Philadelphia University

Faculty of Engineering - Department of Mechanical Engineering
First Semester 2017/2018

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: Plumbing Technology, By F. Hall, R. Greeno, 2009.Butterworth-Heinemann is an imprint Ltd,

References:
- Cold water supplies, drainage and sanitation, By F. Hall Longman scientific and te
  Building services and equipment, By F. Hall Longman scientific and technical
- Mechanical & Electrical systems in buildings. Janis &Tao, 4-th edition, Pearson Pr
  Hall2009.

Description: At completing this course the student should be able to understand the Design of l water supply. Water sources, Introduction to in buildings and their mechanical system ,HVAC fundamentals, Drainage systems. & Sanitary appliances ,Heating productio and systems ,Firefighting systems and Pipe sizing.

Instructor: **Dr.Hasan Al Dabbas**
Office: Mechanical Engineering building, room E61209 , ext. : 2134
Office hours: Sun., Tues., Thurs.: 10:00-11:00

Course Topics:

Week	Topic
1,2	Basic definitions and terms. Introduction to buildings and their mechanical systems economics.
3	Cold water supply, plumping materials and valves.
4	Hot water supply.
5	Heating Systems
6,7	Fuel storage and Selection
9	Drainage systems design.
10,11	Sanitary fitments and appliances
12	Heating production equipment and systems
13	Pipe sizing (hot water, cold waste, heating and sewage water)
14	Firefighting networks.
15	HVAC fundamentals
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.	Draw the free-body diagram for a particle or for a rigid body in plane motion.	[a, e, k]
2.	Understand the basic concepts of *force, mass and acceleration,* of *work and energy,* and of *impulse and momentum.*	[a, e, k]
3.	Apply the above mentioned three basic concepts and to understand their respective advantages.	[a , e, k]
4.	Explain the geometry of the motion of particles and plane motion of rigid bodies.	[a , e, k]
5.	Effectively communicate in writing an assignment.	[g]

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.

reports technical reports will be prepared during semester and it will cover any subject of material

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

Grading policy:

First Exam	20%
Second Exam	20%
Home works, Quizzes and reports	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.

September , 2017