Poznań University of Technology
Faculty of Civil and Environmental Engineering

European Credit Transfer System
Course description card

Course title: **Bridges**	Code: Erasmus FCEE-EM
Field of study: Civil engineering	Year / semester: III
Specjality:	Course: compulsory
Hours / week: Lectures: 1,0 Tutorials: 0 Laboratories: 0 Project / Seminars: 0,5	Number of credits: 6

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Status of the course in the study program:
Core course for students of Civil Engineering

Course description:
General information about classification of the bridge structures and the main feature of different types of bridges. Transportation requirements concerning bridges. Design of bridges in plane and profile. Overview of elements of bridge equipments such as pavement, barriers, railings, curbs, bearings, etc. Review of methods of the bridge static and strength computations. General information of dead weight and live loads acting on bridges according to Polish and European standards. The erection methods of the most typical steel, concrete and composite bridges. Issues related to durability and maintenance of bridge structures.

Teaching outcomes:
The main aim of the course is acquisition of basic knowledge about design and construction of different types of bridges

Prerequisites:
Basic knowledge of mechanics and strength of materials

Teaching method:
Lectures (multimedia projector)
Project – students make a preliminary design and simply preliminary calculations of a bridge
Field trips and seminars – students observe certain problems on chosen bridges in the vicinity of the university

Assessment method:
Written examination
Project
Conclusions from field trips and literature study

Bibliography:

1. Podstawy mostownictwa, Czudek H. Radomski W., PWN, Warszawa, 1974 (in Polish),
2. Podstawy projektowania budowli mostowych, Madaj A., Wołowicki W., WKŁ, Warszawa, 2007 (in Polish),
3. Drogowe budowle inżynierskie, Głomb Józef, WKŁ, Warszawa, 1988 (in Polish),
4. Podstawy budowy mostów betonowych, F. Leonhardt, WKŁ, Warszawa, 1982 (in Polish)
5. The design of modern steel bridges, Chatterjee S., Blackwell Science Ltd, 2003
6. Bridge management, Ryall M.J., Elsevier, 2010
7. Design of highway bridges, Barker R.M., Puckett J.A., John Wiley&Sons, Inc., 2007
8. Eurocode 1: Action on structures – Part 2: Traffic loads on bridges
9. PN-85/S10030 – „Obiekty mostowe. Obciążenia” (in Polish)