FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Building Construction & Materials 2

Information :

Course Code :	ARC 242	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Architectural Engineering

Instructor Information :

Title	Name	Office hours
Lecturer	Hala Ali Nabil Mohamed Ali	3
Lecturer	Hala Ali Nabil Mohamed Ali	3
Assistant Lecturer	Aya Osama Ahmed Kamal Aly	1
Assistant Lecturer	BASMA MOHAMED NAGIB IBRAHIM KHALIFA	2
Assistant Lecturer	Aya Osama Ahmed Kamal Aly	1
Teaching Assistant	AYA TAREK IBRAHEM ABDELHADY AHMED	
Teaching Assistant	Kamal Abdeleziz Ali Selim	
Teaching Assistant	AYA TAREK IBRAHEM ABDELHADY AHMED	

Area Of Study :

The aims of this course are to:
Build the students awareness regarding:
o Stairs design rules and construction methods
o Some Arabic site jargon terms.
Train the student to:
o Draw some architectural details.
o Propose solutions for some basic constructional needs such as connecting or retaining different levels, bridging wall openings, and adding doors and windows.

Description :

Conventional Construction Method; Skeleton system. Using Reinforced Concrete to construct structural elements. Staircases rules and design. Retaining walls; concrete and masonry. Arches & Lintels, Doors and Windows.

Course outcomes :

a.Knowledge and Understanding: :

1 -	a1. Define active and passive loads that act on retaining walls.
2 -	a2. Define the structural theory that is applied in different retaining walls design.
3 -	a3. List different types of wooden doors according to the manufacturing method.
4 -	a4. Define the different structural concepts that are used to construct the RC stairs.
5 -	a5. List different site jargon terms that are related to arch construction.

b.Intellectual Skills: :	
1 -	b1. Select proper lintel type according to opening span, offering and limitations.
2 -	b2. Apply structural rule of thumb to design (schematically) retaining walls.
3 -	b3. Select proper retaining wall type according to retained height.
c.Professional and Practical Skills: :	
1 -	c1. Apply retaining walls _safely_ to retain levels differences.
2 -	c2. Apply arches and different lintels _according to their constructional material_ to bridge wall openings.
3 -	c3. Draw detailed engineering drawings to execute building elements such as arches, lintels, wooden doors, stairs, and retaining walls.
d.General and Transferable Skills: :	
1 -	d1. Manage time to meet deadlines.
2 -	d2. Refer to relevant literatures.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction: main conventional construction systems	4	2	2
Retaining Walls: Massive & Cantilever RC walls	8	4	4
Lintels & Arches	8	4	4
Stairs: U-Shaped staircase design	8	4	4
Stairs: Circular stairs Design	8	4	4
Stairs: Stones and RC stairs: Construction	12	6	6
Doors and Windows	12	6	6

Teaching And Learning Methodologies :

Class discussions.
Lectures.
Drawing exercises in the Design studios.
Research assignments and presentations.
Information collection from different sources.
Site visits and field trips.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments/Studio work	40.00		
Final exam	40.00		
In Class Quizzes	10.00		
Participation	10.00		

Course Notes :

No Course Notes.

Recommended books :

a) Ching, Francis D. K.; Building Construction Illustration, Wiley, 4th Ed.
b) Mckay's, W. B. et al; Building Construction, v. I
c) Ramsey, Sleeper; Architectural graphic standards, American Institute of Architects and Dennis J. Hall
d) Mitchell, George A.; Building Construction. v. I

Periodicals :

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Web Sites :

www.sweetscatscatalogue.com