Course Specifications (2011 - 2012)

A. Basic Information

Course Title	Properties & Testing of Materials (2-A)				Course Code:	CVE 212	
Lecture:	3	Tutorial:	2	Practical	1	Total	6
Programme (s) on which this course is given:				B.Sc. Civil Engineering (General)			
Major or minor element of program:			Major				
Department offering the program:			Civil Engineering				
Department offering the course:			Civil Engineering				
Academic Year of program:	Second			Level of program:		First Semester	
Date of specifications approval:				16/3/2010			

B. Professional Information

1. Overall aims of course

By the end of the course the students will be able to:

To be able to design normal concrete mixes using BRE and ACI methods - to be able to choose appropriate curing regime for different structure - to understand the evaluation of compressive strength of concrete.

2. Intended Learning outcomes of Course (ILOs)

a. Knowledge and Understanding:

a.3) Understand characteristics of engineering materials related to discipline.

a.5) Recognize methodologies of solving engineering problems, data collection interpretation.

a.6) define quality assurance systems, codes of practice and standards, health and safety requirements and environmental

b. Intellectual Skills

b.2) Select appropriate solutions for engineering problems based on analytical thinking.

b.9) Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact.
b.17) Assess and evaluate different techniques and strategies for solving engineering problems.

c. Professional and Practical Skills

c.10) Apply quality assurance procedures and follow codes and standards.
c.13) Use laboratory and field equipment competently and safely.
c.14) Observe record and analyze data in laboratory and in the field.

d. General and Transferable Skills

d.3) Communicate effectively.
d.7) Search for information and engage in life-long self learning discipline.

3. Contents

Week #	Topics	No. of Hours	ILOS	Teaching / learning methods and	Assessment method
1	Design of normal concrete mixes (Introduction and basic knowledge)	6	a3, a5	Lectures	Mid-term exam
			b2, b9, b17	Practical training / laboratory	Assignments
			c10, c13	Class activity	Report

2	Design of normal concrete mixes using BRE method	6	a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Report
			c13, c14	Class activity	Mid-term exam
			d3, d7	Tutorial	Other
3	Design of normal concrete mixes using ACI method	6	a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Report
			c13, c14	Class activity	Mid-term exam
			d3, d7	Tutorial	Other
4	Evaluation of test results of concrete	6	a3, a6	Lectures	Assignments
			b2, b17	Practical training / laboratory	Mid-term exam
			c13, c14	Class activity	Final exam
			d3, d7	Tutorial	Report
5	Quality control charts of test results	6	a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Mid-term exam
			c10, c14	Class activity	Report
6	Control standard of concrete	6	a3, a5, a6	Lectures	Assignments
			b2, b17	Practical training / laboratory	Report
			c13, c14	Class activity	Final exam
			d3, d7	Tutorial	Report
7	Membrane and water curing of concrete	6	a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
8	Midterm Exam		a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
9	Steam curing of concrete	6	a5, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
			a3, a6	Lectures	Assignments

10	Case study - report submittals	6	b9, b17	Practical training / laboratory	Report
			c10, c13	Class activity	Final exam
11	Hardened properties of concrete	6	a3, a4	Lectures	Assignments
			b9, b13, b15	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
12	In situ testing of concrete 1	6	a3, a4	Lectures	Assignments
			b9, b13, b15	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
13	In situ testing of concrete 2	6	a3, a4	Lectures	Assignments
			b9, b13, b15	Practical training / laboratory	Report
			c12, c13	Class activity	Final exam
14	Assessment of existing concrete structures	6	a3, a4, a6	Lectures	Assignments
			b2, b9, b17	Practical training / laboratory	Final exam
			c12, c13	Class activity	Final exam
			d3, d7	Tutorial	Report
15	Final Exam				
Total		**78**			

4- Teaching and Learning Methods:

Check using the symbol √

√	Lectures
√	Practical training / laboratory
	Seminar / workshop
	Class activity
√	Case study
	Project work
	Tutorial

	Computer based work
√	Other :

5- Student Assessment Methods:

Check using the symbol √

√	Assignments	to assess	a3, a5, a6	b2, b9, b17	c10, c13, c14	
√	Quiz	to assess	a5, a6		c13, c14	
√	Mid-term exam	to assess	a3, a5	b9, b17	c10, c13	
	Oral exam	to assess				
√	Final exam	to assess	a4, a5	b2, b9, b17		
	Design Project	to assess				
√	Report	to assess		b2, b9, b17	c13, c14	d3, d7
	Experimental write up	to assess				
	Informally assessment	to assess				
	Other	to assess				

6. Assessment schedule

Assessment 1 Assignments on weeks	6,10
Assessment 2 Quizzes on weeks	3, 7
Assessment 3 Mid-term exam on week	8
Assessment 4 Oral Exam on week	
Assessment 5 Final exam on week	15
Assessment 6 Design Project on weeks	
Assessment 7 Report on weeks	12
Assessment 8 Experimental write up on weeks	
Assessment 9 Informally assessment	

7. Weighting of Assessments

Assignments	5%
Quiz	10%
Mid-term exam	20%
Oral exam	
Final exam	60%
Design Project	
Report	5%
Experimental write up	
Informally assessment	
Other	

Total	100%

8. List of References

8.1 Course Notes

PDF files supplied

8.2 Essential Books (Text Books)

Egyptian code for design and construction of reinforced concrete buildings
Egyptain code, third appendix, Laboratory testing of concrete materials
Designong and Proportioning of Normal Concrete Mixes

8.3 Recommended Books

Concrete mix design, quality control, and specifications
Advanced concrete technology V1
Advanced concrete technology V2

8.4 Periodicals Web sites, etc

9. Facilities Required for Teaching and learning

Data show
QC laboratory
Liberary
Computer, microsoft office, and printing facilities

Course Coordinator:	Prof. Mohamed Osama Ramadan	
Course instructor:	Dr. Ramy Zahran Mohamed Radwan	
Head of department:	Prof. Ahmed AdbulFattah Mahmoud Ahmed	

Signature:

	D	M	Y
Date:			