University/Academy: Arab Academy for Science, Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: B.Sc. Architectural Engineering and Environmental Design

Form no. (12): **Course Specification**

1- Course Data

Course Code: **AR 414**	Course Title: **Architectural Design 4**			Academic Year/Level: **4th** year / **7th** semester
Specialization: **Architecture**	No. of Instructional Units			Prerequisite
	Credit **4**	Lecture **2**	Tutorial **6**	**AR313**

2- Course Aim

This course is a practical application of the environmental design elements that the students studied in the Environmental Studies 1 course. The development of architectural concept, character and language is of particular importance. Course material combined with an understanding of appropriate environmental systems is a must. **Environmental awareness and sustainability** are studied and addressed throughout the course and within given projects.

The course aims to:

- Enhance the student with practical skills to apply environmental design and sustainability techniques and use the natural solar and ventilation characteristics of the local environment to inform the building design.
- Encourage the minimization of use and dependency on consumptive non renewable energy sources.
- Encourage the student to interact with the function of the project, local architectural character and identity.

3- Intended Learning Outcomes

a- Knowledge and Understanding	**Through knowledge and understanding, students will be able to:** • Illustrate the role and responsibility of the architect in creating sustainable environment suitable for the social, economic and cultural requisites • Demonstrate understanding of the relationship between buildings and their environments. • Establish a contextual approach to problem solving and incorporating the study of the surrounding built environment.
b- Intellectual Skills	**Through intellectual skills, students will be able to:** • Determine and address the issues raised by analysis of both the brief and the physical, social and cultural context of an architectural project, then weigh up how such concerns should affect the development and refinement of design proposals. • Suggest a variety of design ideas and ambitions, then investigate how they can be articulated and refined in the design process. • Conclude how an integrated response to environmental concerns has determined the design strategy. • Evaluate and learn from the work of others.
c- Professional Skills	**Through professional and practical skills, students will be able to:** • Produce drawings using the conventions of architectural representation in appropriate media to explore, test and convincingly communicate design ideas. • Conduct architectural research that uses technical, historical and theoretical literature effectively. • Use IT Skills in a relevant and creative manner for design, analysis and communication.

d- General Skills	**Through general and transferable skills, students will be able to:** • Write structural reports in accordance with standard guidelines. • Present research in seminars and communicate in writing, verbally and through drawings effectively. • Independently seek knowledge, set aims, targets, objectives and plan to meet them with a deadline (time management). • Adopt an open-minded approach in the appraisal of design issues, requirements and opportunities. • Listen and critically respond to the views of others. • Transfer techniques and solutions from one field of architecture to another.

4- Course Content

Week No.1	Project 1: Introduction and project definition.
Week No.2	Submission of the 1st research: Site analysis and local environment.
Week No.3	Sketch design (preliminary design concept).
Week No.4	Design development: plans.
Week No.5	Design development: elevations and sections.
Week No.6	Submission of the 1st project. Project 2: Introduction and project definition.
Week No.7	Continuation of the previous lecture and evaluation.
Week No.8	Submission of the 2nd research: Green architecture theories, and similar projects analysis.
Week No.9	Sketch design (preliminary design concept).
Week No.10	Design development: plans.
Week No.11	Design development: plans.
Week No.12	Continuation of the previous lecture and evaluation.
Week No.13	Design development: elevations and sections.
Week No.14	Design development: elevations and sections.
Week No.15	Submission of the 2nd project.

5- Teaching and Learning Methods

The course comprises a combination of:
Lectures class activities, seminars, analyzed examples and studio project work.

6-Teaching and Learning Methods for Students with Special Needs

- Consulting with lecturer during office hours.
- Consulting with teaching assistant during office hours.
- Private sessions for redelivering the lecture contents.
- For handicapped accessibility, please refer to program specification.

7- Student Assessment

Students must present two projects per semester, two one-day duration projects and a six-hour exam.
Students have to present a portfolio during the final jury which will demonstrate the learning outcomes throughout the academic semester and a selection of previous phases of the projects in appropriate form of documentation and presentation. Methods of documentation may include: drawings; photographic material; multi-media material; quantitative & qualitative data; 3D models or prototypes; web-based material. All presented materials and work should be recorded in graphic form and explained to a standard, suitable for assessment purposes.

Asses No.	Procedures used		Start Week No.	Subm. Week No.	Weighting of Asses.
	Type	To assess			
1	Research	Knowledge and practical skills Transferable skills	1	2	5%
2	Project	All skills	2	6	15%
3	One day project	Knowledge and practical skills Intellectual thinking skills		7	10%
4	Research	Knowledge and practical skills Transferable skills	7	8	5%
5	One day project	Knowledge and practical skills Intellectual thinking skills		12	15%
6	Project	All skills	8	15	10%
7	Practical exam.	Intellectual and practical skills		16	20%
8	Oral exam.	Transferable skills		16	20%
Total					100%

8- List of References:

a- Course Notes	Notes are handed out to the students throughout the semester.
b- Required Books (Textbooks)	• BAKER, Geoffrey, H., *Design Strategies in Architecture: An Approach to the Analysis of Form*, 2nd ed., Van Nostrand Reinhold, London, 1996.
c- Recommended Books	• WINES, James, *Green Architecture: The art of architecture in the age of ecology*, Taschen, London, 2000.
d- Periodicals, Web Sites, etc.	N/A