Department of Civil and Environmental Engineering				
Field of study	**Landscape Architecture**		Type of study	**full-time 1st degree (Bsc)**
Specialization	**Development of green areas**		Path diploma	
Course name	**Meteorology and climatology**		Code	**O11115**
Type of course 0)	compulsory	Semester: **1**	Point ECTS 1)	**5**
Number of hours in semester:	L - 30 A- 30 Lb- 0 Ws- 0 D- 0 S- 0			
Introductory course	*Prerequisites "-"*		*The mechanic of liquid and gases. Mechanical devices of the environment in the engineering. Hydrology.*	
Lerning outcomes:	1. Learn how to analyze atmospheric conditions and processes as a component of the environment affecting the functioning of ecosystems. 2. Identify and teach skills forecasting based on meteorological data. 3. Education skills to analyze the impact of weather conditions on the geographical environment and the economy.			
Form of lecture asessment	Lecture – written exam; exercise –kolloquium			
Frame programme:	General characteristics of the measurements in meteorology, climatology. Location and facilities obsrvation points. Principles of meteorological measuremenst and observations, and climatiological studies of selected elements (temperature, humidity, pressure, precipitation and sediment, wind speed, cloud cover, visibility, sunshine and radiation). Rules based on the construction of the isobars pressure data at the measuring pionts. Weather maps and synoptic analysis. Forecasting the weather. Climate and climate factors.			

Learning outcomes	*Save a minimum of 4, maximum of 8 on the order of learning outcomes: knowledge-skills-competence. Use verbs from the set listed below. Each effect of education must be verifiable.*	*Directional reference to learning outcomes 3)*
EK1	student recognizes and interprets the states of the atmosphere and its variability in space and time,	K_W05
EK2	defines and justifies the weather forecasting based on meteorological data,	K_W05, K_U04
EK3	determines the impact of weather conditions on ecosystems and the economy,	K_U22
EK4	able to work in a team	K_K04

Balance of student workload (in hours)	Participation in lectures	30 x 1h =	30
	Participation in laboratory exercises + laboratory + studio specialized	30 x 1h =	30
	Preparing to exercise auditorium/laboratory/seminar	15 x 1h =	15
	Develop reports of laboratory or workshop and/or completion of homework assignments	10 x 2h =	20
	Participation in consultations related to the exercise/seminar/project	5 x 1h =	5
	Implementation of the project tasks (including preparation of presentation)	10 x 2h =	20
	Preparing for the exam/credits and the presence on it		5
	Preparing for the assessment exercise + presence at kolloguiums		5
		sum: [1)]	130
Quantitative indicators:	Student workload associated with activities that require direct participation of the teacher: 30h+30h+5h+4h=69	69	ECTS [4,5)] 2
	Student workload associated with activities of a practical nature: 30h+15h+20h+5h+20h+6h=96	96	3
Primary literature:	1. Kożuchowski K. i inni: Meteorologia i klimatologia. Wyd. PWN, Warszawa 2009, 2.Kossowska-Cezak U.: Meteorologia i klimatologia. Wyd. PWN, Warszawa 2000, 3. Rojek M., Żyromski A.: Agrometeorologia i klimatologia. Wyd. Akademia Rolnicza we Wrocławiu, Wrocław 2000. 4. Wyszkowski A.: Przewodnik do ćwiczeń terenowych z meteorologii i klimatologii. Wyd. Uniwersytetu Gdańskiego, Gdańsk 2009.		
Supplementary literature:	1. Koźmiński Cz., Michalska B.: Agrometeorologia i klimatologia. Wyd. Akademia Rolnicza w Szczecinie, Szczecin 2008. 2. Mrugała Sz.: Problematyka pomiarów i opracowań elementów meteorologicznych. Wyd. Uniwersytetu Marii Curie-Skłodowksiej, Lublin 2001. 4. Erich J. Plate: Engineering meteorology : fundamentals of meteorology and thier application to problems in environmental and civil engineering. Amsterdam : Elsevier, 1982. 5. Smith, Peter: Architecture in a climate of change a guide to sustainable design, Oxford ; Boston : Architectural Press, 2005.		

Number of learning outcomes	Method of verification of learning outcomes	Form classes
EK1	Lecture – written exam; exercise – kolloquium	L, A
EK2	Documentation of exercises + attached file with a presentation and discussion of exercise, Lecture – written exam.	A, L
EK3	Documentation of exercises + attached file with a presentation and discussion of exercise, Lecture – written exam.	A, L
EK4	Discussion of exercise, work in the classroom observation	A, L

Unit running the course	Department of Environmental Engineering Systems	People running:	*PhD M.Walery*

Date:	2-02-2012	The content was worked out by:	*PhD M.Walery*

Uwagi i komentarze w arkuszu nr 2