



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

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<b>Course Title:</b>	Building Services (3,0,0)	<b>Course Number:</b>	110402552
<b>Designation:</b>	Elective	<b>Prerequisite(s):</b>	110402310
<b>Instructor:</b>	Dr. Salem Nijmeh	<b>Email:</b>	<a href="mailto:drnijmeh@hu.edu.jo">drnijmeh@hu.edu.jo</a>
<b>Office Hours:</b>	12:30-14:00 Monday and Wednesday		
<b>Required Course:</b>	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:**

<b>Topic</b>	<b># Weeks</b>	<b># Contact hours*</b>
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
<b>Total</b>	<b>15</b>	<b>45</b>

\*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
<b>General Engineering Student Outcomes</b>		
(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
<b>H=High, M= Medium, L=Low</b>		

**Prepared by:**

Dr. Salem Nijmeh

**Date:**

18/09/ 2017