TED UNIVERSITY

CE 410
CIVIL ENGINEERING DESIGN

SYLLABUS/FALL 2016

Course Information

Required or Elective	☑Required ☐Elective	**Date Prepared**	September 2016
Semester	Fall 2016	**Class Hours, Lab. Hours and Classrooms**	Section 1 Tue. 13:00-14:50, Rm. A331 Wed. 14:00-15:50, Rm. A331 Section 2 Tue. 13:00-14:50, Rm. A331 Wed. 14:00-15:50, Rm. A331
Course Credit Hours/ ECTS credits	(2+2+0) 3 / 10	**Pre-requisite/ Co-requisite**	CE 312/CE314/CE332/CE342
Level of Course	Senior	**Language of Instruction**	☑ English ☐ Turkish
Instructor(s) and office hours	Section 1 Asst. Prof. Dr. Melih Çalamak (melih.calamak@tedu.edu.tr) (Rm. D313) (Office hours: Wed. 10:00-12:00 / Fri. 15:00-17:00 or by appointment) Section 2 Mustafa Çobanoğlu (mustafa@biryapi.com)		
Teaching Assis-tant(s)	-		
References	1. 2015 Construction Unit Prices (2016), *www.birimfiyat.com* 2. ASCE (1989). *Civil Engineering Guidelines for Planning and Designing Hydroelectric Developments*. American Society of Civil Engineers, New York. 3. American Association of State Highway & Trans., 4th Edition. *AASHTO LRFD Bridge Design Specifications*, USA. 4. *Engineering Ethics: Concepts and Cases by C.E.Harris, 5th Edition, Cengage Learning, 2014* 5. Gaylord, E. H. Jr, Gaylord C.N., Stallmayer, J. E., (1992). *Design of Steel Structures, McGraw-Hill Inc.*, USA. 6. Karaesmen, E., (2002). *Ardgermeli Beton ve Yeni Çözümler*, Freysaş-Freyssinet Yapı Sistemleri Sanayi A.Ş., İstanbul. 7. Karaesmen, E., (2002). *Öncesiyle Sonrasıyla Deprem,* Atılım Üniversitesi, Ankara. 8. Keyder, E., (2005). *Öngerilmeli Beton*, Seçkin Yayıncılık Genel Dağıtım, Ankara. 9. Mc Ghee, T. J., (1991). *Water Supply and Sewerage*, Mc Graw Hill, Singapore. 10. STBP, (1991). *Specifications for Storm and Waste Water Collection Systems*, Ankara (in Turkish): Turkish Bank of Provinces. 11. STBP, (1993). *Specifications for Municipal Water Supply Systems*, Ankara (in Turkish): Turkish Bank of Provinces. 12. Turkish Standards Institute (TS648), (1980). *Building Code for Steel Structures,* Ankara. 13. Turkish Standards Institute (TS498), (1997). *Design Loads for Buildings,* Ankara. 14. Turkish Standards Institute, (TS500), (2000). *Requirements for Design and Construction of Reinforced Concrete Structures*, Ankara.		

	15. *Deprem Bölgelerinde Yapılacak Binalar Hakkında Yönetmelik*, (2007), Ankara 16. USBR (1987). *Design of Small Dams*. United States Bureau of Reclamation, Washington. 17. Usul, N. (2013). Engineering Hydrology. 3rd Edition, METU Press, Ankara. 18. Yanmaz, A. M. (2002). *Bridge Hydraulics*, METU Press Publishing Company, Ankara (in Turkish) 19. Yanmaz, A.M. (2013). *Applied Water Resources Engineering*. 4th Edition, METU Press, Ankara. 20. Yıldırım, F. K., Ergenekon, T., (2004). *Mühendisler, Mimarlar, Bilirkişiler ve Hakemler için Mevzuat El Kitabı*, Teknik Yayınevi, Ankara. 21. Sucuoğlu, H., Akkar, S., (2014). *Basic Earthquake Engineering: From Seismology to Analysis and Design*, Springer, the Netherlands.
Course Web Pages	Please register to Moodle page http://moodle.tedu.edu.tr and regularly follow this link to have access to course materials.

Course Description

Design and development of a project for a civil engineering problem under the supervision of an academic advisor. Submission of the results in the form of a project report and oral presentation.

Course Objective

Main objectives of this course are to introduce the students to professional practice, involve them in open-minded design, illustrate them the importance of interdisciplinary planning, coordination, communication and technical report writing. In this course, the students will perform fully the tasks of a preliminary civil engineering design; prepare, submit and present civil engineering deliverables.

Course Learning Outcomes

Upon successful completion of this course, a student specifically will be able to:

1. Recognize the importance of professional and ethical behavior **[B01]**.
2. Recognize the need for and an ability to engage in life-long learning **[B01]**.
3. Identify, formulate, and solve engineering problems **[B01].**
4. Demonstrate multidisciplinary teamwork skills **[B01].**
5. Demonstrate good working habits, time management, and self-discipline **[B01].**
6. Apply knowledge of mathematics, science, and engineering **[B03].**
7. Prepare technical written and oral reports in English **[B03].**
8. Apply knowledge of mathematics, science, and engineering to design **[B03].**
9. Analyze and interpret data **[B04].**

10. Construct effective communication skills **[B04].**
11. Design a system, component, or process to meet desired needs **[B05].**
12. Role play in multi-disciplinary teams **[B05].**
13. Develop an understanding of professional and ethical responsibility **[B05].**

Course Assignments

A. ***Midterm Exam (15%):*** There will be one midterm exam.
B. ***Progress Report & Interim Evaluation (30%):*** Students are expected to present the progress in their design study in the mid of the semester.
C. ***Final Report and Presentation (40%):*** Students are expected to write a comprehensive report including all the details about their design. They will also present their works in front of an audience of jury members and other interested people.
D. ***Poster Presentation (5%):*** At the end of the semester a poster presentation is planned to be made by the students in one of the university halls.
E. ***Performance (10%):*** Performance evaluation is based on attendance to lecture hours and active participation to project work.

Course Assessments & Learning Outcomes Matrix

Assessment Methods	Course Learning Outcomes
Midterm Exam	All
Progress Report & Interim Evaluation	All
Final Report and Presentation	All
Poster Presentation	All
Performance	All

Relationship to Program Outcomes

This course contributes to fulfillment of the following program outcomes:

Comprehend science and advanced mathematics subjects fundamental to engineering **[PO1]**.

Apply knowledge of mathematics, science, and engineering to design and implement original, innovative and sustainable civil engineering systems or processes to meet desired needs within a greater societal context **[PO2]**.

Act professionally and ethically **[PO3]**.

Design and conduct experiments; analyze and interpret data **[PO5]**.

Identify, formulate, and solve engineering problems **[PO6]**.

Demonstrate effective oral and written professional skills in English **[PO7]**.

Practice good working habits, time management, and self-discipline **[PO8]**.

Display multidisciplinary teamwork skills **[PO9].**

Engage in life-long learning to face the future challenges and to achieve an enduring professional development **[PO10].**

Employ state-of-the-art engineering techniques and computing tools necessary for creative engineering solutions **[PO11].**

Course Outline

Week	Topic
1	**Introduction of projects**
2	Preliminary design
3	Preliminary design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
4	Preliminary design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
5	Preliminary design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
6	**Interim presentations** (submit one copy of your report and drawings)
7	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
8	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
9	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
10	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
11	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
12	Advanced design
	A talk will be given by an expert on a special/advanced issue in Civil Engineering
13	Advanced design
	Midterm Examination
14	**Final and Poster Presentations** (submit one copy of your report and drawings)

Course Policies and Some Remarks

General

1. Consult Dr. Cem Akgüner for geotechnical, Dr. Zehra Çağnan Ertuğrul for structural and seismic issues.
2. You can ask your questions regarding your design to course assistant.
3. You are expected to submit soft copies of your interim and final reports as well as a physical copy.
4. The course schedule is tentative and it will be adapted to the pace of the class.
5. Date for the final exam will be announced at the end of the semester. The final exam will cover all topics.
6. Cell phones should be turned off and kept out of sight during the classes. You are not also allowed to use your computers/ tablets etc. at the classroom.
7. If you are late for more than 10 minutes, please do not enter the class.
8. You are not allowed to use cell phones during the exams.

Attendance

In order to be admitted to the final examination, a student **must have attended at least 70% of the lectures**. Students not fulfilling this condition will not be permitted to enter the final examination. Students not given the permission to take the final examination will automatically receive the grade **FX** at the end of the semester.

Make Up Exams

Make-ups for midterm exams will NOT be offered generally. If you have a legitimate reason for missing an exam, then you must arrange to make up the exam BEFORE the scheduled time of the exam. The only exceptions are illness or emergency (e.g., death in family, a traffic accident, etc.). In case of an illness or emergency you need to supply a documentation that supports your claim. Also please read the document given in the link: http://www.tedu.edu.tr/tr/main/yonetmelikler-ve-yonergeler

Late Assignment Submission

For each day after the announced deadline, 20% of the total earned mark will be deducted. More than two days of late submissions will not be accepted.

Calculator Policy

You may use a scientific calculator during the exams. Programming the calculator before or during the exams are not allowed.

Plagiarism

All of the following are considered plagiarism:

- "Turning in someone else's work as your own
- Copying words or ideas from someone else without giving credit

- Failing to put a quotation in quotation marks
- Giving incorrect information about the source of a quotation
- Changing words but copying the sentence structure of a source without giving credit
- Copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not" (www.plagiarism.org)

Plagiarism is a very serious offense and will be penalized accordingly by the university disciplinary committee. The best way to avoid accidentally plagiarizing is to work on your own before you ask for the help of other resources. Collaboration on non-collected homework and in studying is strongly encouraged; however, the work you hand in must be solely your own. For more information on TEDU policy on intellectual integrity see the link: http://student.tedu.edu.tr/sites/default/files/content_files/2015-2016ogrencielkitabi.pdf

Cheating

Cheating has a very broad description which can be summarized as "acting dishonestly". Some of the things that can be considered as cheating are the following: copying answers on exams, homework and lab works, using prohibited material on exams, lying to gain any type of advantage in class, providing false, modified or forged data in a report, plagiarizing, modifying graded material to be re-graded, causing harm to colleagues by distributing false information about an exam, homework or lab. Cheating is a very serious offense and will be penalized accordingly by the university disciplinary committee. For more information on TEDU policy on intellectual integrity, please see the following link: http://student.tedu.edu.tr/sites/default/files/content_files/2015-2016ogrencielkitabi.pdf

Disability Support

If you have a disabling condition which may interfere with your ability to successfully complete this module, please contact Dr. Tolga İnan (email: tolga.inan@tedu.edu.tr). For more information please see Handbook for Registered Students.