



**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: <b>AR 226</b>	Course Title: <b>Creativity and Innovation</b>	Academic Year/Level: <b>2<sup>nd</sup> year / 3<sup>rd</sup> semester</b>
Specialization: <b>Architecture</b>	No. of Instructional Units Credit <b>2</b> Lecture <b>1</b> Tutorial <b>3</b>	Prerequisite <b>None</b>

#### 2- Course Aim

This course presents an outlook to the process of creativity in design and to the innovative concepts influencing the process. It introduces various theories and models of creative thinking increasing student's awareness of creativity and innovation. The course helps students develop their ability to develop inspirational concepts, explore different medias to visualise and express their ideas think critically, and apply these both individually and in groups. The course involves practical application for different approaches and techniques enhancing a valuable practical skill.

**The course aims to:**

- Increase students awareness of creative modeling and techniques
- Enhance the students' practical skills in the application of 3D Archi-models.
- Stimulate creativity and imagination.

#### 3- Intended Learning Outcomes

<b>a- Knowledge and Understanding</b>	<b>Through knowledge and understanding, students will be able to:</b> <ul style="list-style-type: none"> <li>• Describe the creative and innovative process.</li> <li>• Explain vocabularies related to creative processes.</li> <li>• Describe styles of the masters of architecture from various periods and identify their work.</li> <li>• Describe forms and shapes.</li> </ul>
<b>b- Intellectual Skills</b>	<b>Through intellectual skills, students will be able to:</b> <ul style="list-style-type: none"> <li>• Compare between different styles, forms &amp; shapes.</li> <li>• Analyze different models and processes</li> <li>• Criticize and appreciate different styles of architectural master pieces.</li> </ul>
<b>c- Professional Skills</b>	<b>Through professional and practical skills, students will be able to:</b> <ul style="list-style-type: none"> <li>• Prepare 3D models.</li> <li>• Design complex forms and think creatively in the design process</li> </ul>
<b>d- General Skills</b>	<b>Through general and transferable skills, students will be able to:</b> <ul style="list-style-type: none"> <li>• Work coherently and successfully as part of a team in projects.</li> <li>• Independently seek knowledge, set aims, targets, objectives and plan to meet them with a deadline (time management).</li> <li>• Transfer techniques and solutions from one field to another.</li> <li>• Use various resources to acquire knowledge.</li> </ul>

#### 4- Course Content

<b>Week No.1</b>	Creativity & definitions Classical origins of creativity concepts, what is creativity
<b>Week No.2</b>	Creativity and the design process Map of the design process: first insight, preparation, incubation, illumination, achievement
<b>Week No.3</b>	Creativity and the design creative process <ul style="list-style-type: none"><li>- Wallis model of the creative process</li><li>- CPS model of Alex Osborn</li></ul>
<b>Week No.4</b>	Creativity and the brain <ul style="list-style-type: none"><li>- Models of the brain</li><li>- The triune brain (Paul Maclean)</li><li>- Left brain/ right brain (Roger Sperry)</li><li>- Four Quadrant model (Ned Hermann)</li></ul>
<b>Week No.5</b>	Creativity and association <ul style="list-style-type: none"><li>- Association theory, association as an incentive to stimulate creative design</li><li>- Association and concept axes choice</li><li>- Association and building a creative conceptual structure</li></ul>
<b>Week No.6</b>	Brainstorming and creative problem solving
<b>Week No.7</b>	Continuation of the previous lecture and evaluation.
<b>Week No.8</b>	Creativity and the masters of architecture: Santiago Calatrava
<b>Week No.9</b>	Creativity and the masters of architecture: Zaha Hadid
<b>Week No.10</b>	Creativity and the masters of architecture: Frank O'Gehry
<b>Week No.11</b>	Creativity and the masters of architecture Stephen Perella & Marcos Novak
<b>Week No.12</b>	Continuation of the previous lecture and evaluation.
<b>Week No.13</b>	Creativity and the masters of architecture: Hani Rashid & Lise Anne Couture
<b>Week No.14</b>	Projects Jury and conclusions
<b>Week No.15</b>	Projects Jury and conclusions

#### 5- Teaching and Learning Methods

The course comprises a combination of:  
Lectures, discussion sessions, practical training and example analysis.

## 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

Asses No.	Procedures used		Start Week No.	Subm. Week No.	Weighting of Asses.
	Type	To assess			
1	Project	Knowledge and practical skills	1	6	20%
	Written exam.	Knowledge and understanding		7	10%
2	Project	Knowledge and practical skills	8	14	20%
	Written exam.	Knowledge and intellectual skills		12	10%
4	Written exam.	Knowledge and intellectual skills		16	40%
<b>Total</b>					100%

## 8- List of References:

<b>a- Course Notes</b>	Notes are handed out to students at weekly intervals.
<b>b- Required Books</b> (Textbooks)	<ul style="list-style-type: none"> <li>• JOSEPH O'Connor, <i>The art of systems thinking: Essential skills for creativity and problem solving</i>, Barnes &amp; Noble, 1998.</li> <li>• KELLEY Tom, <i>Lessons in creativity from DEO, America's leading Design Firm</i> - Mc Graw Hill - New York - 2001.</li> </ul>
<b>c- Recommended Books</b>	<ul style="list-style-type: none"> <li>• GARDENER, H.E., <i>Creating minds: an anatomy of creativity seen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot and Graham</i>, Longman - 1994.</li> </ul>
<b>d- Periodicals, Web Sites, etc.</b>	N/A