

Faculty of Civil and Environmental Engineering					
Study programme:	Spatial management	Degree level:	full-	Bachelor's degree	
Specialization		time programme:		Diploma path: -	
Module name:	Measurements and analysis on maps				
Module type:	obligatory	Semester:	2	ECTS	3
No. of hrs in semester:	L - 15	C -	LC-	P- 30	SW- S-
Prerequisites:	<i>Complete with prerequisites or "-"</i>		"-"		
Teaching methods:	<i>lecture, class, laboratory class, project, seminar, specialization workshop</i>	Assessment:	<i>Evaluation must be relevant to the intended learning outcomes</i>		
		lecture - written assessment; spacialization workshop - completion, presentation and discussion of the project			
Aims and objectives:	<i>Show students the role and importance of maps in land management and planning. To familiarize students with the measurements and analysis on the maps associated with the execution of tasks and spatial planning.</i>				
Module content:	<i>Maps as a source of spatial data. Maps and geodetic studies in planning and land management. Basic map. topographic maps. Measurements and calculations situational maps. Measurements and analysis on the contour maps. Methods for determining surface areas. Methods for determining the volume of earth.</i>				
Learning outcomes	<i>Write min. 4, max. 8 learning outcomes in the following order: knowledge - skills - competences. Each learning outcome must be verifiable.</i>			<i>Relevance to the programme learning outcomes</i>	
LO1	know the role and importance of different types of maps in the tasks of spatial management			K_W12	
LO2	versed in the trends of development in the field of geodesy and cartography and surveying products determinants news			K_W20	
LO3	is, integrates and interprets knowledge of surveying the literature, databases, and other sources			K_U01, K_U16	
	apply the acquired knowledge to solve specific tasks associated with the use of maps and develops documentation of measurements and analyzes on maps			K_U02, K_U16, K_U21, K_U22	
LO5	understands the need for continuous continuous improvement of their competence and qualifications			K_K01	
LO6					
LO7					
LO8					

student workload	lecture attendance	15 x 1h	15
	participation in excersies	15 x 2h	30
	preparation for excersies		5
	work on projects, reports, etc.		20
	preparation for discussion of project		10
	preparation for exams/tests		5
	participation in student-teacher sessions		5
		TOTAL:	90
quantitative indicators	Student workload - activities that require direct teacher participation	50	ECTS 1,7
	Student workload - practical skills activities	70	2,3
basic references:	<p>1.Łyszkowicz A.: <i>Geodezja czyli sztuka mierzenia Ziemi</i>. Wyd.UWM, Olsztyn 2006; 2.<i>Elementy geodezji w pomiarach inżynierskich</i>. Wyd.PB, Białystok 1995. (praca zbiorowa) ; 3.Kosiński W. <i>Geodezja</i>. Wyd.Naukowe PWN, 2010. 4.Przewłocki S.: <i>Geodezja dla kierunków niegeodezyjnych</i>. Wyd. Naukowe PWN, 2002;</p>		
supplementary references:	<p>1.Jagielski A.: <i>Geodezja I</i>. Wyd. GEODPIS, Kraków 2005; 2.Jagielski A.: <i>Geodezja II</i>. Wyd. GEODPIS, Kraków 2007 3.Brinker R.C., Minnick R.: <i>The Surveying</i></p>		
learning outcomes	<i>methods of assessing learning outcomes</i>	type of class (if more than one) where the outcomes are assessed	
LO1	written assessment of lecture, discussion and assessment of project on specialization workshop	L, P	
LO2	written assessment of lecture, discussion and assessment of project on specialization workshop	L, P	
LO3	evaluation of work in the classes, evaluating and discussion of project	P	
LO4	evaluation of work in the classes, evaluating and discussion of project	P	
LO5	observation of work in the classroom	P	
LO6			
LO7			
LO8			
Department:	Division of Spatial Information	Group instructors:	dr hab. inż. Andrzej Kobryń mgr inż.. Karolina Ogrodnik
Date:	28.02.2014	Coordinator:	dr hab. inż. Andrzej Kobryń

L - lecture C - class LC - laboratory class P-project
SW - specialization workshop S - seminar