

Faculty of Engineering & Technology

Properties & Strength of Materials

Information :

Course Code : SCM 215

Level : Undergraduate

Course Hours : 2.00- Hours

Department : Department of Architectural Engineering

Instructor Information :

Title	Name	Office hours
Associate Professor	Ahmed Farouk Mohamed Hassan Deifalla	2
Assistant Lecturer	Youssef Ahmed Elsayed Kamaleldin Ahmed Awad	6
Assistant Lecturer	Nada Mohamed Abd El Hamid Ali Mohamed	
Teaching Assistant	Mohamed Fathy Salem Mohamed	

Area Of Study :

- Demonstrate knowledge and understanding of specifications and standard specifications, loads (static – dynamic – repeated), testing machines, strain gauges, engineering materials (metallic – non-metallic), Main properties of engineering materials.
 - Understand the behavior of building materials (Stones, Bricks, Timber)
 - Understand the behavior of concrete materials (Portland Cement, Concrete Aggregates, Mixing water, Admixtures)
 - Understand the behavior of Fresh concrete and Hardened concrete
 - Know the required test for building materials subjected to certain load.
- The student shall attain the above mentioned objectives efficiently under controlled guidance and supervision during tutorial and lab classes.

Description :

Various building materials, their properties, testing and uses, Materials used in engineering products, Standards, Codes and inspections, The development of innovative uses of building materials, Concrete: components, manufacturing, quality control, Partitioning materials: gypsum, lime, timber and bricks, The effects of water on building materials

Course outcomes :

a.Knowledge and Understanding: :

1 -	Demonstrate knowledge and understanding of concepts and theories of basic applied and engineering sciences appropriate to architectural engineering.
2 -	Demonstrate knowledge and understanding of the basics of information and communication technology (ICT).

b.Intellectual Skills: :

1 -	Identify properties, advantages, disadvantages and acceptance criteria of
2 -	Recognizing different problems during construction and how to handle them
3 -	Identify the main properties of materials and factors affecting them.

c. Professional and Practical Skills: :

1 -	Assess the structural safety of an element subjected to given loads.
2 -	Perform necessary tests to check the validity of used materials .

d. General and Transferable Skills: :

1 -	Identify proper test for certain use.
2 -	Conduct materials tests.
3 -	Present test results.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to Properties and Testing of Materials.	3	3	-
Main Properties.	3	3	-
Building Stones.	7	3	4
Bricks.	5	3	2
Timber.	4	-	4
Portland Cement.	7	3	4
Concrete Aggregates.	7	3	4
Mixing water & Admixtures.	3	3	-
Properties of Fresh concrete.	6	6	-
Tests of Fresh concrete.	7	3	4
Properties of Hardened concrete.	6	6	-
Tests of Hardened concrete.	7	3	4

Teaching And Learning Methodologies :

Class Lectures.
Tutorials.
Lab.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments.	20.00		
Attendance.	10.00		
Final-term examination.	40.00		
First midterm exam.	15.00		
Second midterm exam.	15.00		

Course Notes :

-

Recommended books :

Concrete Technology” A.M. Nievelle.
“Concrete Technology” Mehta.
Egyptian standards.

Periodicals :

-

Web Sites :

-