

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Timber Structures		Code 1010101161010110247
Field of study Civil Engineering First-cycle Studies	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 6
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: 30 Classes: 15 Laboratory: - Project/seminars: 15		No. of credits 5
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		ECTS distribution (number and %)
Responsible for subject / lecturer:		
Piotr Rapp email: piotr.rapp@put.poznan.pl tel. 61 6652094 Faculty of Civil and Environmental Engineering 60-965 Poznan, ul. Piotrowo 5		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	The basic knowledge on structural mechanics and strength of materials.
2	Skills	Determining of the static model of a structure, determining of inner and support forces, determining of stresses and deflections in structural members.
3	Social competencies	Team work ability.
Assumptions and objectives of the course:		
The target of the course is to learn structure, elasticity and strength properties of wood, carpentry joints, timber fasteners (nails, bolts, screws, tooth-plate connectors, shear plates), glued joints, methods of wood structure designing, methods of joint designing, beam structures, purlin roof structures, collar-beam roof structures.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Knowing of specific properties of wood against a background of other materials - [K_W14] 2. Knowing of thermal and moisture working conditions for a designed structure - [K_W13] 3. Knowing of timber joint designing methods resulting from wood properties - [K_W07]		
Skills:		
1. Determining data, structural analysis and strength analysis of wood structures - [K_U02] 2. Designing structure joints - [K_U04] 3. Making technical drawings of wood structures - [K_U14]		
Social competencies:		
1. Team work ability. - [K_K01]		
Assessment methods of study outcomes		

<p>Passing the course involves passing project seminars and lectures. Passing project seminars involves preparation and oral project defence. Passing lectures involves written final exam. Exam marks scale in %: 90 very good (A) 85 good plus (B) 75 good (C) 65 satisfactory plus (D) 55 satisfactory (E) below 54 unsatisfactory/ failed (F)</p>		
Course description		
<p>Wood as a building material. Structure, elasticity and strength properties of wood. Carpentry joints. Timber fasteners (nails, bolts, screws, toot-plate connectors, shear plates). Glued joints. Methods of wood structure designing. Methods of joint designing. Beam structures. Purlin roof structures. Collar-beam roof structures.</p>		
Basic bibliography:		
<ol style="list-style-type: none"> 1. Z. Lis, P. Rapp: Drewno i materiały drewnopochodne. Rozdział 10 w: Budownictwo ogólne, tom I, Arkady, Warszawa 2005, 2006. 2. H. Neuhaus: Budownictwo drewniane. Polskie Wydawnictwo Techniczne, Rzeszów 2004. 3. J. Kotwica: Konstrukcje drewniane w budownictwie tradycyjnym. Arkady, Warszawa 2004. 4. Cz. Wajdzik: Więźby dachowe. Wyd. Akad. Roln. we Wrocławiu, Wrocław 2001. 5. W. Nożyński: Przykłady obliczeń konstrukcji budowlanych z drewna. Wyd. 2. WSiP, Warszawa 2004. 6. H. Zobel, T. Alkhafaji: Mosty drewniane. WKŁ, Warszawa 2006. 7. Strona internetowa: http://fast10.vsb.cz/temtis/en/ [1] Podręcznik 1. Konstrukcje drewniane. Projekt Leonardo TEMTIS, Opole 2008 [2] Handbook 2. Design of timber Structures According to E C 5. Projekt Leonardo TEMTIS, Opole 2008 		
Additional bibliography:		
<ol style="list-style-type: none"> 1. W. Michniewicz: Konstrukcje drewniane. Arkady, Warszawa 1958. 2. Z. Dziarnowski, W. Michniewicz: Konstrukcje z drewna i materiałów drewnopochodnych, Arkady, Warszawa 1974. 3. Z. Gołębiowski: Konstrukcje drewniane. PWN, Warszawa 1978. 		
Result of average student's workload		
Activity		Time (working hours)
1. Preparation for passing lectures		30
2. Making projects		95
Student's workload		
Source of workload	hours	ECTS
Total workload	125	5
Contact hours	60	2
Practical activities	65	2