ISHIK UNIVERSITY
FACULTY OF ENGINEERING
Department of CIVIL ENGINEERING,
2018-2019 Fall
Course Information for CE 411 STRUCTURAL CONCRETE DESIGN I

Course Name:	STRUCTURAL CONCRETE DESIGN I

Code	Course type	Regular Semester	Theoretical	Practical	Credits	ECTS
CE 411	2	7	4	-	4	

Name of Lecturer(s)-Academic Title:	Barham Haydar - MSc bassam qasim - PhD.
Teaching Assistant:	-
Course Language:	English
Course Type:	Main
Office Hours	Saturday, 08:30 am to 12:00 14:00-15:00 Monday
Contact Email:	barham.haydar@ishik.edu.iq cebessamalzaidi@yahoo.com Tel:07705042603 07711736392
Teacher's academic profile:	MSc holder in construction materials Lecturer in Structural Engineering
Course Objectives:	Giving information on Types and characteristics of two-way slab systems, Deflection control of two-way slab systems, Direct Design Method, Design procedure, Moments to beams, columns, Shear to beams, reinforcement in TW slabs, Two-Way Shear, Punching shear, critical sections, shear force, TW shear strength, TW shear reinforcement, Effects of moment transfer, openings, Equivalent Frame Method, slab-beam stiffness, concept of equivalent column, Moment analysis.
Course Description (Course overview):	Types and characteristics of two-way slab systems, Deflection control of two-way slab systems, ACI effective beam, drop panel dimensions, Direct Design Method, ACI Chapter 13, Limitations of DDM, Design procedure, Moments to beams, columns, Shear to beams, reinforcement in TW slabs, Two-Way Shear, ACI Chapter 11, Punching shear, critical sections, shear force, TW shear strength, TW shear reinforcement, Effects of moment transfer, openings, Equivalent Frame Method, ACI Chapter 13, Introduction, slab-beam stiffness, concept of equivalent column, Moment analysis.

COURSE CONTENT

Week	Hour	Date	Topic
1	4	2-4/10/2018	Syllabus presentation, references, reading assignments, and scope of the course
2	4	7-11/10/2018	Introduction to two way slab systems
3	4	14-18/10/2018	deflection control
4	4	21-25/10/2018	examples
5	4	28/10-1/11/2018	Direct design method
6	4	4-8/11/2018	analysis and design, examples
7	4	11-15/11/2018	examples
8	4	18-22/11/2018	Midterm Exam
9	4	25-29/11/2018	two way shear action
10	4	2-6/12/2018	reinforcememt against shear
11	4	9-13/12/2018	examples
12	4	16-20/12/2018	Equivalent frame method

13	4	23-24/12/2018	concepts and analysis
14	4	2-3/1/2019	design examples
15	4	7-10/1/2019	PBL project seminars
16	4	13-17/1/2019	Final Exam
17	4	20-24/1/2019	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	ability to control deflections of two way slab systems
2	ability to analyse and design using direct design method to concrete structures
3	ability to analyse and design against shear to two way slab systems
4	ability to analyse using equivalent frame method to concrete structures
5	ability to work in teams to integrally design a real concrete structure

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	An ability to apply knowledge of mathematics, science, and engineering	A
2	An ability to design and conduct experiments, as well as to analyze and interpret data	P
3	An ability to design a system, component, or process to meet desired needs	A
4	An ability to identify, formulate and solve engineering problems	P
5	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	I
6	Skills in project management and recognition of international standards and methodologies	
7	An ability to function on multi-displinary teams	
8	An understanding of professional and ethical responsibility	I
9	An ability to communicate effectively	I
10	The broad education necessary to understand the impact of engineering solutions in a global and social context	
11	A recognition of the need for and ability to engage in, lifelong learning	
12	A knowledge of contemporary issues	

Prerequisites (Course Reading List and References):	Mechanics of Materials, Structural analysis, reinforced concrete design
Student's obligation (Special Requirements):	attendance, perform quizzes, home works, work in teams , seminars
Course Book/Textbook:	Design of concrete structures by Nilson et al ACI 318-14 Building code requirements for reinforced concrete
Other Course Materials/References:	Reinforced concrete fundamental approach by Nawy Design of reinforced concrete by j. McCormac
Teaching Methods (Forms of Teaching):	Lectures, Seminar, Project, Assignments

COURSE EVALUATION CRITERIA

Method	**Quantity**	**Percentage (%)**
Seminar	1	5
Quiz	1	5
Homework	1	5
Project	1	15
Midterm Exam(s)	1	30
Final Exam	1	40
Total		**100**

Examinations: True-False, Multiple Choices, Short Answers

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Duration (Hour)	Total Work Load
Course Duration (Including the exam week: 16x Total course hours)	4	64	256
Hours for off-the-classroom study (Pre-study, practice)	2	32	64
Assignments Mid-terms	1	2	2
Final examination	1	2	2
Other			0
Total Workload			**324**
ECTS Credit (Total workload/25)			**12.96**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean