MODULE INFORMATION SHEET

Name of Module Unit	**Environmental Impact Assessments (EIA)**
Name in polish language	Oceny oddziaływania na środowisko (OOŚ)
Module type	Compulsory
Form of studying	Full-time day courses
Level of study	undergraduate course (B.Sc. level)
Type of study (for extra-mural courses)	
Programme	Environmental Engineering
Speciality	Environmental Engineering
Responsible department	Department of Environmental Protection and Management
Responsible person	Prof. nzw. dr hab. inż. Andrzej Kulig

Semester	Lectures(E)	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
7	30 (Exam)				15	6

Objectives (summary)

The objective of the module is to familiarise the students with the environmental impact assessment procedures to be followed in case of the planned projects and existing facilities. The guided projects, supplemented with the information communicated during lectures, provide the students with the knowledge of formal and legal procedures and give them skills required to carry out environmental impact assessments and ecological surveys, and produce formal reports which form the basis for administrative (e.g. environmental) decisions.

Prerequisites

Economics and Law in Environmental Engineering

Rules of integrated grade setting

Integrated grade = lecture grade x 0.6 + project exercise grade x 0.4

Recommended readings

1. Environmental protection regulations, including Act of 3 October 2008 on *Making Accessible Information about Environment and its Protection, Public Participation in Environmental Protection and Environmental Impact Assessment* (Official Journal No 194, Item 1227 as amended) and *Regulation on Determination of the Types of Projects Which May Have a Substantial Impact on the Environment, and on Detailed Conditions to Be Met for a Project to Qualify for Preparation of the Environmental Impact Report* issued by the Cabinet on 9 November 2004 (Official Journal No 257, Item 2573).
2. Bar M., Jendrośka J., Lenart W.: *Ocena oddziaływania na środowisko w inwestycji budowlanej. Procedura prawna i sporządzanie raportów w procesie inwestycyjnym.* Wydawnictwo Verlag Dashofer. Warsaw 2009.
3. Florkiewicz E., Kawicki A.: *Postępowania administracyjne w sprawach określonych ustawą z dnia 3 października 2008 r., o udostępnianiu informacji o środowisku i jego ochronie, udziale społeczeństwa w ochronie środowiska oraz o ocenach oddziaływania na środowisko*. Ministerstwo Środowiska. Warsaw 2009.
4. Kulig A.: *Measurement and Modelling Based Methods Applicable in Environmental Impact Assessment of Municipal Utilities.* In Polish. Publishing House of Warsaw University of Technology, Warsaw 2004.
5. Lenart W., Stoczkiewicz M., Szcześniak E.: *Merytoryczne i społeczne źródła procesów OOŚ - udział społeczeństwa w decyzjach ekologicznych*. "*Eko-Konsult*" Design and Consultancy Office, Gdańsk 2002.
6. Podgajniak T., Behnke M., Szymański J.: *Wybrane aspekty oddziaływań środowiskowych - pozwolenia zintegrowane, analizy ryzyka, przeglądy ekologiczne i programy dostosowawcze*. "*Eko-Konsult*" Design and Consultancy Office, Gdańsk 2003.
7. Selected publications (bibliography items) from magazines, including *"Problemy ocen środowiskowych*" quarterly and „*Przegląd Komunalny*".
8. Selected internet sources (with accurate indication of the website address).

Contents of lectures (syllabus)

Item	Topics	Time (hours)	Scope (S/Ex)
1	Introductory issues. Environmental impact at the stage of implementation, operation and liquidation of a facility; and assessment of that impact. Basic definitions.	2	Ex
2	Brief history of environmental impact assessments globally, in the EU and in Poland. International principles and regulations (directives and conventions) applicable to environmental impact assessments.	2	Ex
3	Legal basis for environmental impact assessment procedures in Poland – evolution of regulations and their final status. Types of projects affecting the condition of the environment (policies, plans and programmes, and investment projects). Strategic Environmental Assessments (SEA).	2	Ex
4	Investment process in the context of environmental protection requirements. Technical objectives and types of environmental impact assessments (*screening*). Formal and legal procedures of environmental impact assessment – analysis of patterns. Environmental Impact Assessment in a Transboundary Context.	2	Ex
5	Formal procedure of environmental impact assessment at the project planning stage. Schedule of assessment procedures. Environmental impact assessment procedure for small investment projects. Decision on environmental conditions of project implementation.	2	Ex
6	Assessment methods and techniques. Source materials in environmental impact assessments. Use of environmental monitoring data. Determination of the scope for environmental impact assessment (*scoping*). Descriptive checklists.	2	Ex
7	How to make the assessments more detailed (from qualitative to quantitative). Environmental impact assessment methods: scaled and weighted checklists, matrices, overlay matrix, network interrelation matrix, environmental status comparison matrix, mathematical modelling.	2	Ex
8	Alternatives of solutions in environmental impact assessments. Extraordinary environmental hazards and their assessment.	2	Ex
9	European Ecological Network *Nature 2000* and its implications for SEA and EIA procedures.	2	Ex
10	Ex-post assessments and ecological surveys (ES). General principles of and formal requirements to be met by the surveys. ES of contaminated areas. Detailed ES procedures (privatisation processes, environmental management, solid waste management).	2	Ex
11	Examples of environmental impact assessments produced for industrial, infrastructure (road, railroad etc.) and municipal projects.	2	Ex

12	Environmental impact of wastewater and solid waste management facilities. Sources and types of the impact. Assessment of the wastewater treatment plant and solid waste dumping site impact range. Active and passive methods of reducing unfavourable impact.	4	Ex
13	Public participation in environmental impact assessment procedures. Formats and techniques of consultation exercises involving the general public. Role of an investor and environmental protection authorities in the environmental impact assessment procedure.	2	Ex
14	Environmental Impact Report – principles of elaboration and formal requirements. Assessment authors. Environmental impact assessment commissions and their powers.	2	Ex
	Total	**30**	**hours**

S – topics listed in the study programme standards
Ex – extended topics

Lecturers

Prof. nzw. dr hab. inż.Andrzej Kulig

Assessment method

Exam – credit in a written format.

Contents of guided projects

Item	**Topics**	**Time** (hours)	**Scope** (S/Ex)
1	Principles of granting credit for the module, division into groups. EU and national legislation, and readings facilitating production of an environmental impact assessment report. Brief characteristics of environmental impact assessment.	1	Ex
2	Description of individual groups of projects. Formal and legal requirements towards individual groups of projects. Selection of topics on the basis of the Resolution issued by the Cabinet. Decision on underlying environmental conditions: characteristics.	1	Ex
3	Presentation of the scope of the report. Description of the planned project: its location, conditions of land use in the phase of construction and operation. Selection of location for the chosen project.	1	Ex
4	Description of analysed variants of the planned projects. Expected types and amounts of contaminants resulting from the operation of the planned project. Technological diagrams.	1	Ex
5	Description of natural elements of the environment covered by the scope of the expected impact. *Natura 2000* Sites: brief characteristics.	1	Ex
6	Description of proposed technical and technological solutions. Presentation of alternative solutions.	1	Ex

7	Expected impact on individual environmental elements at the stage of construction, operation and liquidation. Presentation of environmental impact assessment methods which have been employed.	1	Ex
8	Leopold's matrix.	1	Ex
9	Description of expected activities aimed at prevention, reduction or compensation of unfavourable impact.	1	Ex
10	Analysis of possible social conflicts. Suggested methods of avoiding or minimising them.	1	Ex
11	Presentation of proposed monitoring of a project impact at the construction and operation stage.	1	Ex
12	Verification of obtained results. Analysis of limitations and difficulties. Production of a final environmental impact assessment report.	1	Ex
13	Presentation of final reports. Guided project wrap-up and making out of grades.	3	
	Total	**15**	**hours**

S – topics listed in the study programme standards
Ex – extended topics

Persons responsible for guided projects

Prof. nzw. dr hab. inż. Andrzej Kulig, Dr inż. Agnieszka Pusz

Assessment method for guided projects

Attendance, preparation of a project and successful completion of the guided project exercises (defence of the project).