding cement, aluminous cement) Part B – Aggregate Aggregate (Fine and cores aggregate) (Aggregate, general classification of agg. , properties of agg. Bulking of sand, deleterious substances in aggregate. Soundness of aggregate, alkali-agg. Reaction. Sieve analysis: grading curves; fineness modulus grading requirements, practical grading, grading of fine& coarse agg.) Part C – Other materials

	1. Water 2. Admixtures

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	62	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	63	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية				
	Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**

Formative assessment	**Quizzes**	2	10% (10)	4 and 9	LO #1 - #2
	Assignments	2	2% (2)	6 and 11	LO #1 - #2
	Project	1	6% (6)	Continuous	All
Lab	**Report**	1	10%(10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to concrete and cement
Week 2	Chemical composition of Portland cement
Week 3	major and minor compounds of Portland cement
Week 4	**Assignments**
Week 5	Types of Cement
Week 6	Uses of Types of Cement
Week 7	**Midterm Exam**
Week 8	Classification of Aggregate
Week 9	Properties of Aggregate

Week 10	Properties of Aggregate
Week 11	**Assignments**
Week 12	Tests of Aggregate
Week 13	**Admixtures**
Week 14	**Uses of Admixtures**
Week 15	Water
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Standard Consistency for Cement Mortar test
Week 2	Initial and Final Setting Time For Cement Mortar Test
Week 3	Soundness Cement test
Week 4	Compressive Strength For Cement Morter test
Week 5	Fineness Of Cement Test
Week 6	Blaine test
Week 7	Sieve analysis of fine aggregate
Week 8	Sieve analysis of coarse aggregate
Week 9	Determination of the proportion of clay and other soft materials in aggregates test
Week 10	Relative density (specific gravity) and absorption of aggregates test

Week 11	Slump Test
Week 12	Compressive Strength of concrete test
Week 13	Flexural Strength test
Week 14	Splitting cylinder test
Week 15	Direct concrete tensile test
Week 16	Ve-be test

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Concrete Microstructure, Properties, and Materials, 3rd edition. By P. Kumar Mehta Paulo J. M. Monteiro	Yes
Recommended Texts	Concrete Technology, 2nd Edition Book by A M Neville and J J Brooks	yes
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors

	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Engineering Survey- II**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial**	
Module Code	**CE206**				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level		UGII	**Semester of Delivery**		Two
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Nada Kadhim		**e-mail**	Nada.m.kadhim@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CE205	**Semester**	-
Co-requisites module	None	**Semester**	-

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل **In class lectures** 53 **In class tests** 10 **Tutorial** 15	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل **Assignment** 20 **Preparation for tests** 20 **Homework** 32	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10	3,11	
	Assignments	1	10	12	
	Project	1	10	12	
Summative assessment	Midterm Exam	1	10	7	
	Final Exam	1	50	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Errors in the work of the theodolite
Week 2	Calculating coordinates for surveying polygons
Week 3	Calculating coordinates for surveying polygons
Week 4	Indirect methods for measuring distances
Week 5	Contour lines
Week 6	Calculating areas
Week 7	Calculating areas
Week 8	Calculating volumes for earthworks
Week 9	Vertical and horizontal curves
Week 10	Vertical and horizontal curves
Week 11	Errors in the leveling process - errors - and accuracy
Week 12	Longitudinal and cross-sectional sections
Week 13	Longitudinal and cross-sectional sections
Week 14	Topographic surveying and surveying devices used
Week 15	Topographic surveying and surveying devices used
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1. Surveying Author: Francis H. Moffitt, John D. Bossler Publisher: Addison-Wesley, 1998 ISBN: 0673997529, 9780673997524	Yes
Recommended Texts	2. Surveying and Levelling, Volume 1 Surveying and Levelling, S. S. Bhavikatti, ISBN 8190694227, 9788190694223	No

	Author: S. S. Bhavikatti Publisher: I. K. International Pvt Ltd, 2009 ISBN: 8190694200, 9788190694209	
Recommended Texts	3. Engineering Surveying Author: C. L. Berger Sons Publisher: General Books LLC, 2010 ISBN: 1152649876, 9781152649873	No
Websites	There are many!	

Grading Scheme
مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Strength of Materials II**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☒ **Tutorial**	
Module Code	**CE202**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level		UGII	**Semester of Delivery**		Two
Administering Department		Civil Engineering	**College**	College of Engineering	
Module Leader	Huda Mohammed Mubarak		**e-mail**	Huda.mub@uodiyala.edu.iq	
Module Leader's Acad. Title		lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Abbas H. Mohammed	**e-mail**	abbas_mohammed_eng@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CE 201	**Semester**	
Co-requisites module	None	**Semester**	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	87	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**150**		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (20)	3,8	LO #1, 2, 3, 4 ,5 and 7
	Assignments	1	10% (10)	4, 8, 12	LO # 1, 2, 3, 4, 5 and 6
	Project	1	10% (10)	12	
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All

Total assessment	100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Design of Beams
Week 2	Design of Beams
Week 3	Composite Beams,
Week 4	Reinforced Concrete Beams,
Week 5	Stress Transformation, Plane – Stress Transformation,
Week 6	General Equations of Plane – Stress Transformation,
Week 7	Mohr's Circle, Deflection,
Week 8	Elastic Curve,
Week 9	Slope and Displacement by integration,
Week 10	Discontinuity Functions,
Week 11	Moment – Area Method,
Week 12	Superposition Method,
Week 13	Columns,
Week 14	Critical Load,
Week 15	Columns having Various Types of Supports
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Strength of Materials, By: Singer.	Yes
Recommended Texts	• Mechanics of materials 1, 3rd edition, E.J. Hearn. • Introduction to Mechanics of Solid, By: E. Popov. • Elements of Strength of Materials, By: Timishinko • Strength of Materials, Schaums outline of theory and problems, 4th edition, William A. NASH. • Strength of Materials (Mechanics of Solids), R.S. Khurmi.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Fluid Mechanics II**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐**X Practical** ☐ **Seminar**	
Module Code	**CE210**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	UGII		**Semester of Delivery**	Two	
Administering Department	Civil Engineering		**College**	college of Engineering	
Module Leader	Qassem H. Jalut		**e-mail**	qjalut@uodiyala.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name	Qassem Hamed Jalut		**e-mail**	qjalut@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CE209	**Semester**	-

Co-requisites module	None	**Semester**	-

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	20% (20)	4 and 9	LO #1 - #5
	Assignments	2	10% (10)	2 and 11	LO #1 - #7

	Project	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	

Week 15	
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	A Textbook of Fluid Mechanics, fourth edition. By R.K.RAJPUT, S, CHAND & COMPANY LTD 2011	Yes
Recommended Texts	Any other fluid engineering book	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Ministry of Higher Education and
Scientific Research - Iraq
University of Diyala
College of Engineering
Department of Civil Engineering

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Albath Crimes**			**Module Delivery**	
Module Type	**Core**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**E203**				
ECTS Credits	**1**				
SWL (hr/sem)	**25**				
Module Level	UGII		**Semester of Delivery**	Two	
Administering Department	Civil Engineering		**College**	College of Engineering	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Applied Mathematics II**			**Module Delivery**	
Module Type	**Basic**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**E202**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level		UGII	**Semester of Delivery**		Two
Administering Department			**College**		
Module Leader	Yahyia Majeed Hameed		**e-mail**	yahyia@uodiyala.edu.iq	
Module Leader's Acad. Title		Assistance Professor	**Module Leader's Qualification**		Ph.D.
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		Qassem Hamed Jalut	**e-mail**	qjalut@uodiyala.edu.iq	
Scientific Committee Approval Date			**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	E201	**Semester**	

Co-requisites module	None	**Semester**	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem)	62	**Unstructured SWL (h/w)**	4.1

الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Class work**	1	10% (10)	3 and 10	LO #1 - #5
	Home work	1	10% (10)	2 and 8	LO #1 - #7
	Exam	1	10% (10)	10	LO #1 - #7
	Report	1	10% (10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Differential equations.

Week 2	First-order equations with variables separable.
Week 3	Linear equations with constant coefficients.
Week 4	Homogeneous linear second-order differential equations with constant coefficients.
Week 5	Non- homogeneous linear second-order differential equations with constant coefficients.
Week 6	Higher-order linear differential equations with constant coefficients. Sequence and series.
Week 7	Tests for convergence of a series of constants.
Week 8	Taylor`s theorem with remainder.
Week 9	Application to max-min theory for functions of two independent variables or more.
Week 10	Alternating series: conditional convergence.
Week 11	McLaurin series
Week 12	Differential equations.
Week 13	First-order equations with variables separable.
Week 14	Linear equations with constant coefficients.
Week 15	Homogeneous linear second-order differential equations with constant coefficients.
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Haward Anton, Irl Bivens and Stephen Davis, “ Calculus”, Seventh Edition, 1952	Yes
Recommended Texts	George B. Thomas, Jr, Maurice D. Weir and Joel	No

	Hass, "Thomas' Calculus", Twelfth Edition, 2010	
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Ministry of Higher Education and
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University of Diyala
College of Engineering
Department of Civil Engineering

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Concrete Technology II**			**Module Delivery**	
Module Type	**Core**			☐ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE208**				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	UGII		**Semester of Delivery**	Two	
Administering Department	Civil of Engineering		**College**	College of Engineering	
Module Leader	Zainab hataf naji		**e-mail**	zainab-hataf@uodiyala.edu.iq	
Module Leader's Acad. Title	Lecture		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	CE207	**Semester**	
Co-requisites module	None	**Semester**	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises. This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	62	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	63	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**125**		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative	**Quizzes**	2	10% (10)	4 and 9	LO #1 - #2

assessment	**Assignments**	2	2% (2)	6 and 11	LO #1 - #2
	Project	1	6% (6)	Continuous	All
Lab	**Report**	1	10%(10)	Continuous	All
Summative assessment	**Midterm Exam**	1.5hr	10% (10)	7	LO #1 - #3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Fresh concrete;
Week 2	Workability; measurements of workability,
Week 3	factors affecting workability.
Week 4	egregation-bleeding-mixing of concrete.
Week 5	Compaction of concrete,
Week 6	concerting in hot weather.
Week 7	Strength of concrete and types.
Week 8	factors effect on testing of hardened of concrete.
Week 9	Curing of concrete and types of curing.
Week 10	Modulus of elasticity of passion ratio.

Week 11	Volumetric change ,creep ,shrinkage.
Week 12	Mixing design,
Week 13	American method of mix design & B.S method.
Week 14	Non-destructive test ,pulse velocity and other NDT.
Week 15	Fresh concrete;
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	mixing and making optimum fresh concrete in lap.
Week 2	flow.
Week 3	kelly ball penetration test.
Week 4	slump test.
Week 5	compacting factors test.
Week 6	remolding test.
Week 7	vibe test. density of fresh concrete test.
Week 8	compressive strength of concrete test.
Week 9	flexile strength of concrete test.
Week 10	density fresh concrete test
Week 11	. test the compressive strength that equals the cubic compressive strength
Week 12	

Week 13	
Week 14	
Week 15	
Week 16	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Concrete Microstructure, Properties, and Materials, 3rd edition. By P. Kumar Mehta Paulo J. M. Monteiro	Yes
Recommended Texts	Concrete Technology, 2nd Edition Book by A M Neville and J J Brooks	yes
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks %	Definition
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

	Ministry of Higher Education and Scientific Research - Iraq University of Diyala College of Engineering Department of Civil Engineering	

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer Application**			**Module Delivery**	
Module Type	**Basic**			☐ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**CE203**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	UGII		**Semester of Delivery**	Two	
Administering Department	Civil of Engineering		**College**	College of Engineering	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name (if available)		**e-mail**	E-mail	
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module	None	**Semester**	

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction
Week 2	Development of Fortran 90 -
Week 3	The Fortran 90 Language Standard).
Week 4	Fortran Concepts and Terms : (Program Organization - Data Environment
Week 5	- Program Execution -Ordering Requirements).
Week 6	Language Elements : (The Processor Characters Set - Source Form -
Week 7	Rules for Fixed/Free Source Form).Data Types :
Week 8	Building the Data Environment for a Problems Solution -
Week 9	Intrinsic Data Types
Week 10	- Derived Types - Structure Constructors).Using Data:
Week 11	(Constants and Variables -
Week 12	Structure Components –
Week 13	Array -
Week 14	Pointers and AL locatable Arrays).
Week 15	Expressions and Assignment
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	mixing and making optimum fresh concrete in lap.
Week 2	flow.
Week 3	kelly ball penetration test.
Week 4	slump test.
Week 5	compacting factors test.
Week 6	remolding test.
Week 7	vibe test. density of fresh concrete test.
Week 8	compressive strength of concrete test.
Week 9	flexile strength of concrete test.
Week 10	density fresh concrete test
Week 11	. test the compressive strength that equals the cubic compressive strength
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**English Language 2**			**Module Delivery**	
Module Type	**Basic learning activities**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	UD21				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	UGII		**Semester of Delivery**		
Administering Department	All		**College**	All	
Module Leader			**e-mail**		
Module Leader's Acad. Title			**Module Leader's Qualification**		
Module Tutor	Name(if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	3/11/2024		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	The module aims at enabling students to learn and understand the written and spoken form of English. It also aims at teaching functional English to learners and honing their reading, writing and listening skills>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Read and understand simple texts in English. 2. Answer simple comprehension questions and match sentences about texts. 3. Reconstruct texts by reordering sentences. 4. Understand the main idea of a text. 5. Identify specific information in a text. Writing and paraphrasing paragraphs.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. i) Grammar has a core place in language teaching and learning. ii) A wide variety of practice tasks in all the four skills are essential to language learning. iii) Everyday expressions, particularly of spoken English, also need a place in the syllabus. These can be functional, social, situational or idiomatic.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Headway's trusted methodology combines solid grammar and practice, vocabulary development, and integrated skills with communicative role-plays and personalization. Authentic material from a variety of sources enables students to see new language in context, and a range of comprehension tasks, language and vocabulary exercises, and extension activities practice the four skills. 'Everyday English' and 'Spoken grammar' sections practice real-world speaking skills, and a writing section for each unit at the back of the book provides models for students to analyze and imitate.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (5)	3 , 6,8,11	LO #1...#3, #4...#6, #7&#8, #9... #11
	Assignments	2	10% (5)	5 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	1hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Course Introduction (Course material and objectives, learning outcomes, lessons and assessment discussed with the learners).
Week 2	**Unit 1. Getting to know you** **Reading:** People, the great communicators' - the many ways we communicate **Listening**: Neighbours - Steve and Mrs Snell talk about each other as neighbours **Speaking**: Information gap - Joy Darling **Writing**: Informal letters - A letter to a pen friend **Grammar**: Tenses: present, past and future
Week 3	**Unit 2. The way we live** **Reading:** 'Living in the USA' - three people talk about their experiences **Listening**: You drive me mad (but I love you)!' - what annoys you about the people in your life? **Speaking**: Information gap - people's Lifestyles. Exchanging information about immigrants to the USA **Writing**: Linking words, but, however. Describing a person **Grammar**: Present tense , present continuous
Week 4	**Unit 3. It all went wrong** **Reading:** 'The burglars' friend'. Newspaper stories. A short story - 'The perfect crime **Listening**: A radio drama - 'The perfect crime **Speaking**: Information gap - Zoe's party. Telling stories **Writing**: Linking words: while, during, and for. Writing a story **Grammar**: Past tenses: Past Simple and past continuous
Week 5	**Unit 4. Let's go shopping!** **Reading:** 'The best shopping street in the world' **Listening**: 'My uncle's a shopkeeper' , Buying things **Speaking**: Town survey - the good things and bad things about living in your town, Discussion - attitudes to shopping p **Writing**: Filling in forms **Grammar**: Quantity , Articles
Week 6	**Assessment Test 1. Feedback and Remedial Work**

Week 7	**Unit 5. What do you want to do?** **Reading:** 'Hollywood kids - growing up in Los Angeles ain't easy **Listening:** A song - You've got a friend **Speaking:** What are your plans and ambitions? Being a teenager **Writing:** Writing a postcard **Grammar:** Verb patterns 1, future intentions
Week 8	**Unit 6. Tell me! What's it like?** **Reading:** A tale of two millionaires' - one was mean and one was generous **Listening:** Living in another country — an interview with a girl who went to live in Sweden **Speaking:** Information gap – comparing cities **Writing:** Relative clauses 1 who/that/which/where. Describing a place **Grammar:** Comparative and superlative adjectives big, bigger, biggest, good, better, best
Week 9	**Unit 7. Famous couples** **Reading:** Celebrity interview from Hi! Magazine with the pop star and the footballer who are in love **Listening**: An interview with the band Style **Speaking:** Mingle - Find someone who ... Role play - interviewing a band **Writing:** Relative clauses 2 who/ which/ that as the object. Writing a biography **Grammar:** Present Perfect and Past Simple
Week 10	**Unit 8. Do's and don'ts** **Reading:** Problems and suggestions **Listening:** Holidays in January - three people's advice on what to do in their country in January **Speaking:** Jobs - a game. Discussion - house rules, Asking questions about place **Writing:** Writing letters- Formal letters **Grammar:** have (got) to, should, must
Week 11	**Assessment Test 2. Feedback and Remedial Work**
Week 12	**Unit 9. Going places** **Reading:** The world's first megalopolis - a city of 40 million people **Listening:** Life in 2050 - an interview with Michio Kaku, Professor of Theoretical Physics **Speaking:** What will you do? Discussion - what will life be like in the 21st century? **Writing:** Linking words 2, Advantages and disadvantages **Grammar:** Time and conditional clauses
Week 13	**Unit 10. Scared to death** **Reading:** 'Don't look down' - walking on a dangerous footpath, 'Into the wild' **Listening:** When I was young p80 It was just a joke - a boy called Jamie kidnapped his friend **Speaking:** 'When I was young' - talking about your childhood **Writing:** Writing letters Formal and informal letters 1 **Grammar:** Verb patterns 2 manage to do, used to do, go walking, Infinitives, Purpose
Week 14	**Unit 11. Things that changed the world** **Reading:** Three plants that changed the world - tobacco, sugar and cotton **Listening:** The world's most common habit: chewing gum **Speaking:** Exchanging information about three plants **Writing:** Writing a review of a book or film **Grammar:** Passive
Week 15	**Unit 12. Dreams and reality** **Reading:** The vicar who's a ghostbuster **Listening:** An interview with a woman who heard voices **Speaking:** Giving advice - If I were you, I'd….. **Writing:** Writing letters Expressions in different kinds of letters **Grammar:** Second conditional

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	New Headway Pre-Intermediate by:John and Liz Soars. Oxford University Press	Yes
Recommended Texts	None	
Websites	https://apoyanblog.wordpress.com/wp-content/uploads/2016/09/new-headway-pre-intermediate-students-book.pdf	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**اللغة العربية 2**			**Module Delivery**	
Module Type	**Basic learning activities**			☒**Theory** ☐**Lecture** ☐**Lab** ☐**Tutorial** ☐**Practical** ☐**Seminar**	
Module Code	**UD22**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	UGII		**Semester of Delivery**		
Administering Department	All		**College**	All	
Module Leader			**e-mail**		
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Name(if available)		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date	3/11/2024		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Objectives أهداف المادة الدراسية	الهدف الأساس في تدريس اللغة العربية للأقسام العلمية : • اخذ الطالب الى روعة بيان القران الكريم ، وادراكه يقينا ان التعبير القراني تعبير فني مقصود ، كل لفظة ، وكل حرف وضع وضعا فنياً مقصوداً • تقويم اللسان العربي . واعتماد العربية الفصحى في الحديث والكتابة ، ولزيادة رصيد الطالب من ادب وتراث ، على تناول النصوص المختارة من العصور الأدبية المختلفة ، لزيادة رصيد ادب لتراث والادب المعاصر . • التأكيد على دور الطالب في المتابعة واثراء المعرفة باللغة العربية وفنونها بجهد خاص ، ذا ما وضعنا مفاتيح المنهاج الدراسي لتقع على الطالب بعد ذلك مهمة فتح الأبواب والنوافذ الى مصادر المعرفة الواسعة . في جعل العربية الفصيحة تحتل موضع الصدارة وتجاوز العامية ، خدمة الى لغتنا العربية المقدسة. وحفاظا على قوتها وجمالها . • ومن نافلة القول في اهداف تدريس اللغة العربية : هي الجانب المحقق للوحدة وتلزمنا دوافع الوفاء بالحرص عليها والمحافظة على جوهرها .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	يمكن ايجاز مخرجات العلم لمادة اللغة العربية العامة لاقسام غير الاختصاص بالنسبة لمرحلة الدراسة الأولى بالاتي :- * علمه اليقين بان القران الكريم قد اعطى للغة قيمة عليا ، ومنزلة رفيعة . واجبه الحفاظ عليها وصيانتها من اللحن والخطا ، ومن كل ما يشوبها . * تمكين الطالب من قراءة النص القراني بنفسه وتمكنه من معرفة ما في الايات الكريمة من امور لغوية وبلاغية ومعنوية ، وتمكنه من فحصها فحصاً دقيقاً . * سيتمكن الطالب من معرفة ما في لغته العربية من دقة في التعبير واحكام في الفن والعلو في الصنعة . * إظهار القواعد العلمية ، والأسس الفنية ، التي يقوم عليها العمل الأدبي في جزئياته وكلياته . لبيان الروح الجمالية والإبداعية التي تتجلى في النص الأدبي. * فهم طبيعة اللغة من حيث اعرابها (علم النحو) ، من الفعل والفاعل الذي يقع عليه فعل الفاعل ، والحال والتمييز والاوجه الاعرابية لما بعد التمييز . * تمكين الطالب من التفريق بين الافعال الثلاثية والرباعية والخماسية ، وتمكينه من التمييز بين الافعال ومصادر الافعال ، فالفعل : لفظ يدل على حدث الى جانب دلالته على الزمن ، مصدره لا يدل على زمنه أي زمن فعله. * التعريف بالمفهوم الزمني الفني : للحداثة والمعاصرة في الأدب ، وإعطاء صورة لتطور أدب وصولا إلى أدب العصر الحديث . * معرفة الطالب لمفهوم النثر العربي , وكيفية تطور النثر من القديم وكيفية تطور من القديم الى العصر الحديث من: المقالة والقصة والمسرحية ، ومعرفة اهم خصائصه الفنية ، وتطور المصطلح من النثر الى مفهوم السرد في العصر الحديث . * تعريف الطالب بمفهوم الشعر الحر او " شعر التفعيلة " ورواد مدرسة الشعر الحر ، نازك الملائكة وبدر شاكر السياب ، وكيف تفجرت حركة الشعر كلون من الوان الاحتجاج على الواقع الفني العربي .
Indicative Contents المحتويات الإرشادية	1- الاهتمام بالكلام ، ومحاولة التعمق في دراسة قواعده واصوله وتاريخه . 2- الاهتمام بقواعد اللغة تاصيلا وتقعيدا ، وتاريخ ادبها تسجيلا وتدوينا ، ونقد نصوصها تفسيرا وتاويلا .

3- الفهم الدقيق لاصوات اللغة العربية ، ومعرفة مخارج الاصوات ، ومعرفة مخرج كل صوت من اصوات العربية بطريقة مبسطة .وعلاقة الدال بالمدلول . 4- البحث في نشاة اللغة ، وعلاقتها بغيرها ، وخصائص اصواتها ، وابنية مفرداتها وتراكيبها . 5- البحث في عناصر لهجاتها وتطور دلالالتها ، والعوامل التي اثرت فيها ، والقوانين التي تحكم الصلة بين الفاظها . 6- الاهتمام بالكلام ومحاولة التعمق في دراسة قواعده واصوله وتاريخه . 7- - توليد القدرة على تذوق النصوص ، وفتح نافذة القدرة على التحليل والتاويل ، ومعرفة ما يريد ان يقوله النص الادبي . 8- دراسة اساسيات النحو العربي وقواعد الجملة العربية . 9- التعرف على تراكيب الجملة الفعلية والاسمية والمركبة .	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	ليحقق التدريسي اهداف ونواتج التعلم المستهدفة لا بد من تحقيق الاتي : ١_ التركيز على استراتيجيات تقود الى التعلم النشط ، والتأكيد على دور المتعلم واثارة اهتمامه ودفعه الى المشاركة الايجابية ٢_ الاكثار من النصوص العربية العالية ٣_ وان نعد بعض القطع للقراءة يمتزج فيها درس القواعد بدرس الادب؛ فان ذلك ادعى لتنمية ذوق الطالب في الفهم والحس والكلمات والاساليب واستعمالها . ٤_ منح التدريسي حرية اختيار قطع للقراءة من كتب الادب والنصوص ومن ادب المناسبات الذي ينشر في الصحف والمجلات ، لتصحيح النطق عند الطالب ، وتعويده على القراءة الصحيحة الخالية من اللحن . ٥_ تقع على عاتق التدريسي مهنة اساسية وهي التشويق والتقويم والتصويب في تدريسه اللغة_ العربية العامة لأقسام غير اختصاص . ٦_ تنشيط عنصر الاعتزاز باللغة العربية لدى طالب العلم وتأصيله والعمل على زرع محبته للغة العربية بوصفها اللغة الام لغة القران الكريم لغة الاعجاز والبيان . من خلال عرضه لقصص تراثية تتعلق بحرص العربي على لغته والاعتزاز بها .

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (5)	3 , 5,8,11	LO #1...#3, #4...#5, #7&#8, #9... #11
	Assignments	2	10% (5)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.				
	Report	1	10% (10)	13	LO #5, #8 and #10
Summative assessment	Midterm Exam	1hr	10% (10)	7	LO #1 - #7
	Final Exam	2hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	(الفصل الأول) مهارات التعبير و فن الإنشاء و مهارات التعبير : (1) كتابة الإنشاء .
Week 2	(2) كتابة الخاطرة و المقالة .
Week 3	(الفصل الثاني) من القواعد الصرفية : (3) الأفعال الثلاثية و الرباعية و الخماسية و السداسية .
Week 4	(4) من مصادر الأفعال .
Week 5	(الفصل الثالث) القواعد النحوية : (5) الفاعل ، و نائب الفاعل .
Week 6	(6) الأفعال الناقصة (كان و أخواتها) .
Week 7	(7) الأحرف المشبهة بالفعل (إنَّ و أخواتها) .
Week 8	(8) من أنواع المفاعيل (المفعول به + المفعول المطلق + ظرفا الزمان و المكان) .
Week 9	(9) الحال ، و التمييز ، و الاستثناء .
Week 10	(10) من أنواع التوابع : (النعت و التوكيد) .
Week 11	(11) قواعد كتابة العدد .
Week 12	(الفصل الرابع) الأدب العربي : (12) نصوص من الشعر الحديث (محمد مهدي الجواهري) .
Week 13	(13) نصوص من الشعر الحر (أ) بدر شاكر السياب) .
Week 14	(14) (ب) (نازك الملائكة) .
Week 15	(15) من فنون النثر الحديث (الرواية و المسرحية) .

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- التعبير ألقراني – الدكتور : فاضل السامرئي 2- شرح ابن عقيل على الفية ابن مالك – لابن عقيل 3- علم اساليب البيان – غازي يموت. 4- اللغة العربية لاقسام غير الاختصاص مجموعة من اساتذة اللغة العربية .	
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

Course Description

1. Course Name:	
Engineering Analysis	
2. Course Code:	
CE301	
3. Semester / Year: 1st Semester –	
1st Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Jinan Laftah Abbas***	
8. Course Objectives	
Course Objectives	• This course is intended for third year engineering students and contains an introduction to special topics in engineering analysis that are useful for other stages and specializations. • Enabling the student to solve various mathematical problems and equations using engineering analysis methods • Identifying the types of mathematical topics and how to solve their problems using the analytical method
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials.

	• Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1	4	Skill and knowledge	Introduction.	Lectures Notes	Daily exams + monthly exams
Week 2	4	Skill and knowledge	Matrices and determinants: -Algebra of matrices	Lectures Notes	Daily exams + monthly exams
Week 3	4	Skill and knowledge	Matrices and determinants: - Multiplication of matrices.	Lectures Notes	Daily exams + monthly exams
Week 4	4	Skill and knowledge	Matrices and determinants: -The special matrices.	Lectures Notes	Daily exams + monthly exams
Week 5	4	Skill and knowledge	Definition of determinants , basic properties.	Lectures Notes	Daily exams + monthly exams
Week 6	4	Skill and knowledge	The ad joint and inverse matrices.	Lectures Notes	Daily exams + monthly exams
Week 7	4	Skill and knowledge	Solution of linear equations by A-1 method.	Lectures Notes	Daily exams + monthly exams
Week 8	4	Skill and knowledge	Rank of a matrices.	Lectures Notes	Daily exams + monthly exams
Week 9	4	Skill and knowledge	Gauss elimination.	Lectures Notes	Daily exams + monthly exams
Week 10	4	Skill and knowledge	Vibration of a spring 1-degree of freedom:-	Lectures Notes	Daily exams + monthly exams
Week 11	4	Skill and knowledge	Hook`s law, Newton 2nd law of motion.	Lectures Notes	Daily exams + monthly exams
Week 12	4	Skill and knowledge	Free-undamped oscillation-derivation and problems.	Lectures Notes	Daily exams + monthly exams
Week 13	4	Skill and knowledge	Free-damped oscillation	Lectures Notes	Daily exams + monthly exams
Week 14	4	Skill and knowledge	derivation and problems.	Lectures Notes	Daily exams + monthly exams
Week 15	4	Skill and knowledge	Forced-damped undamped oscillation	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	
Main references (sources)	
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:	
Soil Mechanics I	
2. Course Code:	
CE305	
3. Semester / Year: 1st Semester –	
1st Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Jassim Mohammed abbas***	
8. Course Objectives	
Course Objectives	• Enabling the student to rely on himself in the workplace in matters of design and analysis
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1 to Week 4	20	Analysis and design	introduction of soil mech	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	20	Analysis and design	Classification of soil	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	20	Analysis and design	Soil Compaction	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	15	Analysis and design	permeability	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	***Principles*** of Geotechnical Engineering By Braja M ***Das***
Main references (sources)	***Principles*** of Geotechnical Engineering By Braja M ***Das***
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:	
Soil Mechanics II	
2. Course Code:	
CE306	
3. Semester / Year: 1st Semester –	
2nd Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
75/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Jassim Mohammed abbas***	
8. Course Objectives	
Course Objectives	• Enabling the student to rely on himself in the workplace in matters of design and analysis
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1 to Week 4	20	Analysis and design	Seepage	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	20	Analysis and design	Stresses in Soil Mass	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	20	Analysis and design	compressibility of Soil	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	15	Analysis and design	shear strength of the Soil	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	***Principles*** of Geotechnical Engineering By Braja M ***Das***
Main references (sources)	***Principles*** of Geotechnical Engineering By Braja M ***Das***
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:	
Structural Drawing I	
2. Course Code:	
CE313	
3. Semester / Year: 1st Semester –	
1st Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Abbas H. Mohammed***	
8. Course Objectives	
Course Objectives	• Learn the basics of structural drawing for civil structures
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 4	12	Drawing	Foundations	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	12	Drawing	Walls and Columns	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	12	Drawing	Slabs and Floors	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Drawing	Beams and Girders	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	• Civil and Structural Drawing by Talal Jarjees
Main references (sources)	• Manual for Detailing Reinforced Concrete Structures to EC2 by Jose Clalvera
Recommended books and references (scientific journals, reports…).	•
Electronic references, Internet sites…	•

Course Description

1. Course Name:	
Structural Drawing II	
2. Course Code:	
CE314	
3. Semester / Year: 1st Semester –	
2ndt Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Abbas H. Mohammed***	
8. Course Objectives	
Course Objectives	• Learn the basics of structural drawing for civil structures
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 4	12	Drawing	Stair Ways	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 6	6	Drawing	Plan	Lectures Notes	Daily exams + monthly exams
Week 7 to Week 8	6	Drawing	Sectional elevation	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 10	6	Drawing	Elevations	Lectures Notes	Daily exams + monthly exams
Week 11 to Week 12	6	Drawing	Foundation Plan	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Drawing	Doors and Windows	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	• Civil and Structural Drawing by Talal Jarjees
Main references (sources)	• Manual for Detailing Reinforced Concrete Structures to EC2 by Jose Clalvera
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:	
Theory of Structure I	
2. Course Code:	
CE303	
3. Semester / Year: 1st Semester –	
1st Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Wissam D. Salman***	
8. Course Objectives	
Course Objectives	• Determine the type of structures in terms of structural stability, make a decision and justify it if the structure is unstable, analyze beams, structures, arches, supports, and composite structures, and identify the types of supports.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1	4	Skill and knowledge	Introduction	Lectures Notes	Daily exams + monthly exams
Week 2	4	Skill and knowledge	Stability and determination of thresholds	Lectures Notes	Daily exams + monthly exams
Week 3	4	Skill and knowledge	Stability and determination of annulus and structures	Lectures Notes	Daily exams + monthly exams
Week 4	4	Skill and knowledge	Stability and determination of arches and composite structures	Lectures Notes	Daily exams + monthly exams
Week 5	4	Skill and knowledge	Analysis of determinate structures- thresholds and structures	Lectures Notes	Daily exams + monthly exams
Week 6	4	Skill and knowledge	Analysis of determinate structures- annulus	Lectures Notes	Daily exams + monthly exams
Week 7	4	Skill and knowledge	Analysis of determinate structures- arches and composite structures	Lectures Notes	Daily exams + monthly exams
Week 8	4	Skill and knowledge	Influence lines of determinate structures-thresholds	Lectures Notes	Daily exams + monthly exams
Week 9	4	Skill and knowledge	Influence lines of determinate structures-annulus	Lectures Notes	Daily exams + monthly exams
Week 10	4	Skill and knowledge	Influence lines of determinate structures-structures	Lectures Notes	Daily exams + monthly exams
Week 11	4	Skill and knowledge	Influence lines of determinate structures-composite structures	Lectures Notes	Daily exams + monthly exams
Week 12	4	Skill and knowledge	Approximate analysis of indeterminate structures	Lectures Notes	Daily exams + monthly exams
Week 13	4	Skill and knowledge	Approximate analysis of indeterminate structures	Lectures Notes	Daily exams + monthly exams
Week 14	4	Skill and knowledge	Elastic deformation of determinate structures-virtual work method	Lectures Notes	Daily exams + monthly exams
Week 15	4	Skill and knowledge	Elastic deformation of determinate structures-Castigliano's theory	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Elementary Theory of Structures**
Main references (sources)	**By : YUAN-YU HSIEH, 10th Edition, 1970, published by Prentice-Hall, Inc., Englewood Cliffs, New Jersey.**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:	
Theory of Structure II	
2. Course Code:	
CE304	
3. Semester / Year: 1st Semester –	
2nd Semester – 3rd Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Wissam D. Salman***	
8. Course Objectives	
Course Objectives	• Analysis of indeterminate structures using approximate methods, analysis of indeterminate structures (homogeneous displacement method), analysis of indeterminate structures (least work method), analysis of indeterminate structures (slope and deflection method), analysis of indeterminate structures (moment distribution method)
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1	4	Skill and knowledge	Analysis of Indeterminate Structures - Homogeneous Displacement Method	Lectures Notes	Daily exams + monthly exams
Week 2	4	Skill and knowledge	Analysis of Indeterminate Structures - Homogeneous Displacement Method	Lectures Notes	Daily exams + monthly exams
Week 3	4	Skill and knowledge	Analysis of Indeterminate Structures - Least Work Method	Lectures Notes	Daily exams + monthly exams
Week 4	4	Skill and knowledge	Analysis of Indeterminate Structures - Slope and Deflection Method	Lectures Notes	Daily exams + monthly exams
Week 5	4	Skill and knowledge	Analysis of Indeterminate Structures - Slope and Deflection Method	Lectures Notes	Daily exams + monthly exams
Week 6	4	Skill and knowledge	Analysis of Indeterminate Structures - Moment Distribution Method	Lectures Notes	Daily exams + monthly exams
Week 7	4	Skill and knowledge	Analysis of Indeterminate Structures - Moment Distribution Method	Lectures Notes	Daily exams + monthly exams
Week 8	4	Skill and knowledge	Indeterminate Structures Graphs of Indeterminate Structures - Trusses	Lectures Notes	Daily exams + monthly exams
Week 9	4	Skill and knowledge	Indeterminate Structures Graphs of Indeterminate Structures - Frames	Lectures Notes	Daily exams + monthly exams
Week 10	4	Skill and knowledge	Indeterminate Structures Graphs of Indeterminate Structures - Structures	Lectures Notes	Daily exams + monthly exams
Week 11	4	Skill and knowledge	Indeterminate Structures Graphs of Indeterminate Structures - Composite Structures	Lectures Notes	Daily exams + monthly exams
Week 12	4	Skill and knowledge	Rigidity Method in Analysis of Definite and Indeterminate Structures	Lectures Notes	Daily exams + monthly exams
Week 13	4	Skill and knowledge	Rigidity Method in Analysis of Definite and Indeterminate Structures	Lectures Notes	Daily exams + monthly exams
Week 14	4	Skill and knowledge	Rigidity Method in Analysis of Definite and Indeterminate Structures	Lectures Notes	Daily exams + monthly exams
Week 15	4	Skill and knowledge	Introduction by Finite Elements	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Elementary Theory of Structures By : YUAN-YU HSIEH, 10th Edition, 1970, published by Prentice-Hall, Inc., Englewood Cliffs, New Jersey.**
Main references (sources)	**Structural Analysis By: Russell C. Hibbeler, 5th Edition, 2002, published by Prentice-Hall, Inc. Upper Saddle River, New Jersey 07458**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	

Course Description

1. Course Name:
Design of reinforced concrete structures I
2. Course Code:
CE401
3. Semester / Year: 1st Semester –
1st Semester – 4th Year
4. Description Preparation Date:
24/4/2024
5. Available Attendance Forms:
Class Lectures
6. Number of Credit Hours (Total) / Number of Units (Total)
45/3
7. Course administrator's name (mention all, if more than one name)
Name: ***Khattab S. Abdul-Razzaq***
8. Course Objectives

Course Objectives	• Enabling the student to design and analyze reinforced concrete structures.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 4	12	Analysis and design	DDM	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	12	Analysis and design	DDM	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	12	Analysis and design	YL	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Analysis and design	YL	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**ACI 318-19, American Concrete Institute, Committee 318, 2019**
Main references (sources)	
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Design of reinforced concrete structures I	
2. Course Code:	
CE402	
3. Semester / Year: 1st Semester –	
2nd Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Khattab S. Abdul-Razzaq***	
8. Course Objectives	
Course Objectives	• Enabling the student to design and analyze reinforced concrete structures.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 4	12	Analysis and design	Shear in Slabs	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	12	Analysis and design	Shear in Slabs	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	12	Analysis and design	Prestressing	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Analysis and design	Prestressing	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**ACI 318-19, American Concrete Institute, Committee 318, 2019**
Main references (sources)	
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Design of Steel Structures I	
2. Course Code:	
CE405	
3. Semester / Year: 1st Semester –	
1st Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Mohammed Sh. Mahmood***	
8. Course Objectives	
Course Objectives	• Enabling the student to design and analyze steel structures with all their details and enabling the student to adopt engineering programs in designing and analyzing steel structures.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 3	9	Skill and knowledge	Introduction	Lectures Notes	Daily exams + monthly exams
Week 4 to Week 8	15	Skill and knowledge	Design of Tension Members	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 13	15	Skill and knowledge	Design of Compression Members	Lectures Notes	Daily exams + monthly exams
Week 14 to Week 15	6	Skill and knowledge	Project	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	1- Ibrahim, A., Mahmood, M., Mansor, A., and Abdulmahdi, I., Structural steel design according to LRFD. 2012, Diyala / Iraq: University of Diyala. 2- Salmon, C., Johnson, J., and Malhas, F., Steel Structures Design and Behavior. 5th ed. 2009, New Jersey, USA: Pearson Education, Inc.
Main references (sources)	1- AISC. 2017. Steel Construction Manual. 15th edition. USA, American Institute of Steel Construction. 2- AISC. 2016. Specification for Structural Steel Buildings. USA, American Institute of Steel Construction.
Recommended books and references (scientific journals, reports…).	All the reputable scientific journals related to the broad concept of steel structures.
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Design of Steel Structures I	
2. Course Code:	
CE406	
3. Semester / Year: 1st Semester –	
2nd Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Mohammed Sh. Mahmood***	
8. Course Objectives	
Course Objectives	• Enabling the student to design and analyze steel structures with all their details and enabling the student to adopt engineering programs in designing and analyzing steel structures.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 3	9	Skill and knowledge	Design of flexural members.	Lectures Notes	Daily exams + monthly exams
Week 4 to Week 13	30	Skill and knowledge	Design of connections.	Lectures Notes	Daily exams + monthly exams
Week 14 to Week 15	6	Skill and knowledge	Computer Applications.	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	3- Ibrahim, A., Mahmood, M., Mansor, A., and Abdulmahdi, I., Structural steel design according to LRFD. 2012, Diyala / Iraq: University of Diyala. 4- Salmon, C., Johnson, J., and Malhas, F., Steel Structures Design and Behavior. 5th ed. 2009, New Jersey, USA: Pearson Education, Inc.
Main references (sources)	3- AISC. 2017. Steel Construction Manual. 15th edition. USA, American Institute of Steel Construction. 4- AISC. 2016. Specification for Structural Steel Buildings. USA, American Institute of Steel Construction.
Recommended books and references (scientific journals, reports…).	All the reputable scientific journals related to the broad concept of steel structures.
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Engineering Professional Ethics	
2. Course Code:	
E401	
3. Semester / Year:	
1st Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Sultan Noori Al-karawi***	
8. Course Objectives	
Course Objectives	• Enable the student to identify ethical and professional responsibilities and develop engineering skills, solve engineering ethics problems.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials.

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 2	6	Analysis and Design	Definition of engineering ethics	Lectures Notes	Daily exams + monthly exams
Week 3 to Week 4	6	Analysis and Design	General concept of professional ethics	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 6	6	Analysis and Design	General components of professional ethics	Lectures Notes	Daily exams + monthly exams
Week 7 to Week 8	6	Analysis and Design	Engineering regulations and laws	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 10	6	Analysis and Design	Engineering ethics	Lectures Notes	Daily exams + monthly exams
Week 11 to Week 12	6	Analysis and Design	Engineering disasters	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 14	6	Analysis and Design	ABET Code	Lectures Notes	Daily exams + monthly exams
Week 15	3	Analysis and Design	NSPE Code	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Water Supply and Sewerage E.W.Steel**
Main references (sources)	
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	**Any other materials available on the Internet.**

Course Description

1. Course Name:	
Foundation Engineering I	
2. Course Code:	
CE403	
3. Semester / Year: 1st Semester –	
1st Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Hassan Obaid Abbas***	
8. Course Objectives	
Course Objectives	• The student learns how to conduct site investigations and find soil bearing capacity and foundation settlement.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1	4	Skill and knowledge	Introduction	Lectures Notes	Daily exams + monthly exams
Week 2	4	Skill and knowledge	Site investigations	Lectures Notes	Daily exams + monthly exams
Week 3	4	Skill and knowledge	Determining the number and depth of probes	Lectures Notes	Daily exams + monthly exams
Week 4	4	Skill and knowledge	Excavation methods	Lectures Notes	Daily exams + monthly exams
Week 5	4	Skill and knowledge	Field investigations	Lectures Notes	Daily exams + monthly exams
Week 6	4	Skill and knowledge	Introduction to soil bearing capacity	Lectures Notes	Daily exams + monthly exams
Week 7	4	Skill and knowledge	Soil bearing capacity using the Terzaki method	Lectures Notes	Daily exams + monthly exams
Week 8	4	Skill and knowledge	Soil bearing capacity using the Meyerhof, Wiesig and Hansen method	Lectures Notes	Daily exams + monthly exams
Week 9	4	Skill and knowledge	Soil bearing capacity for foundations loaded eccentrically or with inclined loads	Lectures Notes	Daily exams + monthly exams
Week 10	4	Skill and knowledge	Soil bearing capacity for foundations located on a slope or above a slope	Lectures Notes	Daily exams + monthly exams
Week 11	4	Skill and knowledge	Bearing capacity of rocks	Lectures Notes	Daily exams + monthly exams
Week 12	4	Skill and knowledge	Soil bearing capacity by field investigations	Lectures Notes	Daily exams + monthly exams
Week 13	4	Skill and knowledge	Slump and its types	Lectures Notes	Daily exams + monthly exams
Week 14	4	Skill and knowledge	Methods for finding primary settlement	Lectures Notes	Daily exams + monthly exams
Week 15	4	Skill and knowledge	Primary and secondary settlement	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**FOUNDATION ANALYSIS AND DESIGN** **By : Joseph E. Bowles, RE., S.E., 5th Edition, 1996, published by McGraw-Hill.**
Main references (sources)	**Principle of Foundation by Das**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Foundation Engineering II	
2. Course Code:	
CE404	
3. Semester / Year: 1st Semester –	
2nd Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Hassan Obaid Abbas***	
8. Course Objectives	
Course Objectives	• The student learns how to design single and combined foundations and pile foundations.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1	4	Skill and knowledge	Introduction to shallow foundations	Lectures Notes	Daily exams + monthly exams
Week 2	4	Skill and knowledge	Design of single foundation	Lectures Notes	Daily exams + monthly exams
Week 3	4	Skill and knowledge	Design of combined foundations	Lectures Notes	Daily exams + monthly exams
Week 4	4	Skill and knowledge	Finding the lateral pressure of soil	Lectures Notes	Daily exams + monthly exams
Week 5	4	Skill and knowledge	Rankin's theorem with solved applications	Lectures Notes	Daily exams + monthly exams
Week 6	4	Skill and knowledge	Coulomb's theorem with solved applications	Lectures Notes	Daily exams + monthly exams
Week 7	4	Skill and knowledge	Analysis of retaining walls	Lectures Notes	Daily exams + monthly exams
Week 8	4	Skill and knowledge	Types of retaining walls and how to find their inductiveness	Lectures Notes	Daily exams + monthly exams
Week 9	4	Skill and knowledge	Panel curtains and their types	Lectures Notes	Daily exams + monthly exams
Week 10	4	Skill and knowledge	Solved applications on panel curtains	Lectures Notes	Daily exams + monthly exams
Week 11	4	Skill and knowledge	Analysis of unlimited slopes	Lectures Notes	Daily exams + monthly exams
Week 12	4	Skill and knowledge	Analysis of limited slopes	Lectures Notes	Daily exams + monthly exams
Week 13	4	Skill and knowledge	Introduction to piles and their types	Lectures Notes	Daily exams + monthly exams
Week 14	4	Skill and knowledge	Finding the bearing capacity of a single pile	Lectures Notes	Daily exams + monthly exams
Week 15	4	Skill and knowledge	Pile group	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**FOUNDATION ANALYSIS AND DESIGN** **By : Joseph E. Bowles, RE., S.E., 5th Edition, 1996, published by McGraw-Hill.**
Main references (sources)	**Principle of Foundation by Das**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	Any other materials available on the Internet.

Course Description

1. Course Name:	
Water Resources Engineering I	
2. Course Code:	
CE413	
3. Semester / Year: 1st Semester –	
1st Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Saad Shauket Sammen***	
8. Course Objectives	
Course Objectives	• Introducing the student to the types of water resources within the country and how to exploit and manage them.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 4	12	Skills and Knowledge	Water Resources in Iraq	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 8	12	Skills and Knowledge	Surface Water Hydrology	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 12	12	Skills and Knowledge	Surface Water Hydrology	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Skills and Knowledge	Groundwater Hydrology	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Engineering hydrology (Subramanya)**
Main references (sources)	**Irrigation Engineering (S.K.Sharma)** **Open channel Hydraulics (Ven Te Chow)** **Water Resources Management (Louis Theodore)**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	**Any other materials available on the Internet.**

Course Description

1. Course Name:	
Water Resources Engineering II	
2. Course Code:	
CE414	
3. Semester / Year: 1st Semester –	
2nd Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Saad Shauket Sammen***	
8. Course Objectives	
Course Objectives	• Introducing the student to the types of water resources within the country and how to exploit and manage them.
9. Teaching and Learning Strategies	

Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
Week 1 to Week 2	6	Skills and Knowledge	Introduction.	Lectures Notes	Daily exams + monthly exams
Week 3 to Week 4	6	Skills and Knowledge	Methods of irrigation	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 6	6	Skills and Knowledge	Border irrigation	Lectures Notes	Daily exams + monthly exams
Week 7 to Week 8	6	Skills and Knowledge	Furrow irrigation	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 10	6	Skills and Knowledge	Basin Irrigation	Lectures Notes	Daily exams + monthly exams
Week 11 to Week 12	6	Skills and Knowledge	Sprinkler Irrigation	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 14	6	Skills and Knowledge	Drip irrigation	Lectures Notes	Daily exams + monthly exams
Week 15	3	Skills and Knowledge	Networks of irrigation and drainage	Lectures Notes	Submit a complete project

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Engineering hydrology (Subramanya)**
Main references (sources)	**Irrigation Engineering (S.K.Sharma)** **Open channel Hydraulics (Ven Te Chow)** **Water Resources Management (Louis Theodore)**
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	**Any other materials available on the Internet.**

Course Description

1. Course Name:	
Water Supply Engineering	
2. Course Code:	
CE409	
3. Semester / Year: 1st Semester –	
1st Semester – 4th Year	
4. Description Preparation Date:	
24/4/2024	
5. Available Attendance Forms:	
Class Lectures	
6. Number of Credit Hours (Total) / Number of Units (Total)	
45/3	
7. Course administrator's name (mention all, if more than one name)	
Name: ***Nahida Hameed Hamza***	
8. Course Objectives	
Course Objectives	• Enable the student to successfully apply basic mathematical, scientific and engineering principles in formulating and solving problems in sanitary engineering.
9. Teaching and Learning Strategies	
Strategy	• The weekly lectures included providing students with the basics and topics related to the pre-skills learning outcomes to solve practical problems through presentation, lecture or conducting experiments. • Solving a set of practical and applied examples by faculty members. • Through discussion, students participate in solving some practical problems. • Asking the student to visit the library and the Internet to obtain additional knowledge about the study materials. • Delivering a seminar to the student in front of his fellow students to boost his self-confidence

10. Course Structure					
Week	**Hours**	**Required Learning Outcomes**	**Unit or subject name**	**Learning method**	**Evaluation method**
Week 1 to Week 2	6	Analysis and Design	Sanitary Engineering and water Consumption	Lectures Notes	Daily exams + monthly exams
Week 3 to Week 4	6	Analysis and Design	Collection works	Lectures Notes	Daily exams + monthly exams
Week 5 to Week 6	6	Analysis and Design	Coagulation and Flocculation	Lectures Notes	Daily exams + monthly exams
Week 7 to Week 8	6	Analysis and Design	sedimentation	Lectures Notes	Daily exams + monthly exams
Week 9 to Week 10	6	Analysis and Design	Filtration	Lectures Notes	Daily exams + monthly exams
Week 11 to Week 12	6	Analysis and Design	Disinfection	Lectures Notes	Daily exams + monthly exams
Week 13 to Week 15	9	Analysis and Design	Distribution works	Lectures Notes	Daily exams + monthly exams

11. Course Evaluation	
Distributing the score out of 100 according to the tasks assigned to the student sich as daily preparation, daily oral, monthly, or written exam, report … etc	
12. Learning and Teaching Resources	
Books Required reading:	**Water Supply and Sewerage E.W.Steel**
Main references (sources)	
Recommended books and references (scientific journals, reports…).	
Electronic references, Internet sites…	**Any other materials available on the Internet.**