



Course Specifications:
ARE7324 - Sanitary Engineering



1. Basic Information

Program Title	Architectural Engineering
Department offering the Program	Architectural Engineering
Department Responsible for the Course	Architectural Engineering
Course Title	Sanitary Engineering
Course Code	PWE7324
Year/ Level	Third Year – Second Semester
Specialization	Major
Authorization date of course specification	2005

Teaching Hours	Lectures	Tutorial	Practical
	2	2	0

2. Course Attributes:

No.	Attribute
04	Identify, formulate and solve fundamental engineering problems.
08	Consider the impacts of engineering solutions on society & environment.
09	Demonstrate knowledge of contemporary engineering issues.

3. Intended Learning Outcomes (ILOs):

a. Knowledge and Understanding:

No.	Knowledge and Understanding
A ₀₃	Characteristics of engineering materials related to the discipline.
A ₀₆	Quality assurance systems, codes of practice and standards, health and safety requirements and environmental issues.
A ₀₈	Current engineering technologies as related to disciplines.
A ₁₄	Principles of building technologies, structure & construction methods, technical installations, properties of materials, and the way they may influence design decisions.
A ₁₅	Fundamentals of building acquisition, operational costs, and of preparing construction documents and specifications of materials, components, and systems appropriate to the building.

b. Intellectual Skills

No.	Intellectual Skills
B ₁₇	Solve engineering problems, often on the basis of limited and possibly contradicting information.
B ₂₀	Discuss, search and formulate informed opinions appropriate to specific context and circumstances affecting architecture profession & practice.

c. Professional Skills



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No.	Professional Skills
C ₀₈	Apply safe systems at work and observe the appropriate steps to manage risks.
C ₁₀	Apply quality assurance procedures and follow codes and standards.
C ₂₀	Provide leadership and education to the client particularly with reference to sustainable design principles.

D. General Skills

No.	General Skills
D ₀₁	Collaborate effectively within multidisciplinary team.
D ₀₆	Manage tasks and resources efficiently.
D ₀₈	Acquire entrepreneurial skills.

4. Course Contents:

No.	Topics
1	مقدمة فى الهندسة الصحية
2	اسس الهندسة الصحية
3	عمليات الصرف والامداد بالمياه
4	تطبيقات عامة

5. Teaching and Learning Methods:

5.1 Normal Students:

No.	Teaching Method	Choice
1	Lectures	√
2	Discussion Sessions	√
3	Information Collection from Different Sources	√
4	Practical	×
5	Research Assignment	√
6	Field Visits	√
7	Case Studies	√
8	Smart Sessions	√

5.2 Disable Students:

No.	Teaching Method	Reason
1	Presentation of the course in digital material.	Better access any time.
2	Web communication with students	Better communication with certain cases.
3	Asking small groups to do assignments; each composed of low, medium, and high performance students.	Knowledge and skills transfer among different levels of students.
4	Asking disabled students to do PowerPoint/Poster	Encouraging disabled



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	presentations.	students' engagement and interaction.
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5.3 Excellent Students:

No.	Teaching Method	Reason
1	Developing course materials gradually to allow excellent students to receive teaching that meets their needs	Excellent students rely on excellent teaching
2	Encouraging students to participate in competitions with rewarded bonus marks.	Increasing excellent students' competitiveness

6. Student Assessment:

6.1 Student Assessment Methods:

No.	Assessment Method	Choice	ILOs
1	Mid Term Examination	√	A ₀₃ , A ₀₆ , B ₀₇ , B ₂₀ , D ₀₁
2	Oral Examination	√	-
3	Practical Examination	×	-
4	Semester work	√	A ₀₈ , C ₀₈ , C ₁₀ , C ₂₀ , D ₀₆
5	Other types of assessment	×	-
6	Final Term Examination	√	A ₁₄ , A ₁₅ , B ₀₇ , B ₂₀ , C ₁₀ , C ₂₀ , D ₀₁ , D ₀₆ , D ₀₈

6.2 Assessment Schedule:

No.	Assessment Method	Weeks
1	Mid Term Examination	8
2	Oral Examination	×
3	Practical Examination	×
4	Semester work	4 th , 6 th , 10 th , 12 th
5	Other types of assessment	×
6	Final Term Examination	14

6.3 Weighting of Assessments:

No.	Assessment Method	Weights
1	Mid Term Examination	10%
2	Oral Examination	-
3	Practical Examination	-
4	Semester work	20%
5	Other types of assessment	-
6	Final Term Examination	70
Total		100%



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7. List of References

No.	Reference List
1	التركيبات الصحية في المباني - تشييد المباني الجزء الثالث - فاروق عباس حيدر

8. Facilities Required for Teaching and Learning:

No.	Facility	Choice
1	Lecture Classroom	√
2	Lab Facilities	×
3	White Board	√
4	Data Show System	√
5	Visualizer	×
6	Smart Board	√

No.	Facility	Choice
7	Wireless Board	×
8	Presenter	√
9	Sound System	√
10	Wire-Internet	×
11	Wireless Internet	√
12	...	

9. Matrix of Knowledge and Skills of the Course:

No.	Topic	Attributes	Knowledge & Understanding	Intellectual Skills	Professional Skills	General Skills
1	مقدمة في الهندسة الصحية	04	A ₀₃ , A ₀₆	B ₀₇	-	-
2	اسس الهندسة الصحية	08	A ₀₈ , A ₁₄	B ₀₇	C ₀₈ , C ₁₀	D ₀₁
3	عمليات الصرف والامداد بالمياه	08	A ₀₈	B ₂₀	C ₁₀	D ₀₁ , D ₀₆
4	تطبيقات عامة	08, 09	A ₁₄ , A ₁₅	B ₀₇ , B ₂₀	C ₀₈ , C ₂₀	D ₀₁ , D ₀₆ , D ₀₈

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Date of Approval: