



Philadelphia University

Faculty of Engineering - Department of
Mechanical Engineering

Course Information

- Title:** Mechanical Systems for Architecture (620329)
- Prerequisite:** Building Construction II (660232)
- Credit Hours:** 3 credit hours (16 weeks per semester, approximately 44 contact hours)
- Textbook:** Engineering Mechanics-Dynamics, 14th edition, R. C. Hibbeler, 2017
- References:** Dynamics, 7th edition by J. Meriam and L. Kraig, 2014
- Catalogue Description:** To give the students the most important knowledge about all mechanical systems used in buildings.
- Instructor:** **Dr. Hasan AL Dabbas**
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Course Topics:

Week	Topic
1	-Introduction Basic definitions and terms. Introduction to buildings and their mechanical systems economics
2-3	HVAC fundamentals
4-5	Fuel storage and Selection Drainage systems design.
6	Sanitary fitments and appliances
7-8	Heating production equipment and systems
9-10	Pipe sizing hot water, cold waste, heating and sewage water
11-12-13	Cold water supply, plumbing materials and valves Hot water supply
14-15	Fire fighting networks
16	Accommodations for building services

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should be able to:

1.	Understand the basic concepts of buildings and their mechanical systems economics	[1, 3, 5]
2.	Design of hot and cold water supply. Water sources •	[1, 2, 5]
3.	Apply the above mentioned three basic concepts and to understand their respective advantages.	[1, 2, 3, 5]
4.	Understand the HVAC fundamentals	[1, 3, 4]
5.	Effectively communicate in writing an assignment and solve specified home works in teams .	[1, 3, 6]

Assessment Instruments:

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

Exams: Two in class written exams will be given. Each will cover about 5-weeks of lectures

Quizzes: At least 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%
Home works, Quizzes and participation	20%
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.