

Identification	Subject	Reinforced Concrete Fundamentals 2 (3 Credits)		
	Department	Civil Engineering		
	Program	Undergraduate		
	Term	Fall 2016		
	Instructor	Ali Atefi		
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	Phone:	050 658 9536		
	Classroom/hours			
	Office hours			
Prerequisites	Strength of Materials - Structural Analysis- Reinforced Concrete Fundamentals 1			
Language	English			
Compulsory/Elective	Compulsory			
Description	This course deals with the concrete and steel bars used to reinforce it. This is an important field in civil engineering and applicable for many purposes.			
Required textbooks and course materials	<i>“Reinforced Concrete, Design Theory and Examples”</i> by T. J. MacGinley and B. S. Choo, Second edition, E & FN Spon press (1990).			
Course website				
Course outline	General principals, shear in concrete, torsion, axial loading, columns, slabs, walls, seismic design, introduction to precast/prestressed concrete			
Course objectives	The objective of this course is that the student acquires the basis of the Strength of Materials and Structural analysis. In this way, the student will be able to design different types of elements for construction procedure for reinforced buildings. For this purpose, many practical and applicable examples will be analyzed.			
Learning outcomes	<ul style="list-style-type: none"> • Understand the basic concepts of mixing, pouring, curing, and maintenance of concrete. • Perform design of beams, columns, slabs and walls subjected to gravity and lateral loads using ACI code, • Understand the analyze and design procedure of a regular building. 			
Teaching methods	Lecture			x
	Experiential exercise			x
	Assisted work			x
	Assisted lab work			x
	Others			
Evaluation	Methods	Date/deadlines	Percentage (%)	
	Midterm Exam		25	
	Class Participation and Attendance		5	
	Quizzes		5	
	Lab Exercises		-	
	Project (3 phases)		30	
	Final Exam		35	
	Total		100	
Policy	<ul style="list-style-type: none"> • NO CELL PHONES are allowed during lecture and lab sessions. PLEASE turn them off before lecture! (Not silent or vibrating mode) • No late assignments will be accepted without prior arrangement with the instructor for acceptable excuses. Medical and family emergency will be considered on case-by-case basis. • No late homework will be accepted. Homework is to be completed on an individual basis. Students may discuss homework with classmates, but students are responsible for your own work. If students have consulted classmates, please note the individuals name on the top of students' assignment. 			

	<ul style="list-style-type: none"> • Quizzes may be given unannounced throughout the term and will count as one homework. There will be no make-up quizzes. • No make-up exams. If students miss an exam, a zero score will be assigned to the missed exam. • If students should miss class due to personal emergency or medical reasons, please notify the instructor by email immediately. A doctor's note will be required for make-up work. • Students are responsible for completing the reading assigned from the textbook related to the covered topics and for checking email regularly for important information and announcements related to the course. • University policy on academic honesty concerning exams and individual work will be strictly enforced. • BE ON TIME!
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Tentative Schedule			
Week	Date/Day (Tentative)	Topics	Textbook/Assignments
1		Introduction and General Principles	Chapter 1
2		International Codes	Chapter 1
3		Design Considerations	Chapter 2
4		Integrity of the structure	Chapter 3
5		Loading systems	Chapter 3
6		Loading systems	Chapter 4
7		Design for torsion	Chapter 4
8		Midterm Exam,	-
9		Design of slabs systems (Shells)	Chapter 5
10		Design of slabs systems (Yield lines)	Chapter 5
11		Design of shear walls (Regular)	Chapter 6
12		Design of other walls (Siesmic)	Chapter 6
13		Precast/prestressed concrete analysis	Chapter 7
14		Seismic design for sway special	Chapter 8
15		New Buildings systems	Chapter 9
		Final Exam	

This syllabus is a guide for the course and any modifications to it will be announced in advance.