The University of Jordan School of Engineering										
D) Departm	ent	Cou	rse Name	;	Course Number		Semester		
		gineering	Energy	Conversi	on	0904459				
			2019 C	ourse Ca	talog Descri	ption				
combus thermal Introdue	stion in s power p	team pow plants. Ov direct en	ources and utilizativer plants. Steam generation of the second strain of the second strain of the second strain system of the second strain st	ion, Ener nerators. e energy s /stems, T	gy growth ar Boiler rating a sources with er hermoelectric,	nd economi nd performa mphasis on	ance. Ei solar an	nvironme d wind e	ntal aspects of nergy systems.	
				Inst	ructors					
Name		E-mail Sec Office			Hours		Lecture Time			
	maine		L'-man	bee						
			-		Books					
				ext book				t by the Instructor		
Title	<pre>/ ``</pre>			Principles of Energy Conversion				-learning		
Author(Edition	Archie W. Culp McGraw-Hill, 1991, 2 nd Edition							
Publish	er, Year,	Ealtion	McGraw-Hill, 1991							
	1				rences					
Books			ineering of Thermal 1	Processes,	by John Duffie	and William	Beckm	an, John	Wiley, 2014, 4 th	
Journal	a	edition								
Internet		www.men	nr goy jo							
munu	t miks		org/statist/index.htm							
w		www.iner								
		www.eia.	a.doe.gov/emeu/cabs/east-med/background							
www.worl			ldbank.org							
				Prere	quisites					
_	iisites by	-	 Basic thermodynamic concepts such as systems and properties; energy, work and heat. Thermal power cycles. Vapor and gas mixtures. Chemical reactions of combustion. Basics of fluid mechanics and heat transfer. 							
Prerequisites by course			Thermodynamics (2) 0904342							
	<u>iisites by</u>	course	-							
Prerequ	isite for		-							
				Topics	Covered					
	1			_				-		
Week			Topics			Chapter in	Text		Sections	
1, 2			cation, resources and u			Chapter 1	Text	1.1, 1.4,		
1, 2 3, 4	2. Princ	ipal fuels f	cation, resources and u for energy conversion.			Chapter 1 Chapter 2	Text			
1, 2 3, 4 5,6,7	2. Princ 3. Produ	pipal fuels fuction of the	cation, resources and u for energy conversion. nermal energy.			Chapter 1	Text			
1, 2 3, 4	2. Princ 3. Produ	ipal fuels f	cation, resources and u for energy conversion. nermal energy.			Chapter 1 Chapter 2	Text			
1, 2 3, 4 5,6,7	 2. Princ 3. Produ 4. Fossi 	ipal fuels f uction of th l fuel syste	cation, resources and u for energy conversion. nermal energy.			Chapter 1 Chapter 2 Chapter 3				
1, 2 3, 4 5,6,7 8,9,10	 Princ Produ Produ Fossi Envin 	ipal fuels fuction of the local system of the	cation, resources and u for energy conversion. nermal energy. ems.	operation		Chapter 1 Chapter 2 Chapter 3 Chapter 4				

15	8. Solar energy.				(Chapter 2 & 8	& 8 2.5, 8.4			
16	9. Geothermal energy.					Handout				
	10. Energy storage and conservation.					Chapter 9				
Mapping of Course Outcomes to ABET Student Outcomes										
SO					rse Outcomes					
4	1. The ability to deal with engineering standards and most of the following constraints in engineering design: economic, health and safety, environmental, ethical, social, political, manufacturability, sustainability.									
7	7 2. An ability to find, evaluate and use resources to learn independently.									
				Evalu	ation					
Asse	essment To	ools	Expecte	d Due Date				Weight		
Sen	nester Wo	ork						60 %		
Fina	al Exam									
Contribution of Course to Meet the Professional Components										
The course contributes to learning the energy forms and conversion processes.										
			Relat	tionship to St	tudent Outco	omes				
	SOs	1	2	3	4	5	6	7		
Ava	ilability				Х			Х		
ABET Student Outcomes (SOs)										
1	An abili	ty to identify	, formulate, a	nd solve com	plex engineer	ing problems	by applying	principles of		
	engineer	ing, science, a	nd mathematic	cs						
2										
	public he	ealth, safety, a	nd welfare, as	well as global	, cultural, socia	al, environmen	tal, and econo	mic factors		
3										
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed									
	judgments, which must consider the impact of engineering solutions in global, economic, environmental,									
	and societal contexts									
5	An ability to function effectively on a team whose members together provide leadership, create a									
	collaborative and inclusive environment, establish goals, plan tasks, and meet objectives									
6		-			experimentation	on, analyze ar	nd interpret d	ata, and use		
	engineering judgment to draw conclusions									
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies									
Updated by Dr. Bashar Qawasmeh, 2024										