Philadelphia University

Faculty of Engineering - Department of Mechanical Engineering

Course Information

Title: Air Conditioning (0630522)

Prerequisite: Heat transfer 1

Credit Hours: credit hours (16 weeks per semester, approximately 44 contact hours)

Textbook: "Text Book: Heating, Ventilation and Air Conditioning
By: F. C. McQuiston, 6th ed.

References:

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- **ASHRAE Handbook, Fundamental Volume, American Society of Heating, Refrigeration and Air-Conditioning Engineers**
- **Principles of heating, ventilating, and air conditioning, By: H, J. Sauer, R. H. Howell, and W. J. Coad**
- **Heating and Air-Conditioning, By: M. Alsaad and M. Hammad**
- **Air Conditioning Engineering, By W. P. Jones**

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- Journal of Heat Transfer
- Journal of Fluids Engineering Journal of Heat Transfer
- International Journal of Refrigeration

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www.wiley.com/collegge/mcquiston

Instructor:

Dr. Shatha Ammourah, Associate professor.
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Course Topics

week	Basic and support material to be covered
(1)	Moist air properties and conditioning processes
(2)	Moist air properties and conditioning processes
(3)	Moist air properties and conditioning processes
	Moist air properties and conditioning processes
(4)	Comfort and health
(5)	Comfort and health
(6)	Comfort and health

(7)	**Heart transmission in buildings structure**
(8)	**Heart transmission in buildings structure**
(9)	**Heart transmission in buildings structure**
(10)	**Space heating load**
(11)	**Space heating load**
(12)	**Space heating load**
(13)	**Solar energy**
(14)	**Solar energy**
(15)	**Solar energy**
(16) **Final Examination**	**Tutorial and problem solving**

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should:

1.	Familiarize the students with the psychometric chart	[a, c, e, k]
2.	To carry on different air condition processes correctly	[e , a, b]
3.	To identify the IAQ according the given conditioned space	[a , e, k]
3	To calculate the heating and cooling loads.	[a , b, e, k]

Assessment Instruments:

Evaluation of students' performance (final grade) will be based on the following categories:

Exams: Two written exams will be given. Each will cover about 3-weeks of lectures

Quizzes: 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).

Homework: Problem sets will be given to students. Homework should be solved individually and submitted before the due date.

Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero mark for that homework

Participation: Questions will be asked during lecture and the student is assessed based on his/her response

Final Exam: The final exam will cover all the class material.

Grading policy:

First Exam	20%
Second Exam	20%
Homework	12%
Quizzes and participation	8%
Final Exam	40%
Total:	100%

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.