

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:	Technology of road materials		Module ID:	B36354
Module type:	Elective SD	Semester: 6	ECTS ¹⁾	5
No. of hrs in semester:	L - 30 C- 0 CL - 30 P - 0 WS - 0 S - 0			
Complete with prerequisites or "-"	Building materials, Road building			
Aims and objectives:	<i>Acquainting students with the technology of production, properties and testing of road materials.</i>			
Assessment:	Lecture - written exam; Laboratory - execution of laboratory test reports, passing the test			
Module content:	<i>Complete with module content:</i> Road materials - classification, requirements. Aggregates - technical characteristics, production technology. Bituminous binders - properties, methods of research. Bituminous mixtures - characteristics, types. Properties of cement concrete used in road construction. Production technology of asphalt mix concrete and cement.			
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>	
EK1	known function materials for the structural layers of the road surface		K_B1_W04, K_B1_W07, K_B1_U06 K_B1_U23	
EK2	knows the processes of production of road materials		K_B1_W08, K_B1_W18, K_B1_U13, K_B1_U18	
EK3	knows how to design mineral-asphalt mixes and mineral-cement mixes		K_B1_W11, K_B1_U16	
EK4	perform basic laboratory tests for mineral-asphalt mixes and mineral-cement mixes		K_B1_W07, K_B1_U08	
student workload	lecture attendance		15 x 2h =	30
	participation in classes, laboratory classes, etc.		15 x 2h =	30
	preparation for classes, laboratory classes, projects, seminars, etc.			15
	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.			
			Summary: ¹⁾	125
quantitative indicators	Student workload - activities that require direct teacher participation			ECTS ^{4,5)}
			75	2,5

	Student workload - practical skills activities		85	3
basic references:	1. Piłat J., Radziszewski P.: „Nawierzchnie asfaltowe”, WKiŁ, Warszawa, 2010 2. GDDKiA: "WT-2 - Nawierzchnie asfaltowe na drogach krajowych", Warszawa, 2016 3. Piłat J., Radziszewski P., Król J.: Technologia materiałów i nawierzchni asfaltowych, 2015 4. GDDKiA: "WT-1 - Kruszywa do mieszanek mineralno-asfaltowych i powierzchniowych utrwaleń na drogach krajowych ", Warszawa 2014 5. Glinicki M.A.: Inżynieria betonowych nawierzchni drogowych, 2019 6. Radziszewski P., Piłat J., Sarnowski M., Król J., Kowalski K.J.: Nawierzchnie asfaltowe na obiektach mostowych, 2016			
supplementary references:	1. Kalabińska M., Piłat J., Radziszewski P.: "Technologia materiałów i nawierzchni drogowych", Warszawa, 2003 2. Błażejowski K., Styk S.: "Technologia warstw asfaltowych", WKiŁ, Warszawa, 2004 3. Lay M.G.: The handbook of road technology, 2009			
learning outcomes	<i>methods of assessing learning outcomes</i>		type of class (if more than one) where the outcomes are assessed	
LO1	written exam, assessment of laboratory		L, CL	
LO 2	written exam		L	
LO 3	written exam, laboratory tests, performance reports, laboratory exercises, assessment of laboratory		L, CL	
LO 4	written exam, laboratory tests, assessment of laboratory		L, CL	
Department:	Division of Road Engineering	Group instructors:	dr inż. Andrzej Plewa, dr inż. Paweł Gierasimiuk	
Date:	10.03.2021	Coordinator:	dr inż. Paweł Gierasimiuk	