



JORDAN UNIVERSITY OF SCIENCE & TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT
ME 524 Fuel and Combustion
Semester

Catalog Data - 2013 :	3 Credit hours (3 h lectures). Fuel properties and handling, combustion thermodynamics, chemical equilibrium, introduction to chemical kinetics, combustion in internal combustion engines		
References	Ashley Campbell, "Thermodynamic Analysis of Combustion Engines" Charles Taylor , "The Internal Combustion Engine in Theory and Practice" K. K. Kuo, "Principles of Combustion"		
Instructor:	_____		
Office Hours:	_____		
Pre/Co-Requisites:	ME 322		
Outcomes:	Introduce fuel classification and properties Apply energy analysis of a combustion system Perform chemical equilibrium analysis for a combustion system Study the reaction rate of a combustion system Study the combustion mechanism in spark ignition engines Study the combustion mechanism in compression ignition engines		
Topics Covered:	Fuel Classification Combustion Thermodynamics Chemical Equilibrium Chemical Kinetics Combustion in S. I. Engines, Normal Combustion, Detonation Combustion in Diesel Engines Fuel Requirements for S. I. Engines Fuel Requirements for C. I. Engines		
Evaluation:	First Exam	on Tue 1/11/2016 at 4:15	30 %
	Second Exam	on Sun 4/12/2016 at 4:15	30 %
	Final Exam	according to schedule	40 %

Relationship of the Course to ME Outcomes:

ABET a – k	√	Level (L, M, H)	Mechanical Eng. Program Outcomes
a	√		a. Apply knowledge of mathematics, science, and engineering in practice.
b			b. Design and conduct experiments as well as analyze and interpret data.
c			c. Design a system, components, or process to meet desired needs.
d			d. Function on multidisciplinary teams.
e	√		e. Identify, formulate, and solve engineering problems.
f			f. Understanding of professional and ethical responsibility of an engineer.
g			g. Communicate effectively.
h			h. Broad education to understand the impact of engineering solutions in global and societal context.
i			i. Recognition of the need for, and possess the ability to engage in, lifelong learning.
j			j. Possess knowledge of contemporary issues.
k			k. Use the techniques, skills, and modern engineering tools necessary for engineering practice.

L: Low, M:Medium, H: High

ABET Category: Engineering Science 3 Credits
 Engineering Design 0 Credits

Prepared By: _____

Date: _____

Rules and notes:

- 1) Never come late to the classroom, you will disturb your mates and your instructor if you do so and will be considered absent.
- 2) Turn OFF your cell phones during the class.
- 3) **DO Not TALK** during the class please, unless you have a question for me.
- 4) Make up exams are not held without an official signed and approved excuse from the **Department Chairman**. Please understand that this is a university law and I have no control over it.
- 5) Office hours are the hours I dedicate for you to ask me. If you think they do not suit you, then we can still arrange for a time of our convenience by sending an e-mail to me (you should expect an approval from my side).
- 6) The exams specified on the course syllabus are not subject to negotiations or change once approved by you **TODAY**. It is your responsibility to inform the other instructors about your assigned exams.
- 7) Files will be posted on **e-learning** and you are only allowed to contact me through the **e-learning email**. Contacting me through **Facebook** is prohibited.
- 8) You are not allowed to post my **emails** content on **Facebook** without my **prior permission**.