



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

Course name and number:

AE341 Fluid Mechanics

Credit, contact hours and categorization:

Credit and contact hours	Contact hours	Categorization
3 Credit Hours	Sunday-Tuesday-Thursday 1-hour lecture Or Monday-Wednesday 1.5-hours lecture	Engineering Topic

Instructor's or course coordinator's name:

Name	Dr. Muath Bani-Hani
Office location	N1-L2
Email address	mabanihani@just.edu.jo

Textbook and other supplemental materials:

Textbook			
Title	Introduction to Fluid Mechanics		
Author(s)	R.W. Fox, A.T. McDonalds, and P. J. Pritchard		
Edition	8th Edition		
Other Information	John Wiley & Sons		
References			
Book Name	Author(s)	Edition	Other Information

Course information:

Course Catalogue		
Fluids and their properties, Conservation equations and their applications, Dimensional analysis and similarity, Two-dimensional inviscid flow, stream function, and velocity potential, Superposition of elementary flow, Incompressible laminar and turbulent flow in pipes, friction factor, Laminar flow between parallel plates and in ducts, Elementary boundary layer flow, skin friction and drag, Pump and pipeline system characteristics.		
Course type : This course is required to fulfill the program.		
Prerequisites or co-requisites		
Line Number	Course Name	Prerequisite Type
921010	PHY101 General Physics (1)	Prerequisite /Study
902030	MATH203 Ordinary Differential Equations	Prerequisite /Study



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

Specific goals of the course:

Specific outcomes of instruction and the student outcomes (SO) mapping		
Outcomes	SO Mapping	Course Outcome Weight (Out of 100%)
Introduction to Fundamental Concepts of Fluid Mechanics	22SO 1, 3SO 2	25%
To study and analyze fluid problems in motion	40SO 1, 5SO 2, 5SO 8	50%
To study dimensional analysis and Similitude	22SO 1, 3SO 6	25%

Brief list of topics to be covered:

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1	Introduction	From Textbook
Week 2	Fundamental Concepts	From Textbook
Weeks 3	Fluid Statics	From Textbook
Weeks 4,5,6,7	Basic Equations in Integral Form for a Control Volume.	From Textbook
Weeks 8,9	Introduction to Differential analysis of fluid motion	From Textbook
Weeks 10,11	Incompressible inviscid Flow	From Textbook
Weeks 12,13,14	Dimensional Analysis and Similitude	From Textbook
Weeks 15,16	Internal Incompressible Viscous Flow	From Textbook