



## IV. Description of the study program

### 3. COURSE CARD

Course code	<b>M#1- S1-ME-705</b>
Course title	<b>Zarządzanie środowiskiem i ekologia</b>
Course title	<b>Environmental Management and Ecology</b>
Since	<b>2019/2020</b>

#### MODULE PLACEMENT IN THE STUDY SYSTEM

Field of study	<b>MECHANIKA I BUDOWA MASZYN</b>
Education level	<b>1st degree</b>
Study profile	<b>generally academic</b>
The form and mode of conducting studies	<b>full-time studies</b>
Scope	<b>wszystkie</b>
Unit conducting the subject	<b>Katedra Pojazdów Samochodowych i Transportu</b>
Course coordinator	<b>Dr inż. Dariusz Kurczyński</b>
Approved	

#### GENERAL COURSE CHARACTERISTICS

Belonging to a group / block of subjects	<b>przedmiot podstawowy</b>
Course status	<b>obowiązkowy</b>
Language of course	polski
Location of the module in the study plan - semester	<b>semestr 7</b>
Prerequisites	
Exam (YES / NO)	NIE
Number of ECTS credits	<b>1</b>

Form of teaching	lecture	exercise	laboratory	project	seminar
Number of hours per semester	<b>15</b>				

## LEARNING OUTCOMES

Category	Effect symbol	Educational outcomes	A reference to directional effects
Knowledge	W01	The student knows the basic issues of ecology and environmental management systems. He knows the basic sources of information on ecology and environmental management systems.	MiBM1_W23
	W02	The student has knowledge of the sources of environmental pollution related to human economic and living activities.	MiBM1_W23
	W03	The student knows the phenomena resulting from human economic activity that threaten the environment of his life and other populations. He knows the effects of these phenomena on the environment.	MiBM1_W23
Social competence	K01	The student is aware of the threats posed to the environment by economic and living human activities.	MiBM1_K02
	K02	The student understands the need to comply with the changing requirements in the field of environmental protection, both in the household and in the enterprise.	MiBM1_K02

## PROGRAM CONTENT

Form of classes*	PROGRAM CONTENT
lecture	1. Introduction to the subject. Literature. Explanation of the concept of ecology. The scope of ecology research. Basic ecological concepts and their definitions. Ecology departments. Abiotic factors and biotic factors of the environment. Environmental factors limiting the occurrence of organisms. The range of organisms' tolerance to environmental factors.
	2. Population and its characteristics. Population structure. Interactions between populations. Biocenosis. Food chains and trophic levels. Trophic pyramids. Biodiversity. Manifestations of biological diversity. Causes of threats to biological diversity. Ecosystem and its structure and functioning. Ecological succession..
	3. The relationship of human to nature at various stages of its development. Sources and types of environmental pollution. Atmospheric pollution. Types of water pollution. Methods of water protection against pollution. The importance of soil in nature and human activity. The causes of soil degradation. Ways of soil protection. Types of waste. Nuisance of waste for the environment. Protection of the environment against waste.
	4. Phenomena related to air pollution: greenhouse effect, ozone hole, acid rain, smog. The reasons for their formation and the effects of their impact on the environment and humans. Possibilities of preventing the effects of these phenomena.
	5. Basic concepts of environmental management science. The idea and principles of sustainable development. General model of the management system. Environmental management facility. Components of the management object: society, economy, environment. Environmental management processes management system: managing institutions, management tools.
	6. Environmental management measures. Ecological policy. Principles of ecological policy. Poland's ecological policy. Ecological policy of the European Union. Programming and planning in environmental management. Environmental monitoring. Basic information on the system of financing environmental protection.
	7. Environmental management instruments. Nature conservation management. Water management. Waste management management. Safety and environmental risk management. Environmental management in the enterprise.
	8. Final test.

\*) leave only the forms of classes carried out

## METHODS OF VERIFICATION OF LEARNING OUTCOMES

Effect symbol	Methods of checking the learning outcomes (mark X)					
	Oral exam	Written test	Colloquium	Project	Reporting	Other
W01			X			
W02			X			
W03			X			
K01			X			X
K02			X			X

## FORM AND CONDITIONS OF ASSUMPTION

Form of classes*	Examination	Passing conditions
lecture	zaliczenie z oceną	Grade 3.0 requires obtaining at least 50% of the test points. Grade 3.5 requires obtaining at least 60% of the test points. The grade 4.0 requires obtaining at least 70% of the test points. Grade 4.5 requires obtaining at least 80% of the test points. The grade 5.0 requires at least 90% of the test points.

\*) zostawić tylko realizowane formy zajęć

## STUDENT'S WORK INPUT

Balance of ECTS points							
Lp.	Type of activity	Student workload					Unit
		W	C	L	P	S	
1.	Participation in classes according to the study plan	15					h
2.	Other (consultation, exam)	2					h
3.	Together with the direct participation of an academic teacher	17					h
4.	The number of ECTS points that a student obtains with the direct participation of an academic teacher	0,7					ECTS
5.	Number of hours of independent work of the student	8					h
6.	The number of ECTS points that the student obtains as part of independent work	0,3					ECTS
7.	Workload related to practical activities	0					h
8.	The number of ECTS points that the student obtains during practical classes	0,0					ECTS
9.	Total student workload	25					h
10.	ECTS credits per module 1 ECTS point = 25 hours of student workload	1					ECTS

## LITERATURE

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14. Zarządzanie środowiskiem. Redakcja naukowa Bazylego Poskrobko. Polskie Wydawnictwo Ekonomiczne. Warszawa 2007.
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