Jordan University of Science and Technology

Faculty of Engineering

Industrial Engineering Department

IE214 Fluids And Thermal Sciences - JNQF Level: 7
Second Semester 2023-2024

Course Catalog
3 Credit Hours. 3 Credit hours (3 hrs. lectures). The course covers fluid properties, flow classifications, fluid statics, conservation of mass equations, conservation of momentum equations, and conservation of energy equations. The course also covers properties of pure substances, P-V-T phase diagrams, property tables, first and second law of thermodynamics, one-dimensional steady-state conduction, free convection, and radiation heat transfer.
Teaching Method: Blended

Text Book	
Title	Fundamentals of Thermal-Fluid Sciences. Y.A. Cengel, R.H. Turner, J.M Cimbala. 3rd Ed. Mc Graw Hill; 2008
Author(s)	Y.A. Cengel, R.H. Turner, J.M Cimbala.
Edition	3rd Edition
Short Name	Thermal Fluid Sc.
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Therm. Eng. App.	Thermodynamics An Engineering Approach. Y.A. Cengel, M. A. Boles. 4th Ed. Mc Graw Hill; 2002	Y.A. Cengel, M. A. Boles	4th Edition	
Intro Fluid Mech	2. Introduction to Fluid Mechanics. R.W. Fox, A.T. McDonald, P.J. Pritchard. 6th Ed. John Wiley &Sons, Inc. ; 2004	R.W. Fox, A.T. McDonald, P.J. Pritchard.	6th Edition	
Intro. Heat transfer	Introduction to Heat Transfer. F.P. Incropera, D.P. DeWitt. 4th Ed. John Wiley &Sons, Inc. ; 2002	F.P. Incropera, D.P. DeWitt.	4th Edition	

Instructor	
Name	**Dr. Tarek Qasim**
Office Location	E1 L-2
Office Hours	
Email	tqqasim@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Mon : 11:30 - 13:00 Room: C3017

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
911020	CHEM102 General Chemistry (2)	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Weeks 1, 2, 3, 4	Thermoddynamic	From **Thermal Fluid Sc.**
Weeks 5, 6, 7, 8	Heat Transfer	From **Thermal Fluid Sc.**
Weeks 9, 10, 11, 12	Fluid Mechanics	From **Thermal Fluid Sc.**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Apply knowledge of mathematics, science, and engineering principles in solving industrial problems. [1SO1] [1L7K1]	65%	First Exam, Second Exam, Final Exam
Recognize the impact of engineering solutions on industry, society, and the environment. [1SO7] [1L7C4]	35%	First Exam, Second Exam, Final Exam

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
65						35

Relationship to NQF Outcomes (Out of 100%)	
L7K1	L7C4
65	35

Evaluation

Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

Policy	
Attendance	Attendance will be checked at the beginning of each class. University regulations will be strictly followed for students exceeding the maximum number of absences, which is 20% of the total course's hours. No make-up test will be given without an official university-approved excuse.
Student Conduct	It is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Cheating will not be tolerated in this course. University regulations will be pursued and enforced on any cheating student.

Date Printed: 2024-02-19