SYLLABUS

Name of the course (as specified in the approved curriculum) Adhesives and wood gluing			Number of ECTS credits 5
Name of the course in Polish Kleje i klejenie drewna			
Unit providing the course (Department/Institute) Department of Wood Based Materials, Laboratory of Gluing and Finishing of Surface			
Course co-ordinator Tomasz Krystofiak			
Field of study Wood technology	Level	Profile	Semester
Scope	Thesis specialisation		

TYPE OF CLASSES AND COURSE LOAD
(lectures and self-learning of the student)

Mode of studies: full-time		Mode of studies: part-time	
- lectures	20	- lectures	
- practical classes	25	- practical classes	
- contact hours	8	-	
- self- learning	80	-	
Total number of hours:	133	Total number of hours:	

OBJECTIVE OF THE COURSE

The aim of the course is to give the students an understanding of the fundamentals of the adhesives for woodworking industry. The knowledge about the properties of different groups and types of the proecological bonding agents, application methods and hardening processes. Adhesion properties of wood and possibilities for improving the adhesive properties of substrates. Estimation of the glue lines and properties of adhesives in liquid state and in layer form.

TEACHING METHODS

Lectures, laboratory exercises

	Course learning outcomes	The reference to field of study outcomes
Knowledge	O1 – Students will reveal expertise of advanced methods and tools used for solving problems in area of adhesives and gluability of wood	WT2A_K07
	O2- Students will reveal expertise of advanced materials used for solving engineering problems in area of adhesives for woodworking industry	WT2A_K09
Skills	O4 – Students will have skills to seek out, understand and analyze information in the range of adhesives for wood as coming from different sources and given in various form, as well creative interpretation of information, derive conclusion, express and justify opinion	WT2A_S01
	O5 – Students will be able to assess usefulness of typical methods of the wood gluing and tools for solving simple, practical engineering tasks which are typical of wood technology and then select and apply proper methods and tools	WS2A_S14
Social skills	O6 – Students will understand the need for continuous learning, will be able to inspire and organize learning processes of other persons	WT2A_SS01
	O7 – Students will be able to cooperate and work in a team, both as a leader and a member of team	WT2A_SS02

Methods of evaluation of learning outcomes	Symbols of course learning outcomes
	WT2A_K07 WT2A_K09 WT2A_S01 WT2A_S14 WT2A_SS01 WT2A_SS02

TEACHING CONTENTS

Lectures:
Wood and other materials as a surfaces for bonding. Cohesion. Adhesion. Natural and proecological synthetic adhesives. Preparation of surfaces before bonding. Methods of the improving the gluability of different materials. Gluing technology (methods of the application, forming sets, pressure, temperature and pressing time, seasoning). Trends in adhesive production, modification and application technologies.

Practical classes:
Presentation of adhesives and criteria for their selection for practical applications. Studies on the properties of adhesives in liquid state and layer form. Gluing of wood, veneering, edgebanding process, gluing of selected materials used in the production of upholstery furniture. Determination of the strength and durability of the glue-lines.

The course completion methods and criteria	Percentage of a final grade
Lectures (written exam)	60
Practical classes (colloquium - test)	30
Written reports	10

LITERATURE REFERENCE

- Pizzi A., Mittal K.L.: Wood adhesives. Taylor & Francis Group 2011.
- Pizzi A.: Advanced in wood adhesives technology. Marcel Dekker, Inc. New York – Basel – Hong Kong 1994.
- Papers from the website – Web of Science, Scopus, ResearchGate

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