

Date:	Examination No.: -----	Start: 07.01.2024
Module Name -Code	Fluid dynamics – 3111	
Module Language:	English	
Responsible:	Mahde Akram Molan	
Lecture (s):	Mahde Akram Molan	
College:	College of Engineering – Salahaddin University	
Duration:	14 week – 1 semester	
Course outcomes:	At the end of the semester, students would be able to estimate flow rate, head, pressure losses and other parameters for the liquids in pipes and pumps. Furthermore fundamentals of compressible fluid flow, Mach number and gas properties will be explained with an emphasis on a wide variety of steady, isentropic one-dimensional flow problems.	
Course Content:	Flow in pipes, Network pipes, Pumps, multi pump systems, and Gas dynamics	
Literature:	<ul style="list-style-type: none"> - Engineering fluid mechanics/Clayton T. Crowe, Donald F. Elger, Barbara C. Williams, John A. Roberson. - Fluid Mechanics, Frank M. White - Fundamentals of fluid mechanics / Bruce R. Munson, Theodore H. Okiishi, Wade W. Huebsch, Alric P. Rothmayer - Fluid Mechanics: Fundamentals and Applications Yunus A. Çengel, John M. Cimbala 	
Type of Teaching:	4 hrs theory (2 hrs in lectures + 2 hr exercises), 3 hrs laboratory working.	
Pre-requisites:	Fluid Mechanics	
Frequency:	Yearly in Spring semester	
Requirements for credit points:	For the award of credit points it is necessary to pass the module exams, The module exam contains: Written exam – Med term : 15% quizzes + other activities : 10% Lab reports and discussions: 15% Written exam- Final exam: 50% Lab Exam –Final discussion: 10% Student's attendance is required in all classes. Students with more than 10% absent records and/or effort less than 20% [at least 10% from Theoretical Part and 10% from Lab.] are not allowed to enter the final exam Lab attendant and lab work is a must.	
Credit point:	5	
Grade Distribution:	The Grade is generated from the examination result(s) with the following weights (w): Theoretical Part "w": 75% Practical Part "w" : 25% Effort: 40 % [25% Theoretical “15% midterm exam+10% quizzes + other activities” and 15% Practical “Lab. Reports”] Final : 60 % [50% Theoretical + 10 % Practical] Note: Students allow attending Final Exam if he/she collects 20% degree efforts [at least 10% from Theoretical & 10% from Lab.]	
Work load:	The workload is 135 hrs. Face to face learning: 4×15=60 hrs. Self-learning: 135-60 = 75 hrs. [Should be fulfilled by students through homework, reports, software learning, ..etc]	