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	Abdelrahman Mohamed Abdelkader Mousa	1
Lecturer	Tamer Samir Mahmoud Hamza Omar	
Assistant Lecturer	Bothaina Samih Ismail Abou El Khier	
Assistant Lecturer	Dina Mahmoud AbdelRashid Noseir	
Teaching Assistant	Kamal Abdeleziz Ali Selim	
Teaching Assistant	Aya Tarek Ibrahem Abdelhadi Ahmed	
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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		

Books :

Book	Author	Publisher
Building Construaction Handbook	Roy Chudley	Elsevier

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