

COURSE PLAN

FIRST: BASIC INFORMATION

College

College : Faculty of Karak - Balqa Applied University
 Department : Department Of Basic and Information Science

Course

Course Title : Concrete Technology
 Course Code : 020112282
 Credit Hours : 3 (1 Theoretical, 2 Practical)
 Prerequisite : 020112181

Instructor

Name : Aya Qatawna
 Office No. :2
 Tel (Ext) :
 E-mail :Aya.qatawneh@bau.edu.jo
 Office Hours :

Class Times

Text Book

- Concrete Technology - Eng. Ahmed Abu Odeh, The Arab Society Library for Publishing and Distribution. 2015

References

- The Structural Engineer's Manual (Part Two, Ordinary Concrete), Prof. Dr. Abdulrahman Mujahid 2002
- Concrete Techniques - Muhammad Al-Darisa, Arab Society Library for Publishing and Distribution 2012
- Reinforced Concrete Design - Mona Al-Fauri, Arab Society Library for Publishing and Distribution. 2014

SECOND: PROFESSIONAL INFORMATION

COURSE DESCRIPTION

This course cover practical knowledge based on the general properties of concrete, which is the most used building material. And, It also provides physical and chemical properties of concrete, durability, additives and mixing methods.

COURSE OBJECTIVES

The objective of this course is to enable the student to do the following:

- Recognize the definition of concrete, its components and physical and chemical properties.
- Recognize the definition of additives, their purpose and finding their quantities.
- Recognize the different types of concrete and identifying the features of each type.
- Design different concrete mixtures.
- Recognize the general properties of concrete and its formations.
- Recognize the bearing factors of concrete over time.
- Recognize the different concrete tests and know the criteria for understanding its quality control.

COURSE LEARNING OUTCOMES

On successful completion of this course, students are expected to be able to:

- CLO1. Recognize knowledge of concrete, its components and its physical and chemical properties
- CLO2. Recognize the additives and their uses
- CLO3. Identify different types of concrete
- CLO4. Design different concrete mixtures
- CLO5. Recognize the general properties of concrete and its formations
- CLO6. Recognize concrete bearing factors over time

COURSE SYLLABUS

Week	Topic	Topic details	Related LO and Reference (Chapter)	Proposed Assignments
1	CEMENT	<ul style="list-style-type: none"> • What is a concrete? • Definition of cement • Types of cement • Chemical properties of cement 	CLO.1	
2	CEMENT	<ul style="list-style-type: none"> • The physical properties of cement <ul style="list-style-type: none"> a) fineness of cement b) Specific density of cement c) cement volume stability • cement resistance • Cement setting time • What is Portland cement? • Types of Portland cement • Some other types of cement 	CLO.1	



Week	Topic	Topic details	Related LO and Reference (Chapter)	Proposed Assignments
3	AGGREGATE:	<ul style="list-style-type: none"> • Definition of aggregates • General Classification of the aggregate. • Chemical properties of aggregates • The physical properties of the aggregate • Mechanical properties of aggregates • Aggregate handling and storage • Aggregate tests • Mixing water: • Properties of mixing water. • Mixing water function • Harmful substances in the mixing 	CLO.1	
4	ADDITIVES	<ul style="list-style-type: none"> • What are the additives? • The purpose of additives • Classification of additives • Accelerators 	CLO.2	
5	Additives	<ul style="list-style-type: none"> • Retarders • Plasticizer & super plasticizer • Air entraining agent • Coloring agent • Study of some types of comprehensive additives used in concrete 	CLO.2	
6	CONCRETE	<ul style="list-style-type: none"> • Types of concrete • Ordinary concrete • Prestressed concrete • Fiber-reinforced concrete 	CLO.3	
7	CONCRETE	<ul style="list-style-type: none"> • Self-compacting concrete • Precast concrete • Lightweight concrete • Heavy concrete 	CLO.3	
8	Mid Term			
9	CONCRETE	<ul style="list-style-type: none"> • High strength concrete • Reinforced concrete • Reinforced Concrete Defects (Causes & Prevention & Repair) 	CLO.3	
10	MIX DESIGN	<ul style="list-style-type: none"> • Ordinary strength concrete mixes design • Design of high-resistance concrete mixes 	CLO.4	
11	MIX DESIGN	<ul style="list-style-type: none"> • Examples of some special-order mixtures 	CLO.4	

Week	Topic	Topic details	Related LO and Reference (Chapter)	Proposed Assignments
12	GENERAL PROPERTIES OF CONCRETE	<ul style="list-style-type: none"> • Pre-cast stage (preparation) • Fresh concrete (casting stage) • Green concrete 	CLO.5	
13	GENERAL PROPERTIES OF CONCRETE	<ul style="list-style-type: none"> • Hardened concrete (post-cast) • Concrete surface treatment 	CLO.5	
14	FORMATIONS IN CONCRETE	<ul style="list-style-type: none"> • Concrete shrinkage • Concrete creep 	CLO.6	
13	CONCRETE BEARING WITH TIME	<ul style="list-style-type: none"> • Permeability and absorption • The effect of chemicals • Sea water and Weather • Fire and Corrosion 	CLO.6	
16	Final Exam			

COURSE LEARNING RESOURCES

The effectiveness of teaching in this course depends on making students familiar with the photographic process through direct practice of photography and dealing with a digital photographic camera, the use of light and its effects in creating scenes, modifying them according to the required technical specifications and using them in digital or print advertisements, and producing graphic projects based on Photography, and the use of images in advertising campaigns.

Teaching methods:

- Problem-solving skills: by employing the photographic image in situations that require a visual impact to solve some visual overlaps in graphic works.
- Exercising and practicing: by training students to take a photograph through the ability to adjust the camera's settings manually, and to produce artistic images with all its elements.
- Online research skills on topics related to course objectives and recent developments in the field of photography.

Learning skills and adaptability: Developed by transferring students and reconfiguring work teams to enable them to adapt to other individuals from time to time.

ONLINE RESOURCES

<https://pdfcoffee.com/concrete-technology-neville-amp-brooks-2nd-edition-2010pdf-pdf-free.html>
<https://www.cement.org/learn/concrete-technology>

ASSESSMANT TOOLS



Assessment Tools	%
Projects and Quizzes	20%
MID Exam	30%
Final Exam	50%
Total Marks	100%

THIRD: COURSE RULES

ATTENDANCE RULES

Attendance and participation are extremely important, and the usual University rules will apply. Attendance will be recorded for each class. Absence of 10% will result in a first written warning. Absence of 15% of the course will result in a second warning. Absence of 20% or more will result in forfeiting the course and the student will not be permitted to attend the final examination. Should a student encounter any special circumstances (i.e. medical or personal), he/she is encouraged to discuss this with the instructor and written proof will be required to delete any absences from his/her attendance records.

GRADING SYSTEM

Example:

Grade	points

REMARKS

{The instructor can add any comments and directives such as the attendance policy and topics related to ethics }

COURSE COORDINATOR

Course Coordinator: Aya Qatawna	Department Head:
Signature:	Signature:
Date:	Date: