

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Technology of road works		Code 1010101171010121519
Field of study Civil Engineering First-cycle Studies	Profile of study (general academic, practical) (brak)	Year /Semester 4 / 7
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 20 Classes: - Laboratory: - Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 3 100%
Responsible for subject / lecturer: dr inż. Jarosław Wilanowicz email: jaroslaw.wilanowicz@put.poznan.pl tel. 61-665-24-86 Faculty of Civil and Environmental Engineering Piotrowo street, 5		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	K_W06. The student has knowledge of road design guidelines and related technical conditions and norms. K_W09. The student knows the rules of the construction of road earthworks.
2	Skills	K_U01. The student is able to classify the elements of road (road earth objects). K_U08. The student knows how to dimension the basic elements of the road. K_U14. The student can execute a road project documentation at the preliminary design.
3	Social competencies	K_K01. The student can work independently and collaborate as a team on a designated task. K_K10. The student follows the rules of ethics.
Assumptions and objectives of the course: 1) Transfer of engineering knowledge in the scope of execution of road works. 2) Development of basic skills to identify and solve basic tasks concerning mechanization and organization of road works. 3) Preparing the graduate to participate in the process of executing (construction) of road.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. The student knows the rules for the implementation of road construction objects and selection of machines and equipment for the execution of the works and the technologies of the works. - [K_W12] 2. The student knows the most commonly used machines and equipment designed for the road earthworks and the pavement works and their characteristics, the basic requirements for quality execution of works. - [K_W14] 3. The student has a basic knowledge concerning the organization and project management, and knows the rules for drawing up the work schedule of building equipments. - [K_W15]		
Skills: 1. The student knows how to make a simple work schedule for building equipments. - [K_U7] 2. The student can make a selection of the building equipments in accordance with the rules for their use. - [K_U20] 3. The student can organize the operation of building machines on the site in accordance with the principles of technology and organization of road works. - [K_U21]		
Social competencies: 1. The student can work independently. - [K_K01] 2. The student independently complements and extends knowledge within the scope of the technological processes of building roads. - [K_K03] 3. The student is aware of the need to improve his professional skills. - [K_K06]		

Assessment methods of study outcomes		
<p>Student's knowledge and their skills are assessed based on a written pass, which takes place on the last lectures per semester (according to the plan of studies).</p> <p>The written pass consists of three questions and takes 45 minutes.</p> <p>Information about the form and date of test and its duration shall be provided to students during the first lecture in the semester.</p>		
Course description		
<p>Theoretical, technical and operating efficiency of a building machine.</p> <p>Classification and characteristics of the building machines used in road construction (purpose, structure and diagrams of the work of machines).</p> <p>General rules for execution of construction works included in the technological process of building roads and ways of their mechanization.</p> <p>The basic methods of organizing the construction works and the job scheduling rules of construction machines. Development for the construction site.</p>		
Basic bibliography:		
<ol style="list-style-type: none"> 1. Andrzej Maciejewicz. Mechanizacja i organizacja robót drogowych; WKiŁ, Warszawa 1971. 2. Bogdan Cyunel. Technologia i organizacja budownictwa drogowego; PWN, Warszawa 1986. 3. Leon Rowiński, Jerzy Wider. Zmechanizowane roboty budowlane (poradnik), Arkady, Warszawa 1967. 4. Jerzy Kaniewski, Wiesław Kietliński. Technologia zmechanizowanych robót drogowych, (skrypt Politechniki Warszawskiej, 1994r.); 5. Maciej Jodłowski. Operator maszyn do robót drogowych, Wyd. KaBe, Krosno 2003. 		
Additional bibliography:		
<ol style="list-style-type: none"> 1. Ogólne Specyfikacje Techniczne. D.02.00.00 dot. wykonania i odbioru robót ziemnych, Branżowy Zakład Doświadczalny Budownictwa Drogowego i Mostowego Sp. z o.o na zlecenie GDDP, Warszawa 1998. 2. Ogólne Specyfikacje Techniczne. D.04.00.00 oraz D.05.00.00 dot. wykonania i odbioru robót związanych z wykonywaniem warstw konstrukcji nawierzchni, Branżowy Zakład Doświadczalny Budownictwa Drogowego i Mostowego Sp. z o.o na zlecenie GDDP, Warszawa 2001. 3. PN-S-02205. Drogi samochodowe. Roboty ziemne. Wymagania i badania. 4. PN-S-96025. Drogi samochodowe i lotniskowe. Nawierzchnie asfaltowe. Wymagania. 		
Result of average student's workload		
Activity	Time (working hours)	
1. Direct participation of the student in the lectures.	19	
2. Learning student to prepare himself to pass the exam.	64	
3. Direct participation of the student in the writing pass.	1	
Student's workload		
Source of workload	hours	ECTS
Total workload	84	3
Contact hours	20	1
Practical activities	0	0