

## MODULE INFORMATION SHEET

<b>Name of Module Unit</b>		<b>Acquisition and Management of Environmental Data</b>				
Name in polish language		Pozyskiwanie i zarządzanie danymi o środowisku				
Module type		compulsory / elective				
Form of studying		full-time day courses				
Level of study		graduate course (M.Sc. level)				
Type of study ( for extra-mural courses)		-				
Programme		Environmental Engineering				
Speciality		Environment Protection Engineering				
Responsible department		Dept. of Informatics and Environment Quality Research				
Responsible person		Dr inż. Mariusz Rogulski				
Semester	Lectures(E)	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
1	30			15		3

### Learning outcomes (knowledge, skills, competences)

The objective of this course is to present:

- theoretical, methodological and practical issues responsible for the flow of metadata, data and environmental information from the source to the recipient, including: creation, transmission, storage, processing, modelling, interpretation, presentation and dissemination of data and information;
- the role of disciplines such as measurement techniques, telecommunications, information technology and others in the construction of information systems about the environment;
- information technology used to build elements of environmental information systems and principles of design, implementation, operation and development of these elements;

### Prerequisites

Information Technology

### Rules for integrated grade setting

Arithmetic mean of the project and test. Scores of the test and the project not less than 3.

### Recommended readings

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## Contents of lectures (syllabus)

	Topics	Time (hrs.)	Scope (S / Ex)
1	Specificity of environmental information, relation to environmental sciences and IT.	2	S
2	Types of data and information, sources of environmental data	2	S
3	Measurement methods in environmental systems (referential and low-cost)	4	S
4	Information about the environment and the formal and legal aspects.	2	S
5	Overview of technical standards and standards related to environmental information (ISO, CEN, OGC)	4	S
6	Standards for describing measurement and observation processes	4	S
7	Metadata as the source of information about the environment	2	S
8	Introduction to XML and GML	2	S
9	Spatial data infrastructures, eg. INSPIRE	2	S
10	Basics of data processing in the aspect of standardization and harmonization	2	S
11	Searching and presentation of environmental information	2	S
12	Final exam	2	
<b>Total</b>		<b>30</b>	<b>hours</b>

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

### Lecturers

Dr inż. Mariusz Rogulski
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### Assessment method

The positive evaluation of the test
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## Contents of computer exercises

	Topics	Time (hrs.)	Scope (S / Ex)
1	Identifying sources (referential and non-referential) of selected part of environmental data	2	S
2	Using OGC O&M standard for writing some measurement data	4	S
3	Modeling measurement process of selected part of environmental data	3	S
4	Using OGC SensorML standard for coding measurement process of selected part of environmental data	4	S
7	Project presentation	2	S
<b>Total</b>		<b>15</b>	<b>hours</b>

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

### Persons responsible for computer exercises

Dr inż. Mariusz Rogulski
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### Assessment method for computer exercises

Positive evaluation of the project created during computer exercises
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