CE 101.01 Introduction to Civil Engineering
Fall 2016

Instructor(s):

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Course Data:

Hours: MMM 3456
Room: M2181

Course Description:

CE 101 Introduction to Civil Engineering (3+0+0) 3 ECTS 6

Historical background, present status and future challenges of civil engineering profession. Ethics and professional responsibility. Written and oral communication. Concepts of analysis, design, computational approaches, experiments. Interpretation of results and decision making. Invited lecturers. Site visits.

Course Objectives: This course introduces freshman students to the profession of Civil Engineering in terms of engineering ethics and law, and basic teamwork skills. Also, the students will learn technical report writing, presentations, project management skills, and basic mechanics such as flow of forces. Laboratory visits, guest speakers and bridge building competition are the features of this course. It is intended as an interactive course.

Textbook: There are no assigned books; only class notes and discussions will suffice.

Ref. Books: Students will be required to conduct library research and prepare presentations on specific topics.

Design Content: This course introduces the basic principles of civil engineering design concepts with practical hands-on experiments.

Computer Usage: The students will prepare assignments and projects using presentation, word processor and spreadsheet programs.

Laboratory Sessions: Students will get themselves acquainted with university's Civil Engineering laboratories and conduct simple experiments.

Class Policies: Assignments, presentations, lab reports, final exam, and class participation and discussions will make up the final grade. Class participation is mandatory.

Contribution of the Course to Program Outcomes:

This course is intended to contribute to the following program outcomes:

	(a)	An ability to apply knowledge of mathematics, science and engineering
✓	(b)	An ability to design and conduct experiments, as well as to analyze and interpret data
✓	(c)	An ability to design a system, component, or process to meet desired needs
	(d)	An ability to function on multi-disciplinary teams
✓	(e)	An ability to identify, formulate and solve engineering problems
✓	(f)	An understanding of professional and ethical responsibility
✓	(g)	An ability to communicate effectively
✓	(h)	The broad education necessary to understand the impact of engineering solutions in a global and societal context
	(i)	A recognition of the need for, and ability to engage in life-long learning
	(j)	A knowledge of contemporary issues
	(k)	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice

Course Assessment: Course will be assessed on the basis of the accomplishments regarding the course objectives and the contributions to the program outcomes. The evaluation will consist mainly of the responses from the students during classes and a final exam covering topics learned in the semester.

Grading:
Class work (assignments and presentations): 70%
Final exam: 30%

Week	Topics	Reading Assignments	Homework Assignment	Objectives
1 Sep. 22	Welcome to Civil Engineering, introduction of the department and Civil Engineering curriculum at Boğaziçi University.			To welcome students to the department and present introductory remarks.
2 Sep. 29	Civil Engineering and its areas.		Write a short report on a particular area of Civil Engineering.	To introduce brief history and fields of Civil Engineering, and materials used in the industry.
3 Oct. 6	Laboratory visits (hydraulics, structural, materials, and soils).		Prepare a report about your observations on laboratories.	To inform students about the department's laboratory facilities.
4 Oct. 13	Engineering Ethics and Law. Guest lecturer on law.		Prepare a report on a case study.	To introduce professionalism in engineering in relation to ethical principles and tort law.
5 Oct. 20	How the forces flow? Introduction to loads applied to structural systems.		İdentifying forces (tensile and compressive) in a structural system.	The flow of forces in a structure, balance and stability. Learn forces of nature and load combinations.
6 Oct. 27	Guest lecturer on large-scale construction works.		Prepare a report about a case study on large-scale construction project.	To be able to appreciate large complex civil engineering projects and their components.
7 Nov. 03	Construction site visit.		Prepare a report about your observations on site visit	To observe actual construction process at a construction site.
8 Nov. 10	Design competition. Team work.		Write a technical report on your team work and design competition.	To be able to work as a team, brainstorm and come up with a design.
9 Nov. 17	Construct a bridge with given materials.			To introduce the concept of design an economical and aesthetic structures.
10 Nov. 24	Bridge building competition – largest ratio of applied load at mid-span to bridge's own weight wins.		Prepare a technical report on your bridge in terms of flow of forces, stability and its load carrying capacity.	To participate in engineering competition and appreciate order of loads on structural elements.
11 Dec. 01	Guest lecturer			
12 Dec. 08	Technical presentations.		Prepare presentations on topics assigned to each group.	
13 Dec. 15	Team presentations.			To make oral presentation