



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Environmental protection [N2Bud1>OŚ]

Course

Field of study

Civil Engineering

Year/Semester

2/3

Area of study (specialization)

Structural Engineering

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

part-time

Requirements

elective

Number of hours

Lecture

12

Laboratory classes

0

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

Knowledge: detailed knowledge of the design, construction, maintenance and operation of roads, bridge

Skills: the ability to acquire information from literature, databases and other sources and to integrate obtained data. The ability to interpret and draw conclusions. The ability to critically analyze and to evaluate of existing road construction technologies Social competencies: The ability to work independently and in a team. To realise that it is necessary to improve professional and personal competence entire life. The awareness of the non-technical effects of engineering activities, including its impact on the environment and responsibility for the decisions

Course objective

The transfer of knowledge in the current regulations and laws in force in the road, bridge and railway engineering, particularly the influence of road, bridge and railway investments on the environment. The ability to identify and solve major issues concerning the environmental protection at the design, construction and exploitation of roads, bridges and railways. The ability to independent study of new problems and to solve them while conducting research work.

Course-related learning outcomes

none

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Preparing and presenting, in teams or individually, presentations on selected environmental protection issues in construction.

Programme content

The state of the natural environment in Poland;

Environmental requirements;

Assessment of the environmental impact of construction investments;

Impact of road investments on selected environmental elements;

Passive and active environmental protection against the adverse impact of construction investments;

Course topics

EU requirements for environmental protection;

Environmental law;

Environmental Impact Assessment (EIA);

Report on the environmental impact of the project;

Public participation in EIA;

Environmental decisions;

Design studies for the purposes of obtaining a Decision on Environmental Conditions - Corridor Study, Technical, Economic and Environmental Study;

The condition of individual environmental components in Poland;

Impact of road and railway investments on a given environmental component at the stage of construction and operation;

Passive protection measures (legal instruments, spatial planning, proper road design, etc.);

Active protection measures (technical measures, protective devices, etc.);

Teaching methods

Tutorial discussion after presenting the presentations prepared by students.

Bibliography

Basic:

1. Praca zbiorowa, Zasady ochrony środowiska w drogownictwie, Generalna Dyrekcja Dróg Publicznych, (opracowanie IBDiM), Warszawa, 1999
2. Praca zbiorowa, Podręcznik dobrych praktyk wykonywania opracowań środowiskowych dla dróg krajowych, EEKOM sp. z o.o., Kraków, 2008
3. Praca zbiorowa, Ekologia dróg, Island Press, 2003 (przekład 2009)
4. Praca zbiorowa, Ekologiczne zagadnienia odwodnienia pasa drogowego, Warszawa 2009
5. Sybilski D. Ocena wpływu typu i technologii wykonania nawierzchni drogowej na hałaśliwość ruchu drogowego i jego uciążliwość dla środowiska, IBDiM, Warszawa 2005
6. Wybrane ustawy i rozporządzenia związane z ochroną środowiska - Internetowy System Aktów Prawnych - ISAP

Additional:

1. Kopta T., Zrównoważony system transportowy, Transport Miejski Nr 6/1999
2. Wybrane zarządzenia Generalnego Dyrektora Dróg Krajowych i Autostrad związane z budownictwem drogowym
3. Praca zbiorowa, Zasady ochrony środowiska w budowie dróg, Generalna Dyrekcja Dróg Publicznych, Warszawa, 1993
4. Izabella Olędzka-Graffstein, Zagadnienia ochrony środowiska w otoczeniu dróg, Wydawnictwa Komunikacji i Łączności, Warszawa, 1983
5. Zbigniew Engel, Ochrona środowiska przed drganiem i hałasem, PWN, Warszawa, 2001

Breakdown of average student's workload

	Hours	ECTS
Total workload		
Classes requiring direct contact with the teacher		
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)		