

General Information

Name of course:	SEISMIC DESIGN
	MSM414AN-EA-00, Structural-engineer
Course Code:	
Semester:	2 nd
Number of Credits:	3
Allotment of Hours per Week	2 lectures/week
Evaluation:	Written examination
Prerequisites:	Dynamics
Instructor:	Dr Adél Len Office: 7624 Pécs, Boszorkány utca 2, No. B307 E-mail: len.adel@mik.pte.hu Ivica Guljas E-mail: iguljas@gfos.hr

General Course Description

The course describes the earthquakes, their effect on built structures, and gives orientation for the seismic design.

Learning objectives

The objective of the course is that the students understand how the earthquakes are formed, what are their causes, what are the consequences of the earthquakes, what are the environmental conditions that affect the intensity of the earthquakes. At the end of the course the students should be able to use their knowledge – especially Vibrations - in order to be able to model earthquake effects and the response spectra of the buildings to it.

Methodology:

Lectures: theoretical basics, definitions, formulae, understanding the processes

Exam: Written exam

Schedule:

Week	Topic of the lecture
Week 2	Earthquakes and groundshaking
Week 4	How buildings resist earthquakes?
Week 6	Seismic design approach
Week 8	Structural behavior of buildings under earthquakes
Week 10	Modelling, seismic design strategies
Week 12	New technologies
Week 14	<i>Written exam</i>

Attendance

Attendance is required in the classes, and will impact the grade (max. 10%). The students are required to be punctual in the class. The continuous following of the subjects and taking notes is mandatory. The

subject of the missed class has to be worked out by the student based on the notes of the classmates and reference reading materials.

Grading

10% attendance
90% written exam

Grade	5	4	3	2	1
Evaluation in percent	85% - 100%	74% - 84%	63% - 73%	51% - 62%	0 - 50%

Bibliography

Victor Gioncu, Federico Mazzolani: Earthquake engineering for structural design, Spon Press, 2011

Andrew Charleson: Seismic design for architects, Elsevier, Oxford, 2008

Chopra, Anil K: Dynamics of Structures: Theory and Applications to Earthq. Eng., Prentice-Hall, 1995

Mazzolani, F.M., Piluso, V.: Theory and Design of Seismic Resistant Steel Frames, E&FN Spon, 1996