COURSE OUTLINE

1. GENERAL						
INSTITUTION	University of	University of Thessaly				
SCHOOL	School of Technology					
DEPARTMENT	Dept. of Forestry, Wood Sciences and Design					
LEVEL	Undergraduate					
CODE	EΣE781 STUDENT SEMESTER 7 th					
COURSE TITLE	Wood Identification					
ACTIVITIES		WEEKLY HR	S	ECTS		
Lectures and workshops		2 + 1		5		
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TYPE OF COURSE	Elective course (orientation: <i>Wood sciences & design</i>)					
PREREQUISITES:	None					
LANGUAGE TEACHING AND EXAMINATION:	Greek					
THE COURSE OFFERED TO STUDENTS ERASMUS	Yes					
WEBPAGES COURSE (URL)	http://mantanis.users.uth.gr/Identification-of-wood.pdf					

2. LEARNING OUTCOMES

Learning Outcomes

The aim of this elective course is the students to receive specialized knowledge relating to the identification of wood. Special emphasis is given to the microscopic features of the basic commercial species of wood, and the overall scope is the recognition of the 50 most common wood species, coming from the North hemisphere and the Tropics.

Important scope of the course is the optimum use of the special software, typically used for wood identification, namely, *Inside Wood* and *macroHOLZdata*. The students in the laboratory are also trained under the microscope and the stereoscope, exercising a variety of quizzes and pragmatic tests, some of which are originating from real case studies or technical expertise.

General Skills

Upon successful completion of this course, the students will be able to develop and cultivate basic professional skills:

- Search new data
- Analysis and synthesis of new specialized information
- Adaptation to new situations
- Decision making
- Autonomous work
- Exercise teamwork
- Exercise criticism and self-criticism
- Promoting free and creative thinking
- Understanding technological developments and their implications
- Development of professional responsibility

3. COURSE CONTENT

The course focuses on issues related to:

- Scientific, common and commercial nomenclature of wood species (in Greece)
- Introduction to nomenclature respecting wood anatomy
- Overview of the origin of the wood species throughout the globe
- Basic important features (macroscopic, physical) used in the identification
- Microscopic features of fundamental importance (softwoods, hardwoods)
- Basic identification criteria used (according to the official IAWA criteria)
- Software "Inside Wood" (basics, exercises)
- Software " macroHOLZdata" (basics, exercises)
- Specialised case studies in wood identification (e.g. pines; red vs. white oak; false mahoganies; genuine mahoganies; true and false walnuts; ebony and rosewoods, meranti species, iroko and iroko-like wood species, etc.)
- Technical expertise

During the course, in addition to the lectures:

- Exercise and work on the fundamentals used in wood identification (at first stage: macroscopic and physical features)
- Case studies used which are the subject of discussion during the lectures, especially with tropical species, namely: iroko, teak, niangon, african mahogany, bubinga, aniegre, wenge, abura, sipo, sapele, merbau, bangkirai, meranti, azobé, movingui, rubberwood, padauk, ayous, limba
- Several laboratory exercises are carried out for self-criticism
- Homework is assigned every single week (e.g. online wood-ID tests to work at home)
- Work and get familiar with the *software* used online laboratory quizzes

Course lectures are supported by workshops (e.g. laboratory work), where each lab student-team (typically 10-12 students) is discussing their work and learning new microscopic and macroscopic features with laboratory exercises and also work & learn under the microscope.

4.	TEACHING AND LEARNING METHODS - EVALUATION
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DELIVERY METHOD	Face to face		
	The course is organized in two parallel streams:		
	 Lectures, which analyze the concepts and methodologies that form the core of the course material Workshops (laboratory), where students get acquainted with the methods and tools of wood anatomy in general 		
USE OF INFORMATION AND	Use of course websites both on UTH and also on the e-Class		
COMMUNICATION TECHNOLOGIES	platform for posting (a) notes, (b) internet links, (c) announcements, search tools and other materials.		
	Activity	Compostor Mortland	
INIANAGEINIENT OF TEACHING	ACTIVITY	Semester Workload	
	Lectures	30	
MANAGEMENT OF TEACHING	Lectures Individual work	30 15	
	Lectures Individual work Laboratory workshops	30 15 15	
MANAGEMENT OF TEACHING	Lectures Individual work Laboratory workshops Individual and work study for term assignment	30 15 15 65	
MANAGEMENT OF TEACHING	Lectures Individual work Laboratory workshops Individual and work study for term assignment Term assignment presentation	30 15 15 65 	
	Lectures Individual work Laboratory workshops Individual and work study for term assignment Term assignment presentation Course Total	30 15 15 65 125	

STUDENT EVALUATION	Student assessment is mostly based on the individual work done by each student, while the final grade takes into account:	
	• the written final examination	
	 the outcomes of each assigned homework 	
	 participation & outcome in laboratory exercises 	
	 participation in course activities 	

5. RECOMMENDED BIBLIOGRAPHY

- Website: <u>http://mantanis.users.uth.gr/Identification-of-wood.pdf</u>
- 4 Main book: <u>http://mantanis.users.uth.gr/Anagnwrisi-Xylou.pdf</u> (by G. Mantanis)
- Wiedenhoeft, A. (2005). Structure and Function of Wood. <u>http://www.fpl.fs.fed.us/documnts/pdf2005/fpl_2005_wiedenhoeft001.pdf</u>
- H. G. Richter and M. J. Dallwitz (2009). Commercial timbers: descriptions, illustrations, identification, and information retrieval

<u>http://www.biologie.uni-hamburg.de/b-online/wood/english/index.htm</u> **#**Basic software: *InsideWood* (<u>http://insidewood.lib.ncsu.edu/search?1</u>)

- The Wood Database: <u>https://www.wood-database.com/</u>
- Basic software: *Delta-Intkey*: https://www.delta-intkey.com/wood/en/index.htm
- Swiss website, Wood Anatomy: <u>http://www.woodanatomy.ch/</u>
- Hoadley, B. (1990). Identifying Wood: Accurate Results With Simple Tools. <u>https://books.google.gr/books/about/Identifying Wood.html?id=kIGxQwAACAAJ&redir esc</u>
 <u>=Y</u>
- Wood Anatomy (Nomenclature by International Association of Wood Anatomists, IAWA); <u>https://www.iawa-website.org/uploads/soft/Abstracts/IAWA_glossary.pdf</u>
- IAWA website, IAWA Publications respecting the wood identification; <u>https://www.iawa-website.org/en/Downloads/Publications/index.shtml</u>