

Course Title-Course Code: CE 508 STRUCTURAL DYNAMICS							Name of the Programme: CIVIL ENGINEERING			
Semester	Teaching Methods							Credits		
	Lecture	Recite	Lab.	Field Study	H W	Other	Total	Credit	ECTS Credit	
1-2	42	0	0	0	42	118	188	3	7.5	
Language	Turkish									
Compulsory / Elective	Elective									
Prerequisites	-									
Course Contents	Single degree of freedom systems: Free vibration, forced vibration. Earthquake response of linear systems. Generalized single degree of freedom systems. Multi degree of freedom systems: Free vibration, forced vibration. Damping in structures. Dynamic analysis and response of linear systems. Earthquake analysis of linear systems. Response history analysis. Response spectrum analysis. Vibration of continuous systems: Bending girder, shear girder. Approximate methods: Matrix iteration methods, Rayleigh ratio.									
Course Objectives	To understand the response of structures to various dynamic excitations, with emphasis on earthquake excitation.									
Learning Outcomes and Competences	To apply the structural dynamics theory in tackling practical problems, especially in earthquake analysis and design of structures.									
Textbook and /or References	Chopra, AK, "Dynamics of Structures, Theory and Applications to Earthquake Engineering", 6 th Edition, Prentice Hall, 2001. - Clough, RW and Penzien, J, "Dynamics of Structures", 2 th Edition, McGraw-Hill Int. Editions, 1993. - Celep Z ve Kumbasar N, "Örneklerle Yapı Dinamiği ve Deprem Mühendisliğine Giriş", Sema Matbaacılık, İstanbul 1992.									
Assessment Criteria								<i>If any, mark as (X)</i>	Percent (%)	
	<i>Midterm Exams</i>							X	40	
	Quizzes									
	Homeworks							X	10	
	Projects									
	Term Paper									
	Laboratory Work									
	Other									
	Final Exam							X	50	
Instructors	Asst. Prof. Kurtulus SOYLUK									