

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



Academic Program and Course Description Guide

2024

Introduction:

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

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

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

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

Concepts and terminology:

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

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

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

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

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

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

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

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

Academic Program Description Form

University Name: Diyala

Faculty/Institute: Engineering

Scientific Department: Civil Engineering

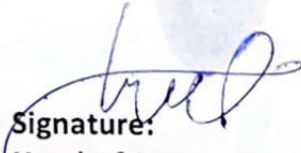
Academic or Professional Program Name: BSc in Civil Engineering

Final Certificate Name: BSc in Civil Engineering

Academic System: Courses

Description Preparation Date: 24/4/2024

File Completion Date: 24/4/2024



Signature:

Head of Department Name:

Prof. Dr. Wissam D. Salman

Date: 24/4/2024



Signature:

Scientific Associate Name:

Assist. prof. Dr. Jabbar Q. Jabbar

Date:

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

Department of Quality Assurance and University Performance

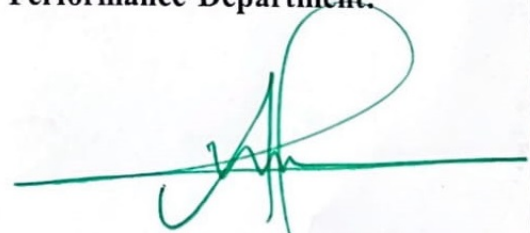
Director of the Quality Assurance and University Performance Department:

Date:

Signature:







Approval of the Dean

Prof. Dr. Anees A. Khadom

25, April 2024

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	4	9	8%	
College Requirements	5	23	19%	
Department Requirements	17	88	73%	
Summer Training				
Other				

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours		
			Theoretical	Practical	Discussion
1 st Year- 1 st 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

1 st Year-2 nd 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
2 nd Year-1 st Semester	CE 201	Strength of material I	3		1
	E201	Applied Mathematics I	3		1
	CE205	Engineering Survey I	2	3	
	CE207	Concrete Technology I	2	2	
	CE209	Fluid Mechanics I	2	2	1
	CE211	Building Construction	3		
2 nd Year-2 nd Semester	CE 202	Strength of material II	3		1
	E202	Applied Mathematics II	3		1
	CE203	Computer Application	2	2	
	CE206	Engineering Survey I	2	3	
	CE208	Concrete Technology II	2	2	
	CE210	Fluid Mechanics II	2	2	1
	E203	Albath Crimes	2		

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			4	
Asst. Prof.	Civil Eng.	Structure			4	
LECT.	Civil Eng.	Structure			1	
Asst. LECT.	Civil Eng.	Structure			4	
Prof.	Civil Eng.	Soil and foundation mechanics			2	
Asst. Prof.	Civil Eng.	Soil and foundation mechanics			1	
Asst. LECT.	Civil Eng.	Soil and foundation mechanics			3	
Prof.	Civil Eng.	Water resources			1	
Asst. Prof.	Civil Eng.	Water resources			1	
LECT.	Civil Eng.	Water resources			1	
Asst. LECT.	Civil Eng.	Water resources			1	
Prof.	Civil Eng.	Project Management			1	
LECT.	Civil Eng.	Project Management			1	
Asst. Prof.	Civil Eng.	Geomatics			1	
LECT.	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.

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
1 st Year- 1 st 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		√										
1 st Year-2 nd 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										√		
2 nd Year-1 st Semester	CE 201	Strength of material I	Basic	√											
	E201	Applied Mathematics I	Basic	√											
	CE205	Engineering Survey I	Basic	√											

	CE207	Concrete Technology I	Basic	√	√										
	CE209	Fluid Mechanics I	Basic										√		
	CE211	Building Construction	Basic									√			
2 nd Year-2 nd Semester	CE 202	Strength of material II	Basic			√									
	E202	Applied Mathematics II	Basic		√										
	CE203	Computer Application	Basic	√	√										
	CE206	Engineering Survey I	Basic		√										
	CE208	Concrete Technology II	Basic	√	√										
	CE210	Fluid Mechanics II	Basic		√										
	E203	Albath Crimes	Basic			√									

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

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Survey- I		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial
Module Code	CE205		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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	



<p>Module Objectives أهداف المادة الدراسية</p>	<p>In this course, students will learn:</p> <p>The activities involved in the planning and execution of surveys for the planning, design, construction, operation, and maintenance of engineered projects.</p> <ul style="list-style-type: none">• 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
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<p>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:</p> <ol style="list-style-type: none">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.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <ol style="list-style-type: none">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 practice3. 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



	<p>outcomes</p> <p>5. Risk assessment: Awareness and application of risk assessment and health and safety requirements for all aspects of engineering practice.</p> <p>6. Sustainability considerations: Awareness and application of sustainability considerations for all aspects of engineering practice.</p> <p>7. Conceptual design client requirements; scheme design and evaluation</p>
<p>Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>	
<p>Strategies</p>	<p>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.</p>

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

Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125
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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	<p>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</p>	No
Recommended Texts	<p>3. Engineering Surveying Author: C. L. Berger Sons Publisher: General Books LLC, 2010 ISBN: 1152649876, 9781152649873</p>	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		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Tutorial
Module Code	CE201		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	UGII	Semester of Delivery	
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	<ul style="list-style-type: none">• 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
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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	Fluid Mechanics I		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	CE209		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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

<p>Module Objectives أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 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
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 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.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p><u>Part A – Basic Concepts</u></p> <p>Introduction, Fluids properties , Fluid pressures and its measurements.</p> <p><u>Part B – Resultants of force on plane surfaces</u></p>



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		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	CE 211		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UGII	Semester of Delivery	
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: <ol style="list-style-type: none">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	<p>Indicative content includes the following.</p> <p><u>Part A – Foundation Works</u></p> <ul style="list-style-type: none">• 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. <p><u>Part B – Concrete and Brick Works</u></p> <ul style="list-style-type: none">• Brick works: types of brick. Mortars for brickwork, Engineering properties of brick and types of bonds.• Concrete works (Mixing, Transporting, Casting, Finishing). <p><u>Part C - Miscellaneous Construction Works</u></p> <ul style="list-style-type: none">• 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 Ceiling
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	
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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		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	E201		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<p>Indicative content includes the following.</p> <p><u>Part A – Principle of geometry</u></p>



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 conversations 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 للطلاب خلال الفصل			
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب 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	
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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		<input type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> 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	<ol style="list-style-type: none">9. Introduce basic definitions and introductory concepts of concrete technology10. Study the properties of cement, aggregate, water and admixtures11. 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	<ol style="list-style-type: none">7. Knowledge of the physical and chemical properties of cement8. Know the types of cement and their uses9. Knowing the properties of aggregate and how to choose it to suit the work10. Knowing the most important types of additives and their effect on concrete
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p><u>Part A – Cement</u></p> <p>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)</p> <p><u>Part B – Aggregate</u></p> <p>Aggregate (Fine and coarse 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.)</p> <p><u>Part C – Other materials</u></p>

	<ol style="list-style-type: none"> 1. Water 2. Admixtures
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises.</p> <p>This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conversations Reports, Presentations, and Posters.</p>
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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
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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





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	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	
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MODULE DESCRIPTION

وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Survey- II		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial
Module Code	CE206		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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

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
<p>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.</p>				

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Strength of Materials II	Module Delivery	
Module Type	Core	<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> 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	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises.</p> <p>This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.</p>
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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)		
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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	<ul style="list-style-type: none"> • 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 (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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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 II		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> X Practical <input type="checkbox"/> 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	-
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Co-requisites module	None	Semester	-
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Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

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



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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	Albath Crimes		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	E203		
ECTS Credits	1		
SWL (hr/sem)	25		
Module Level	UGII	Semester of Delivery	
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		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	E202		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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	
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Co-requisites module	None	Semester	
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises.</p> <p>This will be achieved through In-Class Questions and Discussions, Extracurricular Activities, Seminars, In- and Out-Class oral conservations Reports, Presentations, and Posters.</p>

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

الحمل الدراسي غير المنتظم للطلاب خلال الفصل	الحمل الدراسي غير المنتظم للطلاب أسبوعياً
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب 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 الأسبوعي 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.

MODULE DESCRIPTION

وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Concrete Technology II		Module Delivery
Module Type	Core		<input type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	CE208		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	UGII	Semester of Delivery	
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 conversations Reports, Presentations, and Posters.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا

Structured SWL (h/sem)	62	Structured SWL (h/w)	4.2
الحمل الدراسي المنتظم للطالب خلال الفصل		الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem)	63	Unstructured SWL (h/w)	4.1
الحمل الدراسي غير المنتظم للطالب خلال الفصل		الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem)	125		
الحمل الدراسي الكلي للطالب خلال الفصل			

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	concreting 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



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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	Computer Application		Module Delivery
Module Type	Basic		<input type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	CE203		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGII	Semester of Delivery	
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.
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Week 14	
Week 15	
Week 16	