



Course Specifications:
ARE7316 – Elective 01 - Computer Applications



1. Basic Information

Program Title	Architectural Engineering
Department offering the Program	Architectural Engineering
Department Responsible for the Course	Architectural Engineering
Course Title	Elective 01 - Computer Applications
Course Code	ARE7316
Year/ Level	Third Year – First Term
Specialization	Major
Authorization date of course specification	2005

Teaching Hours	Lectures	Tutorial	Practical
	2	2	0

2. Course Attributes:

No.	Attribute
05	Use the techniques, skills, and appropriate engineering tools, necessary for engineering practice and project management.
08	Consider the impacts of engineering solutions on society & environment.
15	Demonstrate knowledge of cultural diversity, differences and the impact of a building on community character and identity.

3. Intended Learning Outcomes (ILOs):

a. Knowledge and Understanding:

No.	Knowledge and Understanding
A ₀₄	Principles of design including elements design, process and/or a system related to specific disciplines.
A ₁₅	Fundamentals of building acquisition, operational costs, and of preparing construction documents and specifications of materials, components, and systems appropriate to the building.
A ₂₃	Principles of sustainable design, climatic considerations, and energy consumption and efficiency in buildings and their impacts on the environment.

b. Intellectual Skills

No.	Intellectual Skills
B ₀₃	Think in a creative and innovative way in problem solving and design.
B ₁₅	Predict possible consequences, by- products and assess expected performance of design alternatives.
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 ₁₇	Demonstrate professional competence in developing innovative and appropriate solutions of architectural and urban problems.
C ₂₂	Contribute positively to the aesthetic, architecture and urban identity, and cultural life of the community.

d. General Skills

No.	General Skills
D ₀₃	Communicate effectively.
D ₀₆	Manage tasks and resources efficiently.
D ₀₉	Refer to relevant literature effectively.

4. Course Contents:

No.	Topics
1	Course Orientation
2	Evaluation methods
3	Analytic methods of information retrieval
4	Comparison methods
5	Comparison methods
6	statistical methods
7	Visual preferences methods
8	Cost analysis methods
9	Evaluation of performance methods
10	Evaluation program (Goal Program)

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



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		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 presentations.	Encouraging disabled students' engagement and interaction.

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 ₀₄ , A ₁₅ , A ₂₃ , C ₁₇ , C ₂₂ .
2	Oral Examination	×	-
3	Practical Examination	×	-
4	Semester work	√	A ₀₄ , A ₁₅ , A ₂₃ , B ₀₃ , B ₁₅ , B ₂₀ , C ₁₇ , C ₂₂ , D ₀₃ , D ₀₆ , D ₀₉ .
5	Other types of assessment	×	-
6	Final Term Examination	√	B ₀₃ , B ₁₅ , B ₂₀ , C ₁₇ , C ₂₂ .

6.2 Assessment Schedule:

No.	Assessment Method	Weeks
1	Mid Term Examination	08 th
2	Oral Examination	×
3	Practical Examination	×
4	Semester work	2 nd -7 th ; 09 th – 14 th
5	Other types of assessment	×
6	Final Term Examination	15 th

6.3 Weighting of Assessments:

No.	Assessment Method	Weights
1	Mid Term Examination	10%
2	Oral Examination	-
3	Practical Examination	-
4	Semester work	20%



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5	Other types of assessment	-
6	Final Term Examination	70%
Total		100%

7. List of References

No.	Reference List
1	Guzowski, M. Daylighting Sustainable Design. McGraw Hill, Co., 2000.
2	Cliff Moughtin, Urban Design: Green Dimension, 2000.
3	Brown, G. Z. Sun, Wind and Light: Architectural Design Strategies. John Wiley and Sons Inc., 2000.
4	Curran, R. Architecture & the Urban Experience. N.Y. Van Nostrand Reinhold, 1984.
5	The course notes are to be prepared by groups of students after constant reviewing by the course coordinator.

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	Course Orientation	05	A ₀₄	-	-	-
2	Evaluation methods	05	A ₀₄	-	-	-
3	Analytic methods of information retrieval	05	A ₁₅ , A ₂₃	-	-	-
4	Comparison methods	05	A ₁₅ , A ₂₃	-	-	-
5	Comparison methods	08	A ₂₃	-	-	-
6	statistical methods	08	A ₂₃	-	-	-
7	Visual preferences methods	05, 08, 15	A ₂₃	B ₀₃ , B ₁₅ , B ₂₀	C ₁₇ , C ₂₂	-
8	Cost analysis methods	05, 08	A ₂₃	B ₂₀	C ₂₁	D ₀₃
9	Evaluation of performance methods	15	A ₂₃	B ₁₅ , B ₂₀	C ₂₂	D ₀₃ , D ₀₉
10	Evaluation program (Goal Program)	15	A ₂₃	B ₂₀	C ₂₂	D ₀₃ , D ₀₉

Course Coordinator: Dr. Ashraf Fouad Hafez Ismail



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Head of Department: Professor Dr. Mohammad Mohammad Taha Al-Azab

Date of Approval: