

Tadeusz Kosciuszko Cracow University of Technology

Course Card

Faculty of Civil Engineering

Field of study: Civil Engineering

Study profile: general academic

Study form: full-time

Field of study code: BUD

Study cycle: 1st

Specialty: no specialty

1 COURSE INFORMATION

Course name	Ekologia
Course name in English	Ecology
Course code	WIL BUD oIS A2 24/25
Course category	Przedmioty ogólne
No. of ECTS points	2.00
Semester	1

2 CLASS TYPE, NUMBER OF HOURS ACCORDING TO THE STUDY PLAN

Semester	Lecture	Class exercise	Laboratory	Computer lab	Design exercise	Seminar
1	15	0	0	0	15	0

3 COURSE OBJECTIVES

Objective 1 objectives of the subject: Understanding of processes and phenomena occurring in the environment

4 PREREQUISITES IN TERMS OF KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1 Prerequisites for knowledge, skills and other competences: mathematics and physics based on the program of the high school

5 LEARNING OUTCOMES

LO1 **Knowledge:** understanding some characteristics of regulatory and economic

LO2 **Skills:** monitoring data interpretation skills

LO3 **Knowledge :** understanding processes short and long term in the environment

LO4 **Skills:** calculations and comparison

6 COURSE CONTENT

Design exercise		
No.	Subject matter of the course Detailed description of thematic blocks	No. of class hours
P1	Detailed description of the thematic blocks: Basic indicators of environmental assessment (NDS toxic product, quotient toxicity), the energy balance of the building and air pollution. Type of heat source, and emissions of oxides of non-metallic compounds, particulates and dioxins. Construction Solutions Materials: selection of quality and quantity of construction materials for the chemical internal environmental pollution, energy consumption of materials and components construction, assessment of environmental quality criteria for: heat and economy. Measurement of basic parameters of air pollution, development measurement results, the mobile monitoring station. Comparative analysis of measurement results and restrictive parameters of the external environment.	15

Lecture		
No.	Subject matter of the course Detailed description of thematic blocks	No. of class hours

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L1	Detailed description of the thematic blocks: Fundamentals of ecology. Ecology of the population. Mitigating factors and environmental resources such as: air, water and soil. Tolerance of limiting factors and environmental resources. The law of weakest link. Liebiega Law. Shelford Law. Biocoenosis, ecological niche. Levels trophic. Ecology of rivers and water deposits eutrophication, the characteristics of urban and industrial waste disposal water. Some legal and environmental aspects. Limits contaminants, methods of determining the limit values. The greenhouse effect, acid rain, ozone hole, ozone mundane. Types of land degradation and forest. Sources of vibration and noise occurring in the environment and their limits. Effect of vibration and noise on human health and state construction. Applications of spatial information systems in the assessment of environment. Elements of mycology and toxicology: poisons and toxins, radioactivity. Causes contamination of the environment of internal and external trade in toxic, radioactive. Waste-site formation, classification. Municipal waste, hazardous and industrial morphology. Impact of pollution, vibration and noise on human health and the state structure.	15

7 TEACHING TOOLS

N1 Design exercises

N2 Lectures

N3 Discussion

N4 consultations

N5 Multimedia presentations

N6 work in groups

N7 Table tasks

8 Student workload

Activity form	Number of hours of activity
Hours realized in contact with the teacher	
Hours resulting from the study plan	30
Consultation hours	0
Exams and tests during session	10
exams and passing credit	0
Hours of autonomous student work	
Preparing for classes, studying literature	10
Developing results	10
Preparing of reports, projects presentations, discussion	0
preparation for classes, including studying literature 10hours, compilation of results 10 hours	0
Total number of hours devoted to the subject	60
Total number of ECTS points	2.00

9 Methods of grading

behavior that meets the principles of social coexistence

Partial grades

F1 tests

F2 oral answer

F3 Individual project

Summary grade

P1 Weighted average of forming grades

Conditions for passing the course

L1 attendance, systematic work in the semester, subject passed in the semester
