

# SYLLABUS

Name of the course (as specified in the approved curriculum) Instrumental analytical methods in wood technology - Individual project		Number of ECTS Credits 2	
Name of the course in Polish Projekt indywidualny – Analityczne metody instrumentalne w technologii drewna			
Unit providing the course (Department/Institute) Department of Chemical Wood Technology			
Course co-ordinator Magdalena Zborowska			
Field of study Wood technology	Level	Profile	Semester
Scope	Thesis specialisation		
<b>TYPE OF CLASSES AND COURSE LOAD</b> (lectures and self-learning of the student)			
Mode of studies: full-time		Mode of studies: part-time	
- lectures	-	- lectures	
- practical classes	15	- practical classes	
- contact hours	10	-	
- self- learning	35		
Total number of hours:		60	Total number of hours:
<b>OBJECTIVE OF THE COURSE</b>			
The subject will cover the knowledge of instrumental analytical methods used in wood technology, i.e. spectroscopic and chromatographic. It will offer the development of analytical competences by practicing the ability to apply selected instruments to specific technological problems.			
<b>TEACHING METHODS</b>			
Classes - work of a student in a group on instrumental methods for characterisation chemical structure of wood			
<b>Course learning outcomes</b>			The reference to field of study outcomes
Knowledge	O1 reveals expertise of advanced methods and tools used for solving chemical structure of wood problems in area of wood technology		
Skills	O2 has skills to seek out, understand and analyze information in a range of wood technology as coming from different sources and given in different form, as well creative interpretation of information, derive conclusions, express and justify opinion O3 has skills for good communication with different subjects in verbal, written and graphical forms O4 can plan and carry out experiments (incl. measurements and computer simulations), interpret the obtained results and derive conclusions		
Social skills	O5 can cooperate and work in a team and critically evaluate its work, both as a leader and a member of a team O6 can establish properly priorities connected with solving tasks being defined by a student or others		
<b>Methods of evaluation of learning outcomes</b>  1. Presentation 2. Project			Symbols of course learning outcomes O3 O1, O2, O4, O5, O6
<b>TEACHING CONTENTS</b>			
During the laboratory classes, students will develop their own concepts of using instrumental methods. Acquire the ability to design a chemical structure based on the results obtained with various instrumental techniques. They will learn and practice designing analytical processes aimed at identifying an unknown chemical structure. They will detect chemical structures using UV-Vis spectrophotometry, FTIR infrared spectroscopy, gas and liquid chromatography. Additionally, students will learn about metrological color determination.			
<b>The course completion methods and criteria</b>  Evaluation of laboratory classes			Percentage of a final grade 100%

#### LITERATURE REFERENCE

Pungor E., Horvai G.: A Practical guide to instrumental analysis, ISBN 9780367449377, 2020, CRC Press, 288 Pages

Pathak D., Rastogi S., Srivastava N., Bhardwaj K. K.: Instrumental methods of analysis. ISBN 978-93-88756-74-7 (2020) R. Narain Publishers & Distributors

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