



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

Course name and number:

AE321 Thermodynamics

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. Yazan Taamneh
Office location	N1-L2
Email address	ymtaamneh@just.edu.jo

Textbook and other supplemental materials:

Textbook			
Title	Thermodynamics An Engineering Approach		
Author(s)	Yunus A. Cengel, Michael A. Boles		
Edition	8 th Edition		
Other Information	McGrawHill		
References			
Book Name	Author(s)	Edition	Other Information

Course information:

Course Catalogue		
This course introduces students to the study of properties and behavior of a pure substance, First law and second law analysis applied to different systems and control volumes, thermodynamics applications.		
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 / Pass
902030	MATH203 Ordinary Differential Equations	Prerequisite / Pass
911020	CHEM102 General Chemistry (2)	Prerequisite / Pass



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Specific goals of the course :

Specific outcomes of instruction and the student outcomes (SO) mapping		
Outcomes	SO Mapping	Course Outcome Weight (Out of 100%)
Understanding underlying principles of engineering thermodynamics .	20SO 1, 5SO 4, 5SO 7	30%
Understanding, studying and applying the basics laws of thermodynamics .	20SO 1, 5SO 4, 5SO 7	30%
Understanding the principles of basic steam power and refrigeration .	30SO 1, 5SO 4, 5SO 7	40%

Brief list of topics to be covered:

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Basic concepts of thermodynamics	Chapter 1, 2 from Textbook
Weeks 2, 3	Properties of pure substances	Chapter 3 from Textbook
Weeks 4, 5	Energy transfer by heat , work, and mass	Chapter 4 from Textbook
Weeks 6, 7, 8	The first law of thermodynamics	Chapter 5 from Textbook
Weeks 9, 10 11	The second law of thermodynamics	Chapter 6 from Textbook
Weeks 12, 13	Entropy	Chapter 7 from Textbook
Weeks 14, 15, 16	Applications	Handouts from Textbook