Faculty of Civil and Environmental Engineering				
Study programme:	**Civil Engineering**		Degree level: full-time/part-time programme:	**Engineering degree Full-time**
Specialization:	**Communication-Building**		Diploma path::	**Road Construction**
Module name:	Roads pavements		Module ID:	**B36352**
Module type:	**Elective SD**	Semester: **6**	ECTS [1]	**3**
No. of hrs in semester:	L - 30 C- 0 CL - 0 P - 15 WS - 0 S - 0			
Complete with prerequisites or "-"	Basics of communications engineering, Road building			
Aims and objectives:	*Acquainting students with the design and technology of construction of road pavements.*			
Assessment:	Lecture - written tests; project - correction, the protection, presentation and discussion of the project			
Module content:	*Complete with module content:* Technology of the structural layers of asphalt pavement and cement concrete. Technical parameters of the layers of road pavement construction. Restorations Road - construction technology, design, research. Basics of structural dimensioning of road surfaces susceptible, semi-rigid and rigid.			

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*
EK1	describes the technologies of road construction	K_B1_W04, K_B1_W07, K_B1_U06, , K_B1_U23
EK2	characterized machinery and equipment in the construction of the road structure	K_B1_W08, K_B1_W11, K_B1_U18
EK3	knows flowsheets performing layers of road pavement construction	K_B1_W19, K_B1_U13, K_B1_U18
EK4	know how to design the road surface structures by catalogs methods	K_B1_W11, K_B1_U16

student workload			
	lecture attendance	30 x 1h =	30
	participation in classes, laboratory classes, etc.	15 x 1h =	15
	preparation for classes, laboratoratory classes, projects, seminars, etc.		
	work on projects, reports, etc.	5 x 2h =	10
	participation in student-teacher sessions related to the class /seminar / project	3 x 1h =	3
	implementation of project tasks		
	preparation for and participation in exams/tests		10
	preparation for and participation		7
	work on projects, reports, etc.	15 x 1h =	15
		RAZEM: [1]	90

quantitative indicators			
	Student workload - activities that require direct teacher participation		ECTS [4,5]
		53	2,0

	Student workload - practical skills activities	50	2,0
basic references:	1. *GDDKiA: „Katalog typowych konstrukcji podatnych i półsztywnych, Warszawa 2014.* 2. *GDDKiA: „Katalog typowych konstrukcji sztywnych, Warszawa 2014.* 3. Piłat J., Radziszewski P.: „Nawierzchnie asfaltowe", WKiŁ, Warszawa, 2010 4. Błażejowski K., Styk S.: "Technologia warstw asfaltowych", WKiŁ, Warszawa, 2004 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, 2003 2. *GDDKiA:* "WT-2 - Nawierzchnie asfaltowe na drogach publicznych", Warszawa, 2014 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,* *dr inż. Marta Wasilewska* *mgr inż. Paweł Gierasimiuk*
Date:	30.04.2013r.	Coordinator:	*dr inż. Andrzej Plewa*