

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Steel bridges</b>		Code <b>1010104171010125139</b>
Field of study <b>Civil Engineering First-cycle Studies</b>	Profile of study (general academic, practical) <b>general academic</b>	Year /Semester <b>4 / 7</b>
Elective path/specialty <b>-</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>elective</b>
Cycle of study: <b>First-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>22</b> Classes: <b>10</b> Laboratory: <b>-</b> Project/seminars: <b>10</b>		No. of credits <b>6</b>
Status of the course in the study program (Basic, major, other) <b>other</b>		(university-wide, from another field) <b>university-wide</b>
Education areas and fields of science and art		ECTS distribution (number and %)
<b>Responsible for subject / lecturer:</b> dr inż. Krzysztof Sturzbecher email: krzysztof.sturzbecher@put.poznan.pl tel. 616475829 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań		<b>Responsible for subject / lecturer:</b> dr inż. Krzysztof Sturzbecher email: krzysztof.sturzbecher@put.poznan.pl tel. 616475829 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Strength of materials and structural mechanics . Steel and concrete structures. Basic knowledge of soil mechanics and foundation engineering and roads engineering
2	<b>Skills</b>	The calculation of the static strength girders, basic types of connections, materials for steel structures, steel structures design standards
3	<b>Social competencies</b>	Awareness continuous updating of knowledge and its spread
<b>Assumptions and objectives of the course:</b> The acquisition of knowledge by students in terms of: knowledge of structural systems of steel bridges, materials for the construction of bridges, construction of the joints, bridges, main girders, calculations of static and strength of these elements		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Understanding the principles of shaping, construction and calculation of steel bridges for small and medium spans spans. - [-] 2. Mastering the principles and norms of design of steel bridges - [-] 3. Knowledge of the structure of typical connections - [-] 4. Calculation of composite bridges - [-] 5. Calculation of bridge decks - [-]		
<b>Skills:</b>		
1. The selection of the steel bridge structure depending on the location and load - [-] 2. Construction of basic nodes and connections - [-] 3. Calculation of basic superstructures - [-]		
<b>Social competencies:</b>		
1. The acquisition of knowledge by students in terms of: knowledge of structural systems of steel bridges, materials for the construction of bridges, construction of the joints, bridges, main girders, calculations of static and strength of these elements - [-]		
<b>Assessment methods of study outcomes</b>		

-Exam -Tests - Design exercise and current knowledge control		
<b>Course description</b>		
1.Parts, components and systems, static steel bridges. 2 Steel decks of the road and railway bridges. 3 Konstruktion of elements of steel bridges. Shaping the plate girder spans with steel girders encased and composite steel and concrete. 4 The loads acting on the span truss bridges 5 Static calculations plate girder spans and composite steel-concrete spans 6 Static analysis of the decks		
<b>Basic bibliography:</b>		
1. Ryżyński A. I inni, Mosty stalowe, PWN, Warszawa-Poznań, 1984. 2. Karlikowski J., Sturzbecher K., Mosty stalowe. Przewodnik do ćwiczeń projektowych. Wyd. Politechniki Poznańskiej, Poznań, 1993 3. Karlikowski J., Madaj A., Wołowicki W., Mostowe konstrukcje zespolone stalowo-betonowe. Wkił, Warszawa, 2010 4. Furtak K., Podstawy mostów zespolonych. Wyd. Politechniki Krakowskiej, Kraków, 1999		
<b>Additional bibliography:</b>		
1. Bowles J.E., Structural steel design, McGraw-Hill Book Company, 1980 2. Bakht B., Jaeger L.G., Bridge analysis simplified, McGraw-Hill Book Company, 1985.		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Participation in lectures	30	
2. Participation in exercises and seminars	30	
3. Preparing exercises at home	40	
4. Exam Preparation	20	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	125	6
Contact hours	60	4
Practical activities	30	2