

Zarqa University Faculty of Engineering Technology Mechanical Engineering Department

	0905481 Heating Ventilation and A air Conditioning (I)					
	3 Credits Compulsory Fall 2016					
Course Information	Prerequisites by Course: Heat Transfer (I)					
Course information	Co-requisites by Course: -					
	Prerequisites for: Heating Ventilat	ion and Air conditioning (II)				
	Schedule: Lecture, 11:00-12:30, MW, L317					
Instructor	Prof. Dr. Bassam Al-Helou					
Contact Information	heloub@zu.edu.jo, Office L240, Phone: 05-3821100-2083					
Office hours	12:30-14:00M, 12:00-13:00T, 08:30-09:30W; or by appointment					
Textbook	Heating and Air Conditioning, Mohammad Alsaad					
References and	1. ASHRAE Hand Books.					
Resources	2. Heating Ventilating and A	r conditioning by F. McQuiston				
	and J. Parker, John Wiley, 6.ed 2013.					
Evaluation Criteria	Activity Percent (%)					
	Project	20				
	First Exam	15				
	Second Exam	15				
	Final Exam	50				
Course Description	Air Psychrometry, Moist air Prope	rties, Air conditioning system,				
1	Heat transfer in building, Indoor A	ir Quality, inside and outside				
	design conditions, HAVAC system	ns, Heating and cooling load				
	calculations. The course ensures the	hat students go through design				
	procedures for HVAC systems through practical project work.					
Intended Learning	Course Outc	Course Outcome [%]				
Outcomes	Deepen the student's understan	ding of the basics and 20%	6			
	concepts involved in HVAC ap	plications.				
	Develop the student's ability t	to obtain the moist air 20%	6			
	properties using the equations, correlations and tables,					
	and the Psychrometric Charts.					
	Develop the student's ability to do heating load and cooling 30%					
	load calculations using differen	t methods.				
	Extend the student's capabilities to	design a complete 30%	6			
	HVAC system including equip	ments selection.				
Relationships to	a. Ability to apply knowledge of n	nathematics, science, and				
Program Outcomes	engineering (H)					
	b. Design and conduct experiment	s as well as analyze and interpret	t			
	data (H)					
	c. Design a system, components, o	r process to meet desired needs				
	d. Function on multidisciplinary teams (M).					
	e. Ability to identify, formulate, and solve mechanical engineering					
	i Dessees knowledge of contemporary issues (II)					
	k. Ability to use the techniques, skills, and modern engineering tools					

	necessary for engineering practice (H)			
	1. Adhere to safety rules and regulations. (M)			
Contribution to the	Mathematics and Basic Sciences -			
Professional	Engineering Topics	Engineering Sciences	30%	
Components		Engineering Design	70%	
	General Education			
Course Outline	Subject		Hours	
	Moist Air Properties & Psychometric Chart		10	
	Comfort Conditions and Indoor Air Quality		5	
	Psychometric 5		5	
	Exam I (up to end of week 5)			
	Air Conditioning Processes		6	
	Indoor and outdoor design conditions		2	
	Heat Transfer in buildings		3	
	Exam II (up to end of week 11)			
	Heating Load Calculation		5	
	Hot water Heating System.		5	
	Under Floor heating Systems.		4	
	Review, Final Exam		3	
Policies:	Attendance			
	Attendance will be checked each class. Students are expected to			
	attend each lecture. University regulations will be strictly followed			
	for students exceeding the maximum number of absences.			
	Homework			
	- Homework assignments are due at the beginning of class the day			
	they are due.			
	- No late homework will be accepted unless prior arrangement			
	have been made with the instructor			
	- No make-up allowed on homework.			
	- You can consult each other regarding homework solution s			
	however each assignment must be your own solution. Verbatim			
	or duplicates assignments will be regarded as cheating.			
	Class participation and behavior			
	- Classroom participation is a part of learning; it is only by asking			
	questions and talking through ideas that you can come to fully			
	understand the material Disease do not anongo in babayian which datasets from the chility			
	- Please do not engage in behavior which detracts from the ability			
	of other students to learn. Such behaviors include arriving at			
	class late, speaking or whispering while the instructor and students are discussing ideas or asking questions, reading			
	students are discussing ideas or asking questions, reading			
	messages newspapers in class, cell-phones ringing, etc.			

Week	Date	Sec	Торіс	Homework	Due date
1	13/10/2014				
2	22/10/2014				
3	27/10/2014				
4	3/11/2014				
5	10/11/2014				
6	17/11/2014				
7	24/11/2014		Exam I (up to end of week 6)		
8	1/12/2014				
9	8/12/2014				
10	15/12/2014				
11	22/12/2014				
12	29/12/2014		Exam II (up to end of week 12)		
12	5/01/2015				
13	5/01/2015				
14	12/01/2015				
15	19/01/2015				
16	26/01/2015		Final Exam		