Course title: **Environmental monitoring and protection** Monitoring i ochrona środowiska		
Field of study:		
Type of study: **full-time studies**	The level of education: **first-cycle studies**	Education profile: **academic**
Type of subject: **optional**	Semester: **VI**	Course language: **English**
Course type: **lecture, tutorials**	Number of hours: **30L, 30T**	ECTS Credit points: **7**

SYLLABUS

COURSE CONTENT

Form of classes - lectures	**Hours**
Programme, structure and fundamentals of the State Environmental Monitoring Programme	4
Definition, objectives, tasks of monitoring in environmental subsystems	6
Current legislations with respect to environmental monitoring	2
The directions of studies in the environmental biomonitoring	2
Discussion and presentation of students	1
Origin and types of pollutants in selected environmental elements	4
Biological processes applied in the treatment of wastewater	2
The removal of organic and biogenic pollutants from wastewater	2
Protection of polluted sediments	2
Protection of polluted soils	2
Protection of polluted air	2
Discussion and presentation of students	1
Form of classes - tutorials	**Hours**
Computer laboratory safety training	1
Introduction to the rules of existing selected data bases and networks	2
Analysis of monitoring data coming from the selected monitoring station	7
Interpretation of results of the pollution state	3
Preparation of laboratory work report	2
Examples of environmental protection technologies	8
Group discussion on a selected topic	2
Presentation on a selected topic	4
Course summary	1

COURSE STUDY METHODS

1. blackboard
2. multimedia presentation

3. monitoring data coming from the selected monitoring network station

METHODS OF ASSESMENT (F - formative; S - summative)

F1. - activity in classes
F2. - evaluation of laboratory work and preparation of laboratory report
S1. – Presentation

STUDENT WORKLOAD

Form of activity	Workload (hours)
Participation in lectures	29 h
Participation in classes	-
Laboratory	30 h
Participation in project classes	-
Participation in seminar	-
Preparation course on e-learning	-
Test	-
Entrance test for laboratory classes	-
Project's defence	1 h
Exam	-
Consultation hours	20 h
DIRECT TEACHING, hours/ ECTS	**80 h / 3,2 ECTS**
Preparation for tutorials	35h
Preparation for laboratories	30 h
Preparation for projects	-
Preparation for seminars	-
Preparation for e-learning classes	-
Participation in e-learning classes	-
Working on project	-
Preparation for tests	30 h
Preparation for exam	-
SELF-STUDY, hours/ ECTS	**95 h / 3,8 ECTS**
TOTAL (hours)	**175 ∑**
TOTAL ECTS	**7 ECTS**

PRIMARY AND SUPPLEMENTARY TEXTBOOKS

Current the State Environmental Monitoring Programme
Jones A., Duck R., Reed R., Weyers J.: Environmental sciences, PWN, Warsaw 2002
Current legislations with respect to environmental monitoring with respect to the water, soil,
Air
Sibi, G., Environmental Biotechnology Fundamentals to Modern Techniques, CRC Press, 2023
Environmental Protection, GUS, Warsaw (current)

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