

**Course: Fundamentals of Seismic Design**

Lecturer: Mete A. Sozen

Date: 28/11/2016 – 23/12/2016

Classroom: as indicated in the schedule below

**Course schedule**

Classroom	Date	Lecture hours From 9:30 To 12:30	Tutorial hours From 14:00 To 17:00	Subject	Tot h
1-15	28 Nov 2016	3		Introduction, Goals, Scope, Design Requirements	3
	29 Nov 2016	3		Development of Response Spectra for Design	3
	30 Nov 2016		3	Computations Based on Linear Response	3
	1 Dec 2016	3		Discussion of Ground Motion, Magnitude, and Intensity	3
	2 Dec 2016	3		Attenuation of Strong Ground Motion	3
1-15	5 Dec 2016	3	3	Models for Structural Analysis, Nonlinear Response	6
	6 Dec 2016	3	3	Experimental and Field Observations	6
	7 Dec 2016		3	Computation of Responses of Different Building Types	3
	8 Dec 2016	-		Holiday	-
	9 Dec 2016	-		Holiday	-
Sala del Camino	12 Dec 2016	3		Proportioning of Steel Frames	3
	13 Dec 2016	3		Behaviour of Welded and Riveted Connections	3
	14 Dec 2016		Two 1.5 hr period	Summary of Considered Topics+ Midterm Examination	3
	15 Dec 2016	3		Proportioning of Reinforced Concrete Frames	3
	16 Dec 2016	3		Detailing of Reinforced Concrete Frames	3
Sala del Camino	19 Dec 2016	3		Experimental and Field Data	3
	20 Dec 2016	3		Proportioning and Detailing of Structural Walls	3
	21 Dec 2016		3	Safety Evaluation of Existing Building Structures	3
	22 Dec 2016	3		A Simple Method for Determining Safety of RC Structures	3
	23 Dec 2016	3		Final Examination	3
	<b>TOTAL HOURS</b>				<b>60</b>

**Brief Contents Description and Course Syllabus:**

Two issues drive design of structures for earthquake resistance: Saving (1) lives and (2) the investment

The first issue, certainly the important one, demands proper detailing of the structure based on experience and experiment, and careful inspection of the construction process.

The second issue depends on limiting the distortion of the structure during strong ground motion. Considering that the earthquake demand is not likely to be estimated closely during design, the required analysis needs to be as simple as possible.

The goal of the course is to emphasize as well as provide pragmatic solutions to the structural detail requirements and demonstrate an appropriately simple procedure for estimating lateral displacement