Faculty of Civil and Environmental Engineering				
Study programme:	**Civil Engineering**		Degree level: full-time/part-time programme:	**Master's degree Full-time**
Specialization:	**Communication-Building**		Diploma path::	**-**
Module name:	Design and building of roads pavements		Module ID:	**L32266**
Module type:	**Elective S**	Semester: **2**	ECTS [1]	**4**
No. of hrs in semester:	L - 15 C- 0 CL - 0 P - 30 WS - 0 S - 0			
Complete with prerequisites or "-"	Building Materials, Road Construction, Road Design			
Aims and objectives:	*Description of assumed knowledge, skills and social competence the student should have acquired after the completion of the module:* To familiarize students with the design of mechanistic methods and technologies paving their construction.			
Assessment:	Lecture - written tests; project - correction, the protection, presentation and discussion of the project			
Module content:	*Complete with module content:* Theoretical models of road pavement construction. Mechanistic methods of structural design of road pavements susceptible semi-rigid and rigid. Mechanistic methods of dimensioning pavement reinforcement. Specific aspects of the construction of roads mineral-bituminous and cement concrete.			
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	describes the theoretical models of construction roads		K_B2_W11, K_B2_W12, K_B2_U14,	
LO 2	known theoretical models describing the rheological properties of asphalt mixes and binders		K_B2_W06, K_B2_W10, K_B2_U14,	
LO 3	know how to design structures and strengthening of road pavements by mechanistic methods		K_B2_W06, K_B2_W11, K_B2_U12, K_B2_U14,	
LO 4	know the details of construction technologies pavement construction layers		K_B2_W12, K_B2_W18, K_B2_U15,	
student workload	lecture attendance		15 x 1h =	15
	participation in classes, laboratory classes, etc.		15 x 2h =	30
	preparation for classes, laboratoratory classes, projects, seminars, etc.			
	work on projects, reports, etc.		15 x 1h =	15
	participation in student-teacher sessions related to the class /seminar / project		15 x 1h =	15
	implementation of project tasks			
	preparation for and participation in exams/tests			10
	preparation for and participation			10
	work on projects, reports, etc.		15 x 1h =	15
			RAZEM: [1]	110
quantitative	Student workload - activities that require direct teacher participation			ECTS [4,5]

indicators		63	2,5
	Student workload - practical skills activities	70	2,5
basic references:	1. Piłat J., Radziszewski P.: „Nawierzchnie asfaltowe", WKiŁ, Warszawa, 2010 2. Godlewski D.: „Nawierzchnie drogowe", WKiŁ, Warszawa, 2011 3. Rozporządzenie MTiGM z dnia 2.03.1999r. w sprawie warunków technicznych, jakim powinny odpowiadać drogi publiczne i ich usytuowanie. Dz.U.Nr 43, poz. 430 4. Katalog typowych konstrukcji nawierzchni sztywnych. GDDP, Warszawa 2001 5. Szydło A.: "Nawierzchnie drogowe z betonu cementowego", Kraków, 2004		
supplementary references:	1. Kalabińska M., Piłat J., Radziszewski P.: "Technologia materiałów i nawierzchni drogowych", Warszawa, 2005 2. Ministerstwo Infrastruktury, IBDiM: "WT-2 - Nawierzchnie asfaltowe na drogach publicznych", Warszawa, 2010 3. Lay M.G.: The handbook of road technology, 2009		
learning outcomes	*methods of assessing learning outcomes*		type of class (if more than one) where the outcomes are assessed
LO1	written tests		L
LO 2	written tests		L
LO 3	written tests, correction, the protection, presentation and discussion of the project		L, P
LO 4	written tests, correction, the protection, presentation and discussion of the project		L, P
Department:	Division of Road Engineering	Group instructors:	*dr inż. Andrzej Plewa,* *mgr inż. Paweł Gierasimiuk*
Date:	10.02.2012	Coordinator:	*dr inż. Andrzej Plewa*