



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

ME445 Thermo Fluids Lab
Summer Semester 2022-2023

Course Catalog
1 Credit Hours. Experiments on thermo-fluid systems including: pipe flows, flow meters, hydrostatic forces, pump performance, jet forces, thermal conductivity, heat transfer coefficients, heat exchanger performance, air-conditioning processes, refrigeration cycles, boiling and condensation, and steam devices.. (1.0 Cr.)

Instructor	
Name	Prof. SAUD KHASHAN
Office Location	-
Office Hours	
Email	sakhashan@just.edu.jo

Class Schedule & Room
Section 3: Lecture Time: Sun, Tue : 14:00 - 17:00 Room: LAB

Prerequisites		
Line Number	Course Name	Prerequisite Type
253431	ME343 Fluid Mechanics	Prerequisite / Study
253220	ME322 Thermodynamics (2)	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Flow measuring	
Week 2	Center of pressure	
Week 3	Impact of jet	

Week 4	Pipe flow	
Week 5	Centrifugal pump performance curves	
Week 6	Pump parallel and series	
Week 7	Thermal conductivity	
Week 8	Cross flow heat exchanger	
Week 9	Air conditioning unit	
Week 10	Refrigeration cycle	
Week 11	Boling and condensation	
Week 12	Heat exchanger	
Week 13	steam bench	

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
an ability to develop and conduct appropriate experimentation related to thermos-fluid systems, analyze and interpret data, and use engineering judgment to draw conclusions. [1SLO6]	65%	
an ability to communicate effectively by technical reports [1SLO3]	10%	
an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics [1SLO1]	25%	

Relationship to Program Student Outcomes (Out of 100%)																	
A	B	C	D	E	F	G	H	I	J	K	SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7
											25		10			65	

Evaluation	
Assessment Tool	Weight
Midterm	30%
Reports	30%
Final	40%

Policy

Each experimental activity must be reported in a written report

Structure of the report

1- abstract (5 marks)

2- introduction (10 marks)

3- theory (10 marks)

4- apparatus and procedure (10 marks)

5- data and calculation (40 marks)

6- tables and figures (10 marks)

7- discussion (10 marks)

8- conclusion (5 marks)

Date Printed: 2023-09-18