Jordan University of Science and Technology
Faculty of Engineering
Civil Engineering Department

CE351 Fluid Mechanics - JNQF Level: 7

Second Semester 2024-2025

Course Catalog

3 Credit Hours. Properties of fluids, Fluid statics and dynamics, system and control volume, equations of continuity, Euler, Bernoulli, energy, linear momentum, and angular momentum with applications, Dimensional analysis and dynamic similitude, Viscous flow: laminar flow through tubes, energy grade lines, turbulent flow in pressure conduits and in open channels, steady incompressible flow through simple pipes and open channels.

Teaching Method: On Campus

Text Book	
Title	Engineering Fluid Mechanics
Author(s)	Roberson J.A., and Crowe C.T
Edition	10th Edition
Short Name	Text Book
Other Information	

Instructor	
Name	**Dr. Mohanned Al-Sheriadeh**
Office Location	-
Office Hours	
Email	alsheria@just.edu.jo

Class Schedule & Room

Section 1:
 Lecture Time: Sun, Tue, Thu : 11:00 - 12:00
 Room: C2010

Section 2:
 Lecture Time: Sun, Tue, Thu : 13:00 - 14:00
 Room: C2008

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
232011	CE201 Statics	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2	Introduction, fluid definition and its various properties	From **Text Book**
Weeks 3, 4	Principles of fluid static	From **Text Book**
Weeks 5, 6	Flow concepts and conservation of mass principle	From **Text Book**
Week 7	Pressure variation and Bernoulli?s equation	From **Text Book**
Weeks 8, 9	Momentum principle	From **Text Book**
Weeks 10, 11	Energy principle	From **Text Book**
Weeks 12, 13, 14	Pipe flow: Flow conditions, major head losses (Darcy Weisbach, and Moody diagram	From **Text Book**
Weeks 15, 16	Dimensional analysis and similitude	From **Text Book**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Students will be able to connect principles learned in other courses of solid mechanics, dynamics and physics to fluids [100PI-1a] [1L7K1]	30%	
Student will be able to apply the basic conservation laws to typical problems of pipe and open channel flows [1PI-2a] [1L7S1]	50%	
Students will be able to use the methods of similarity for certain problems of pipe and open channel flows [30PI-3a] [1L7S3]	20%	

Relationship to Program Student Outcomes (Out of 100%)											
PI-1a	PI-2a	PI-2b	PI-2c	PI-2d	PI-3a	PI-4a	PI-4b	PI-5a	PI-6a	PI-6b	PI-7a
30	50				20						

Relationship to NQF Outcomes (Out of 100%)		
L7K1	L7S1	L7S3
30	50	20

Evaluation	
Assessment Tool	**Weight**
Exam 1	25%
Exam 2	25%
Final Exam	40%

Policy	
Policy -1	Attendance Policy: Students are required to attend the classes. University absence rules are applicable.

Date Printed: 2025-02-01