The Hashemite University
Faculty of Engineering
Course Syllabus
Department of Mechanical Engineering

Course Title:	Building Services (3,0,0)	**Course Number:**	110402552
Designation:	Elective	**Prerequisite(s):**	110402310
Instructor:	Dr. Salem Nijmeh	**Email:drnijmeh@hu.edu.jo**	
Office Hours:	12:30-14:00 Monday and Wednesday		
Required Course:	2 1.5 hours lectures per week		

Course Description :
Water quality and treatment processes, Cold water supply, Plumbing fixtures and materials, hot water systems, soil and waste systems, drainage systems, rain disposal systems, fire control and protection systems.

Textbook(s) and/or Other Supplementary Materials:
W. Tao R. Janis, Mechanical and Electrical Systems in Buildings, Prentice Hall, Second Edition, 2001.

F.Hall, Plumbing: Cold Water Supplies, Drainage and Sanitation, Longman Scientific and Technical, Third Edition

References:
Jordanian Codes

Major Topics Covered:

Topic	# Weeks	# Contact hours*
Water quality and treatment processes	2	6
Cold water and boosted systems	2	6
Hot water systems	2	6
System sizing	1	3
Soil and waste systems	2	6
Drainage below ground systems	2	6
Fire control systems	3	9
Rainwater disposal systems	1	3
Total	**15**	**45**

*Contact hours include lectures, quizzes and exams

Specific Outcomes of Instruction (Course Learning Outcomes):
After completing the course, the student will be able to:

- Understand the concept of water quality and treatment processes. (h),(i),(j)
- Be familiar with different types of cold and hot water systems, Plumbing fixtures and fittings.(e)
- Be familiar with different types of soil and waste, drainage, rain disposal, fire control systems. (e),(h)
- Carry out design calculations of building services systems.(a),(c),(e),(k)
- Conduct a project and present it professionally(f),(g),(i) (j),(k)

Grading Plan:

Mid-term Exam	(30 Points)
Project and class work	(30 Points)
Final Exam	(40 Points)

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(a)	an ability to apply knowledge of mathematics, science, and engineering	M
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	H
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	H
(f)	an understanding of professional and ethical responsibility	M
(g)	an ability to communicate effectively	L
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	L
(i)	a recognition of the need for, and an ability to engage in life-long learning	M
(j)	a knowledge of contemporary issues	M
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	M
H=High, **M**= Medium, **L**=Low		

Prepared by: Dr. Salem Nijmeh **Date:** 18/09/ 2017