



ESOGU CIVIL ENGINEERING DEPARTMENT



COURSE INFORMATION FORM

Course Name	Course Code
EARTHQUAKE INFORMATION I	

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
2	2	0	3

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
			2	

Course Language	Course Level	Course Type
Turkish	Undergraduate	Elective

Prerequisite(s) if any	
Objectives of the Course	The aim of the course is to provide the students with the knowledge of how earthquakes that deeply affect our society are formed, how earthquake science has developed, what earthquake hazard is, how earthquake damages can be reduced, the importance of building and soil properties for reducing earthquake damages and how to live with earthquakes.
Short Course Content	The course includes why earthquakes occur, historical development of earthquake science, technical information about earthquakes, earthquake intensity, magnitude, earthquake waves, earthquake belts in our country and the world, earthquake hazard and disaster relationship, disaster mitigation studies, the importance of building and ground properties for damages during earthquakes. In the light of all this information, it is to contribute to the awareness of living with earthquake.

Learning Outcomes of the Course		Contributed PO(s)	Teaching Methods *	Measuring Methods **
1	Students gain the ability to understand why earthquakes occur, earthquake zones and plate tectonics.	6,8,10,11	1,2,5,11,12	A,D,K
2	Students gain and apply basic knowledge about earthquake hazard, disaster-earthquake relationship and how to reduce earthquake damages.	8,10,11	1,2,5,11,12	A,D,K
3	Students are encouraged to understand the importance of structure and ground in earthquakes and to do research on this subject.	8,10,11	1,2,5,11,12	A,D,K
4	Students learn the parameters affecting engineering structures such as earthquake intensity, magnitude, earthquake waves, dynamic properties of soil.	8,10,11	1,2,5,11,12	A,D,K
5	Within the scope of this course, students learn the importance of living with disasters by having knowledge about the importance of earthquake information both for the disaster risk it creates on the earth and for engineering applications.	6,8,10,11	1,2,5,11,12	A,D,K

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	1. Lecture notes
Supporting References	1. Celep, Z., & Kumbasar, N. (2004). Deprem mühendisliğine giriş ve depreme dayanıklı yapı tasarımı. Beta Dağıtım İstanbul. 2. B. Özmen and S. T. Yeşil, "Afetle İlgili Temel Tanım ve Kavramlar," In Afet ve Acil Durumlarda İlaç ve Sağlık Hizmetleri Kılavuzu, İstanbul: EMA Tıp Kitabevi Yayıncılık, 2024, pp.363-368. 3. R. D. And K. KAYABALI. Deprem Jeolojisi, Gazi2006, pp.567
Necessary Course Material	Laptop, Datashow (data projection devices), fixed or movable white screen, blackboard for written applications.

Course Schedule	
1	Basic concepts related to earthquake
2	Earthquake zones and plate tectonics
3	The live faults in our country, the methods of determining these faults
4	Fault types
5	Causes of earthquakes and major earthquakes in the world
6	Magnitude, intensity and earthquake waves
7	Behavior of earthquake waves on the site
8	Mid-Term Exam
9	Soil problems caused by earthquake (liquefaction, settlement, etc.)
10	Knowledge of earthquake regulations
11	How reliable are our buildings
12	The importance of structure-soil relationship during earthquake
13	Activities for minimizing earthquake damages
14	The importance of earthquake in human life
15	Earthquake-resilient cities and societies
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	2	28
Classroom Studying Time (review, reinforcing, prestudy,...)	14	2	28
Homework	2	6	12
Quiz Exam	0	0	0
Studying for Quiz Exam	0	0	0
Oral exam	0	0	0
Studying for Oral Exam	0	0	0
Report (Preparation and presentation time included)	0	0	0
Project (Preparation and presentation time included)	0	0	0
Presentation (Preparation time included)	0	0	0
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	1	6	6
Final Exam	1	1	1
Studying for Final Exam	1	8	8
Total workload			84
Total workload / 30			2.80
Course ECTS Credit			3

Evaluation

Activity Type	%
Mid-term	30
Homework	30
Final Exam	40
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	Adequate knowledge in mathematics, science and basic engineering subjects; ability to apply theoretical and applied knowledge in these areas to modelling and solving engineering problems	4
2	Ability to identify, define, formulate and solve complex engineering problems in civil engineering and related fields by selecting and applying appropriate analysis and modelling	5
3	Ability to design a complex system, device or product under realistic constraints and conditions by applying modern design methods in accordance with a specified objective	
4	Ability to develop, select and use modern techniques and tools required for Civil Engineering applications and to utilise information technologies effectively	
5	Ability to design experiments, conduct experiments, collect data, analyse and interpret results for the investigation of Civil Engineering problems	
6	Ability to work in disciplinary and interdisciplinary teams	3
7	Effective oral and written communication skills in Turkish and the ability to use/develop knowledge of foreign languages	
8	Awareness of the necessity of lifelong learning; the ability to access information, to follow developments in science and technology and to constantly renew oneself	3
9	Awareness of professional and ethical responsibility	
10	Knowledge of business life practices such as project management, risk management and change management; awareness of entrepreneurship, innovation and sustainable development.	3
11	Knowledge about the effects of engineering applications on health, environment and safety in universal and social dimensions; awareness of national and international legal regulations and	5

LECTUTER(S)				
Prepared by	Dr. Öğr. Üyesi Ebru CİVELEKLER			
Signature(s)				

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