Course Specifications
ARC 222: History & Theories of Architecture (2)

Program (s) on which the course is given:	B.Sc. in Architectural Engineering
Major or minor element of programs:	(Not Applicable)
Department offering the program:	Architectural Engineering Department
Department offering the course:	Architectural Engineering Department
Academic Level/Semester:	2nd Level-3rd semester
Date of specification approval:	September 2019

A- Basic Information

Title: History & Theories of Architecture (2) **Code: ARC 222**

Credit Hours: **2 Cr. Hrs.**
Contact Hours:
Lecture: **2 Hrs. /week**
Tutorial/Lab: **0 Hrs. /week**
Total: **2 Hrs. /week**
Prerequisite: N/A

B- Professional Information

1- Catalogue Course Description:

The course focuses on the methods of creative thinking. In addition, Student will learn about the relation between form and space and how to define space. Also, student will learn about circulation spaces and their characteristics.

2- Overall Aims of the Course:

The main Aims of the Course are to build the students' knowledge regarding:

- **a-** FRANCIS D. K. CHING (FORM, SPACE, AND ORDER)
- **b-** The anthropometric data and its relation to the space design
- **c-** The architectural space definers and functional manipulation
- **d-** The architectural space design process

3- Intended Learning Outcomes of the course (ILOs):

3.1. Program ILOs related to course:

A04. Demonstrate knowledge and understanding of the principles and theories of architectural design as process and product.

A05. Demonstrate knowledge and understanding of design problems, list client's needs& requirement's and gather relevant information.

A11. Demonstrate understanding and appreciation to the social, environmental, ethical and economic consideration and human factors affecting the exercise of architectural decision.

B02. Compare, analyze, and criticize different engineering problems and case

studies, evaluate design alternatives and conclude results based on analytical thinking.

B07. Solve architectural problems often on the basis of limited and possibly contradicting information

C04. Use different expression techniques to visualize ideas verbally and graphically, ether manually or digitally.

D07. Search for information and adopt life-long self-learning.

D09. Refer to relevant literatures.

3.2. Course Detailed ILOs:

a- Knowledge and Understanding:

By the end of this course the student should be able to:

a1. Define the relation between human dimensions and functional space needs.

a2. Define the different types of space definers.

a3. Define the design process.

a4. Differentiate between functional and circulation spaces.

a5. Point out space characteristics according to its definers and openings.

a6. Define the golden ratio and how it affects architecture building.

a7. List some of the creative thinking methods.

b- Intellectual Skills

By the end of this course the student should be able to:

b1. Think creatively

b2. Use critical methods to analyze architectural space

c- Professional and Practical Skills

By the end of this course the student should be able to:

c1. Use appropriate graphic techniques to point out space characteristics.

d- General and Transferable Skills:

By the end of this course the student should be able to:

d1. Search for information and adopt life-long self-learning.

d2. Refer to relevant literatures.

The course ILOs are mapped to the program ILOs in Table (1) in the Appendix.

4- Course ILOs versus Program ILOs relation:

See table [1]

5- Course Contents:

#	Topics	weeks
1	Architecture definition &Basics, Anthropometry (HUMAN) Measurements	1
2	Elements of Architecture: utilization- Service - Movement (vertical- horizontal)- Lighting - construction -Ventilation– aesthetic- process	3
3	*data gathering:* HUMAN (Measurements & Anthropometry) & Residential unit spaces	2
4	Primary Elements :Point -Line -From Line to Plane -Planar Elements -Volumetric Elements	1
5	Form Primary Shapes -Primary Solids -Regular & Irregular forms -Transformation of Form - Articulation of Form	2
6	Form & Space :Unity of Opposite- Form Defining Space (Horizontal &Vertical Elements Defining Space	1
7	Organization: Organization of Form & Space (Spatial -Centralized -Linear -Radial -Clustered -Grid)	1
8	Qualities of Architectural Space-	1
9	Ordering Principles: (Axis -Symmetry -Hierarchy - Datum -Rhythm -Repetition - Transformation)	1
10	Proportion & Scale Theories of Proportion:(Golden Section-Classical Orders-Modular -Anthropometry-Scale)	1
Total contact Hours		**28**

For the relation between the course contents and "intended learning outcomes" see Appendix, table (2)

6- Learning/Teaching Methods:

See Appendix, table (3)

7- Assessment

See Appendix, table (4)

8- Weighting of assessments:

- Final exam: ----------40%
- Year work:
  - In Class Quizzes----------25%
  - Researches + maquette----------25%
  - Participation----------10%

9- List of references:

1. FRANCIS D. K. CHING (FORM, SPACE, AND ORDER), third Edition, 2018.
2. Student lecture notes
3. Handouts

10- Facilities required for teaching and learning:

- Lecture room
- White board.
- Computer and Data show for presentations.
- Architectural Library

Course coordinator:	**Dr. Osama Elrawi**	
Head of Department:	**Prof. Dr. Samir Sadek Hosny**	
Date:	**September 2019**	
Course Instructor:		

Appendix (1)

Table (1): Course ILOs/Program ILO Matrix

		Program ILOs								
		A04	A05	A11	B02	B07	B16	C04	D07	D09
Course ILOs	a1.	●								
	a2.			●						
	a3.		●							
	a4.	●								
	a5.	●								
	a6.			●						
	a7.			●						
	b1.					●	●			
	b2.				●					
	c1.							●		
	d1.	●	●	●	●	●	●	●	●	●
	d2.	●	●	●	●	●	●	●	●	●

Table (2): Course Contents/Course ILO Matrix

Topic	a1	a2	a3	a4	a5	a6	a7	b1	b2	b3	c1	d1	d2
Architecture definition &Basics, Anthropometry (HUMAN) Measurements	●			●				●	●				
Elements of Architecture: utilization- Service - Movement (vertical- horizontal)- Lighting - construction -Ventilation– aesthetic- process	●	●	●	●	●	●	●	●	●	●	●	●	●
data gathering: HUMAN (Measurements & Anthropometry) & Residential unit spaces	●	●	●									●	●
Primary Elements: Point - Line -From Line to Plane -Planar Elements -Volumetric Elements					●			●			●		
Form Primary Shapes -Primary Solids - Regular & Irregular forms - Transformation of Form -Articulation of Form	●		●	●	●			●					
Form & Space: Unity of Opposite- Form Defining Space) Horizontal & Vertical Elements Defining Space	●		●	●	●			●					
Organization: Organization of Form & Space (Spatial - Centralized - Linear - Radial - Clustered - Grid)	●		●	●	●								
Qualities of Architectural Space	●		●	●	●			●				●	●
Ordering Principles: (Axis -Symmetry -Hierarchy - Datum - Rhythm -Repetition -Transformation)	●					●		●		●	●		
Proportion & Scale Theories of Proportion:(Golden Section-Classical Orders-Modular-Anthropometry-Scale)	●				●			●				●	●

Table (3): Learning-Teaching Method/Course ILO Matrix

Learning/Teaching Method	a1	a2	a3	a4	a5	a6	a7	b1	b2	c1	d1	d2
Interactive Lecture	●	●	●	●	●	●	●	●	●	●		
Research + maquette					●	●	●			●	●	●

Table (4): Assessment Methods/Course ILO Matrix and Final Exam Blueprint													
Assessment Method	Marks	a1	a2	a3	a4	a5	a6	a7	b1	b2	c1	d1	d2
Research & Maquette	25%					●	●	●			●	●	●
Participation & Assignments	10%								●	●	●		
In Class Quizzes	25%	●	●	●	●	●	●	●	●	●	●		
Written Exam	40 %	●	●	●	●	●	●	●	●	●	●		
Final Exam Mark Distribution		40%							40%		20%	0%	