

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

Academic Program Description Form for Colleges and Institutes Academic Year

University: Shatt Al-Arab
College/Institute: Engineering
Scientific Department: Civil
Date of Form Completion: 01/09/2024



Signature

Name of Head of Department:

Asst. Lecturer Nabeel Najm Abdullah



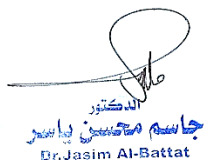
Signature

Name of Scientific Assistant: Dr. Jawad Kadhim

Reviewed by:
Quality Assurance and University Performance Division
Name of Division Director: Dr. Jasem Mohsen Yasser

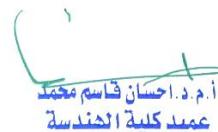


Signature:



الدكتور
جاسم مكيه علي
Dr. Jasim Al-Battat

Dean's Approval



أ.م.د. احسان قاسم محمد
عميد كلية الهندسة

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Fluid Mechanics I		Module Delivery	
Module Type	Core		☐ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	CE214			
ECTS Credits	5			
SWL (hr/sem)	75			
Module Level	2	Semester of Delivery		1,2
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Qasim Mohammed		e-mail	E-mail
Module Leader's Acad. Title	Ass. 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	01/09/2024		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 Aims أهداف المادة الدراسية	1- To develop problem solving skills and understanding of Fluid Mechanics in civil engineering. 2- This course deals with the basic concepts of Fluid Mechanics. 3- This is the basic subject for all electrical and electronic circuits. 4- To understand viscous fluid flow problems.		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- To understand general principles of fluid mechanics 2- To understand incompressible and compressible flow 3- To understand flow through pipes and open channel		
Indicative Contents المحتويات الإرشادية	This module covers a wide range of topics of fluid mechanics in order to offer basic knowledge and foundations applicable to various civil engineering problems. This module introduces fundamental of conservation (mass, momentum and energy) laws of fluid flow, potential (ideal) flow, inviscid compressible flow and viscous flow. This module is also complemented by lab classes and tutorials		

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, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, and interactive tutorials.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ 15 اسبوعا
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Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	128	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	9
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	97	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	6.46
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	225		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Fluid Properties and Units and Dimensions
Week 2	Fluid pressure and its measurements
Week 3	Hydrostatic forces on surfaces: plane Surfaces
Week 4	Hydrostatic forces on surfaces: Non plane Surfaces
Week 5	Buoyancy and floatation
Week 6	Kinematics and dynamics of fluid flow, Bernoulli's equation
Week 7	Fluids Subjected to constant acceleration
Week 8	Applications of Bernoulli's equation
Week 9	Discharge measurements
Week 10	Momentum equation
Week 11	Laminar and turbulent flow
Week 12	Flow through pipes, Major and minor head losses

Week 13	Flow through pipes, Major and minor head losses
Week 14	Open channel flow
Week 15	Open channel flow
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Some Physical Properties of Fluids
Week 2	Fluid Pressure at a Point
Week 3	Simple Manometers, Differential Manometers
Week 4	Hydrostatic Forces on Submerged Surfaces
Week 5	Impulse Momentum Equation
Week 6	Types of Resistances and Losses of Energy in Pipes
Week 7	Flow Measuring Devices

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Fluid Mechanics, Streeter	Yes
Recommended Texts	Fluid Mechanics, White, F.M., 2016	No
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتاز	90 - 100	Outstanding Performance
	B - Very Good	جد جدا	80 - 89	Above average with some errors
	C - Good	جد	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 (قد 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.				