EFFORTS OF TURKISH CHAMBER OF CIVIL ENGINEERS TO ENHANCE CIVIL ENGINEERING EDUCATION IN TURKEY

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The Civil Engineering Education Committee (CEEC) of TCCE was first established at 2007 to gather the civil engineering education inventory in Turkey, to determine the current education conditions in civil engineering, to identify the problems in civil engineering education, to prepare meetings which establishes coordination between the Civil Engineering Departments throughout Turkey, and to help meeting the educational needs of the students, faculty and the sector. The first step was to evaluate the current state of the Civil Engineering Education in Turkey using surveys performed on Civil Engineering Departments (Head of the Departments), students, alumni and companies.



The findings of these surveys were published in the "Reality of Turkey in Civil Engineering Education 2008 Report" and these findings were discussed in the "First Civil Engineering Education Symposium" in 2009. Enhancement efforts were continued with "Heads of Civil Engineering Departments' Meeting 2011," "Second Civil Engineering Education Symposium 2011," "Vision Report of Civil Engineering Education 2014," "Heads of Civil Engineering Departments' Meeting 2014," "Third Civil Engineering Education Symposium 2016," "Vision Report of Civil Engineering Education 2016," "Heads of Civil Engineering Departments' Meeting 2016," "Fourth Civil Engineering Education Symposium 2017," and etc. This paper includes the cumulative findings of these efforts in details. It can be concluded that there are some local and global problems related to Civil Engineering Education in Turkey however; each problem must be solved to better educate the future civil engineers in a competitive world.



Population/Civil Engineer (US)



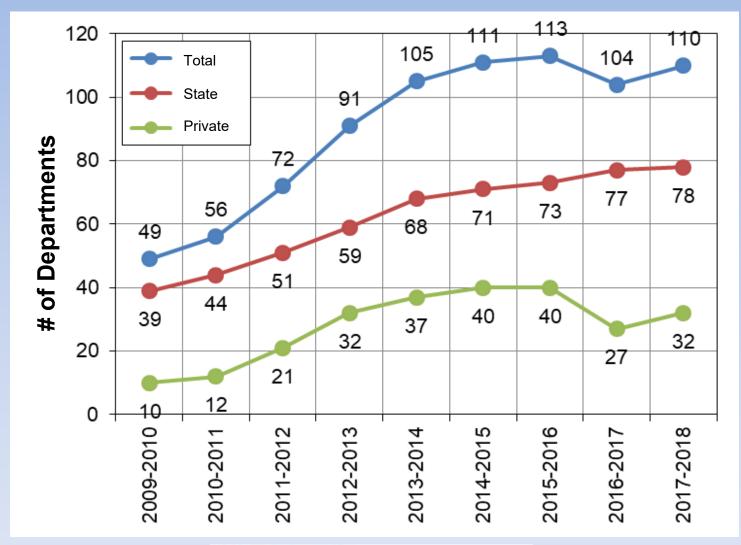


Population/Civil Engineer (TR)



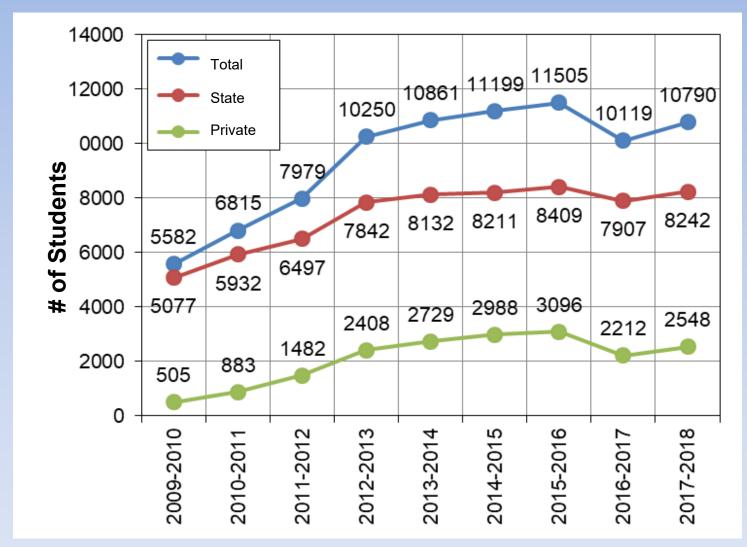


Civil Engineering Departments (TR)





Civil Engineering Students (TR)





Start - 2007

- Civil Engineering Education Committee (CEEC)
 - Gather the inventory for civil engineering education in Turkey,
 - Determine the current education conditions in civil engineering,
 - Identify the problems in civil engineering education,
 - Prepare meetings which establish coordination between the Civil Engineering Departments throughout Turkey, and
 - Help meeting the educational needs of the students, faculty and the sector.



September - 2008

- Departments Survey
- Students Survey
- Alumni Survey
- Companies Survey

İnşaat Mühendisliği Bölümleri, İnşaat Mühendisliği Öğrencileri, İnşaat Mühendisleri ve İnşaat Sektörüyle

İnşaat Mühendisliği Eğitiminde Türkiye Gerçeği





Reality of Turkey in Civil Engineering Education 2008

- Other than the small number of universities, the civil engineering education in Turkey was performed using insufficient infrastructure, physical environment and equipment.
- Insufficient university education negatively affects the civil engineering profession in terms of life and property safety.



First Civil Engineering Education Symposium (2009)

- 6-7 November 2009
- Antalya





Heads of Civil Engineering Departments First Meeting (2011)

- 22 September 2011
- 35 Heads of Civil Engineering Departments.
- It is vital to perform the civil engineering education in a scientific manner by the coordination between the universities, sector, and the TCCE.
- The contribution of the TCCE in terms of continuing education such as seminars, conferences, trainings, education programs, etc. shall be increased for the civil engineers after graduation.



Heads of Civil Engineering Departments First Meeting (2011)

- New civil engineering faculty shall be educated and trained well to educate new civil engineers who shall cope with the professional competition worldwide.
- The civil engineering sector shall be adapted in to the civil engineering education using programs such as sector-university partnership.
- To have better educated civil engineers, the number of accepted students shall be limited to the capacity of the departments in terms of infrastructure, faculty, and staff numbers.

Heads of Civil Engineering Departments First Meeting (2011)

- Accreditation of the civil engineering programs by the Turkish Association for Evaluation and Accreditation of Engineering Programs (MUDEK) shall be expanded to all civil engineering programs.
- Programs for licensed civil engineers shall be introduced to the profession.



Second Civil Engineering Education Symposium (2011)

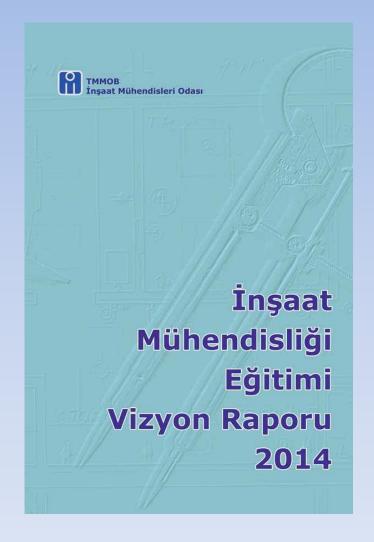
- 23-24 September 2011
- Muğla





January 2014

- Similar purposes:
 - Department, student,
 alumni, and company.
- One step further:
 - Future Needs
 - What to teach
 - How to teach
 - Who to teach





Heads of Civil Engineering Departments Second Meeting (2014)

- 18-19 January 2014
- Vision Report 2014 Presentation
- Comments of Department Heads
- Ankara



Third Civil Engineering Education Symposium (2016)

- 8-9 January 2016
- Ankara





Vision Report of Civil Engineering Education (2016)

İNŞAAT MÜHENDİSLİĞİ EĞİTİMİ VİZYON RAPORU

ŞUBAT 2016

TMMOB İNSAAT MÜHENDİSLERİ ODASI



Heads of Civil Engineering Departments Third Meeting (2016)

- 26-27 February 2016
- Vision Report 2016 Presentation
- Comments of Department Heads
- Ankara



Regional Meetings on Vision Reports (2017)

- 10 March 2017 Ankara
- 18 May 2017 Balıkesir
- 14 October 2017 İstanbul



Fourth Civil Engineering Education Symposium (2017)

- 17-18 November 2017
- İzmir





• Each civil engineering undergraduate program shall be composed of minimum four majors, three compulsory and one elective major. The compulsory majors are Structures (shall include materials, mechanics, and design topics), Hydromechanics (shall include fluid mechanics, hydrology, design of hydraulic structures), and Geotechnics (materials, mechanics, material analysis and tests, design of soil structures). The elective majors are Coastal, Water Resources, Transportation, and Construction Management.



- The curriculum shall include the following topics:
 - Basic Education: Total education credit shall be not less than 25% of the credit of curriculum.
 - Basic Engineering Education
 - Professional Education: The combination of Basic Engineering and Professional Education credit shall be not less than 37.5% of the credit of curriculum.
 - General Education



- The curriculum shall include the following applications:
 - Research and Application Works
 - Laboratory and Experimental Works
 - Summer or In-Term Practices
 - Design Experience



- Infrastructure Needs:
 - The civil engineering education shall be conducted by departments having sufficient number of qualified faculty members and staff.
 - A sufficient number of faculties and staff shall be employed in the department in consideration of research, academic study and administrative duty.
 - Basic Education courses shall be performed by Mathematics and Science Faculty with the help of the related laboratories.



- Basic Engineering Education courses shall be performed by the Faculty of the Civil Engineering Department or Faculty of Engineering.
- For each Basic Engineering Education course, a maximum number of 100 students shall be educated by a minimum of three academic personnel, 2 faculty members and one teaching assistant.
- For each Professional Education course, a maximum number of 40 students shall be educated by a minimum of two academic personnel, 1 faculty member and onesteaching assistant.

- The maximum number of students per faculty member shall not exceed 25.
- The number of teaching assistants per faculty member shall preferably be 1, and under no circumstances shall this number fall below 0.5.
- At least three laboratories shall be established for each of the three compulsory majors.



Thank You.

