Faculty of Civil and Environmental Engineering					
Study programme:	**Civil Engineering**	Degree level: full-time programme:	**Master's degree**		
Specialization		Diploma path:	**-**		
Module name:	**Steel structures from cold formed thin gauge memebers**				
Module type:	**elective**	Semester: **2**	ECTS **4**	Module ID:	
No. of hrs in semester:	L - 30 C - LC- P- SW- 30 S-				
Prerequisites:	*Complete with prerequisites or "-"*	-			
Teaching methods:	*lecture, class, laboratory class, project, seminar, specialization workshop*	*Assessment:*	*Evaluation must be relevant to the intended learning outcomes*		
		lecture - tests; specialization workshop - design of the light structure made of cold formed thin gauge memebrs.			
Aims and objectives:	*The purpose of education is to prepare students to participate in the procedures of design of a structure made of cold formed thin gauge memebrs.*				
Module content:	*The general characteristics, scope of application, advantages and faults of steel constructions made of cold formed thin gauge members. Material, products, cold formed members, protecting construction from corrosion and fire. Splices and end connections, spot welds, lap welds, conections with mechanical fasteners. General methods of designing, ultimate streses. Calculating of cold formed members according the Vlasov theory, resistance of cross sections, axial tension, axial compresion*				
Learning outcomes	*Write min. 4, max. 8 learning outcomes in the following order: knowledge - skills - competences. Each learning outcome must be verifiable.*			*Relevance to the programme learning outcomes*	
LO1	Student (graduate) has profound knowledge regarding the design of light steel structures			K_ B2_W10	
LO2	Student (graduate) has profound knowledge regarding using cold formed sections			K_ B2_W14	
LO3	Student (graduate) uses advanced tools in order to acquire useful information assisting work of a designer and constructor. Student (graduate) can interpret and critically evaluate acquired information as well as formulate and justify opinions.			K_ B2_U05	
LO4	Student (graduate) can draw up a study preparing to scientific work. Student (graduate) can present results of own scientific research.			K_ B2_U22	
LO5	Student (graduate) can determine directions of a further education and realize self-education.			K_ B2_U23	
LO6	Student (graduate) understands importance of non-technical aspects and consequences of engineering activity, including its influence on the environment and related responsibility for decisions.			K_ B2_K02	
LO7	Student (graduate) properly identifies and resolves dilemmas related to the practiced profession.			K_ B2_K05	

LO8	Student (graduate) is aware of a social role of a technical university graduate, in particular understands the need of formulation and dissemination of information and opinions referring to scientific and technical achievements and other aspects of engineer's activity; makes efforts to pass on such information and opinions in an understandable way with justification of different points of view.	K_ B2_K07	
student workload	lecture attendance	15 x2h =	30
	participation in projectsc.	15 x2h =	30
	preparation for projects	15 x2h =	30
	participation in student-teacher sessions related to the class / seminar /	5 x1h =	5
	implementation of project tasks	10 x1h =	10
	preparation for and participation in exams/tests	5 x1h =	5
	preparation for projects	5 x1h =	5
		TOTAL:	115
quantitative indicators	Student workload - activities that require direct teacher participation	67	ECTS 2,5
	Student workload - practical skills activities	80	3,0
basic references:	*ródka J., Broniewicz M., Giżejowski M.: Formed profiles. Design guide. PWT Rzeszów 2006 (in polish).*		
supplementary references:	*EN 1993-1-3:2006 (U) Eurocode 3 - Design ofr steel structures - Part 1-3.*		

learning outcomes	*methods of assessing learning outcomes*	type of class (if more than one) where the outcomes are assessed
LO1	written test lecture, developing an environmental impact report	L, SW
LO2	written test lecture, developing an environmental impact report	L, SW
LO3	development of an environmental impact report with support of specialized computer programs	SW
LO4	development of an environmental impact report, the correction	SW
LO5	development of an environmental impact report	SW
LO6	development of an environmental impact report, the correction	SW
LO7	development of an environmental impact report	SW
LO8	development of an environmental impact report	SW

Department:		Group instructors:	dr inż. Miroslaw Broniewicz
Date:	20.01.2014	Coordinator:	dr inż. Miroslaw Broniewicz

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