FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Strength and Technology of Materials 2

Information :

Course Code :	SCM 312	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Professor	Mohamed Abdel Moaty Khalaf Mohamed	8
Assistant Lecturer	Youssef Ahmed Elsayed Kamaleldin Ahmed Awad	10
Assistant Lecturer	Noura Khedr Abdul raheem Ahmed	4

Area Of Study :

Upon successful completion of this course, the student should be able to:
- Understand the basic concepts and main principles
- Calculate the values of the essential terms

Regarding aggregates properties cement properties additives properties fresh concrete properties hardened concrete properties concrete mix

Description :

Concrete technology: mix design, properties of fresh and hardened concrete, dimensional changes, concrete manufacturing under severe weathering conditions, durability of concrete in aggressive environments, types and repair of cracks, fire resistance, repairing materials, special types.
Mechanics of engineering materials: stress/strain relations, Mohrâs strain circle, experimental mechanics, mechanisms and theories of failure, strength and behavior of materials under dynamic and repeated loading, high temperature, and creep, Technical Inspection and quality control: technical reports, statistical methods, in-situ testing, non-destructive testing.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Define the main terms of aggregates properties
2 -	Define the main terms of cement properties
b.Intellectual Skills: :	
1 -	Calculate the values of aggregates properties
2 -	Calculate the values of cement properties
3 -	Solve problems regarding fresh concrete properties
4 -	Assess issues of hardened concrete properties
5 -	Solve problems regarding concrete mix
c.Professional and Practical Skills: :	
1 -	Proceed test steps of the aggregates properties

2 -	Prepare technical reports for additives properties
3 -	Proceed test steps of the fresh concrete properties
4 -	Proceed test steps of the hardened concrete properties
5 -	Proceed test steps of the concrete mix
d.General and Transferable Skills: :	
1 -	Cooperate and communicate effectively

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
aggregates properties	10	6	0
cement properties	10	6	4
additives properties	10	6	4
fresh concrete properties	15	9	0
hardened concrete properties	15	9	0
concrete mix	10	6	0
Revision	5	3	2

Teaching And Learning Methodologies :

Interactive Lec.
Discussion
Problem Solving
Lab Exper.
Report / Present.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00		
Lab Exper.	10.00		
Mid- Exam I, II	30.00		
Quizzes / Assig.	10.00		
Report / Present.	10.00		

Course Notes :

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Recommended books :

-Textbook: - "Concrete Technology", A.M.Neville & J.J.Brooks
Additional References: - Handout notes on MOODLE

Periodicals :
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Web Sites :
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