

COURSE OUTLINE

QUALITY CONTROL OF RAW MATERIALS AND PACKAGING MEDIA - ACCREDITATION

(1) GENERAL

SCHOOL	TECHNOLOGY		
DEPARTMENT	FORESTRY, WOOD SCIENCES & DESIGN		
LEVEL	POSTGRADUATE		
COURSE CODE	M124	SEMESTER	2 nd
COURSE TITLE	QUALITY CONTROL OF RAW MATERIALS AND PACKAGING MEDIA – ACCREDITATION		
ACTIVITIES		WEEKLY HOURS	ECTS
Lectures		2	5
TOTAL		2	5
TYPE OF COURSE	MANDATORY IN TECHNOLOGY AND MANUFACTURING EXPERTISE, ELECTIVE COURSE IN SPECIALTIES PRODUCT DESIGN & MANAGEMENT AND MARKETING		
PREREQUISITES:	NO		
LANGUAGE OF TEACHING AND EXAMINATION	GREEK		
THE COURSE IS OFFERED IN ERASMUS STUDENTS	NO		
WEBPAGES COURSE (URL)	https://eclass.uth.gr/courses/FWSD_P_125/		

(2) LEARNING OUTCOMES

Learning Outcomes
<p>The purpose of the course is for postgraduate students to familiarize themselves with the concepts of quality in greater depth but also to enter into the concepts of verification, accreditation and certification of laboratory and business process instruments based on the EN 17025 specification. At the same time they will focus and gather knowledge about with specialized topics such as specifications for wooden constructions, packaging media, frames, structural timber, parquet and their certification with non-destructive and non-destructive methods.</p> <p>Upon completion of the course, the student should</p> <ul style="list-style-type: none"> • To know the concepts of quality and the ways of ensuring them for various categories of products such as structural elements, packaging materials, frames and others. • To know the organization and appropriate equipment of a Quality Control laboratory as well as the methods of calibration of measuring devices, accreditation of processes and certification of laboratories. • To know the application of the specifications and the correct progress of the experiments. • To be able to judge based on the results of the controls and the specifications for the suitability of the materials for each use.
General Skills

(3) COURSE CONTENT

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The content of the theoretical part of the course includes the following:

- **Course update. Introduction to the new requirements and the new requirements of the specifications.** The needs that have been created in the market and the need to use new methods of control and certification.
- **Introduction to EN 17025 specification.** The need to certify laboratories based on the EN 17025 specification and the contribution of the National Accreditation System.
- **Concepts of verification, accreditation and certification.** Calibration of measuring devices, Accreditation of methods, Certification of laboratories.
- **Basic principles of accreditation of processes, instruments and laboratories.** Practical application for measurement of measurement uncertainty, systematic and random measurement errors.
- **Certification of packaging media according to ISPM 15 standard with heat treatment.** Application and drafting of a file for the heat treatment of wooden packaging materials.
- **Preparation of FPC and ITT.** The principles that must be applied in the drafting of the Factory production Control of a production unit, the way of installation in the industry and the taking of samples for the realization of the ITT controls.
- **Frames certification based on the EN 14351 specification.** Familiarity with the specification and application and control of frames. Compilation of file for receiving CE.
- **Structural timber certification based on EN 338.** Familiarity with the specification and application and control of structural timber. Practical application on real samples.
- **Two-day educational visit to 2 quality control companies in Thessaloniki.**
- **Structural timber certification based on EN 408.** Familiarity with the specification and application and control of structural timber. Practical application on real samples.
- **Parquet certification based on EN 14342.** Familiarity with the specification and application and control of both solid wood and laminate flooring. Practical application on real samples.
- **Quality control of frames.** Use of the frame control wall for wind pressure, wind permeability, Watertightness etc.
- **Case-by-case application examples of all materials.** Application exercises of the various products with scenarios for an optimal understanding of the controls of each material or product.

From the 1st lesson, a suggested list of tasks is given that the student should undertake and prepare (individually) until the end of the semester of the MSc.

The relevant directions are given, while rich material and instructions will be posted on the e-class. The final assignment includes, in addition to paper and electronic submission, a public oral presentation on the chosen topic, on a set date (usually the 12th or 13th week of classes). The presentation lasts 15 minutes and is followed by 5 minutes of questions from the students present. The teacher intervenes - if necessary - for comments, observations, corrections.

Students are graded on the overall performance of their final paper: 70% on the content and editorial specifications and 30% on the preparation of the online presentation and its oral support.

These grades count for a total of 100% in the overall grade that students will receive after the final written theory exam.

(4) TEACHING AND LEARNING METHODS - EVALUATION

COURSE DELIVERY METHOD	In class and remotely
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	<ul style="list-style-type: none"> • Use of PC, ppt slides, projector. • Support the learning process through electronic

	platform e-class.	
MANAGEMENT OF TEACHING	Activity	Semester Workload
	Lectures	26
	Small individual practice tasks	20
	Final Assignment	60
	Independent Study	44
	Course Total (25 hours of workload per credit unit)	150
STUDENT EVALUATION	<p>I. Written final exam (60%) which includes:</p> <ul style="list-style-type: none"> • Short answer questions from all the material in the book • Solving exercises related to the subject of the course (e.g. parquet quality control, determination of mechanical properties of structural timber, etc.) <p>II. Presentation of Individual Assignment (40%).</p>	

(5) RECOMMENDED-BIBLIOGRAPHY

- Suggested Bibliography:

- Albin, R., Franz, A, 1983. Durchbiegung horizontaler Möbelteile aus OSB – Platten. Holz und Kunststoffverarbeitung. Nr. 2 : 122-125.
- ASTM 1996. Annual book of ASTM Standards. Section 4. Construction. Volume 04.10. Wood. American society for testing materials.
- Βασιλείου, Β. 2000. Μελέτη σχεδιασμού και οργάνωσης θεωρητικού και εργαστηριακού μέρους του μαθήματος: « Ποιοτικός έλεγχος επίπλων και ξυλοκατασκευών»
- Βουλγαρίδης .Η. 1985. Τυποποίηση προϊόντων ξύλου στην επιπλοποιία . Furnidex 1985. Θεσσαλονίκη
- Baums, M., 1997. Europäische Normen im Bereich Möbel. Holz – Zentralblatt, Nr. 23 : 321, 323, 326.
- Berglund, E. 1980. Die Standardisierung der Gebrauchseigenschaften von Möbeln in Schweden. Holz als Roh – Werkstoff 38 : 5-10.
- Δερβιτσιώτης.Κ.Ν. 1983. Διοίκηση ολικής ποιότητας. Αθήνα
- Devantier, B., 1996. Möbelprüfung – Instrument zum Nachweis von Qualität. Holz – Zentlalblatt, Nr. 118 : 1833-1834.
- DIN – Taschenbuch 60, 1999. Holzfaserplatten, Spanplatten, Sperrholz. Normen, Richtlinien. Beuth Verlag GmbH, Berlin – Wien – Zürich.
- DIN Taschenbuch 66, 1999. Möbel. Normen (Möbel 1). Beuth Verlag GmbH, Berlin – Wien – Zürich.
- DIN Taschenbuch 31, 2000. Normen über Holz. Normen, Richtlinien. Beuth Verlag GmbH, Berlin – Wien – Zürich.
- Eckelman, C., 1988. Performance testing of furniture. Part II. A multipurpose universal structural performance test method. Forest Products Journal No. 4 : 13-18.
- FIAA. 2000 Furnishing Quality program. Standards for Domestic furniture.AFRDI Standard 128 Australia.
- Γρηγορίου, Α., 1987. Καλή ποιότητα επίπλου προϋποθέτει ποιοτικό έλεγχο. Επιστημονική Επετηρίδα του Τμήματος Δασολογίας και Φυσικού Περιβάλλοντος. Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης. Τόμος Α΄, Νο. 9 : 355-378.
- Γρηγορίου, Α. 2001. Ποιοτικός έλεγχος πρώτων υλών επιπλοποιίας και επίπλων. Μελέτη για το Τμήμα Σχεδιασμού και Τεχνολογίας Ξύλου και Επίπλου.

Haselmann, D., 1996. Profis verkaufen Möbel. Deutsche Gütegemeinschaft Möbel. Verlag Matthias Ritthammer GmbH.

Haselmann, D. 2001. Möbelkauf. Qualität für ihr Zuhause. Stiftung Warentest (Ratgeber von Test), Berlin.

Καπετανίδης, Ν. 1985. Τα βερνίκια επιπλοποιΐων και η τοξικότητά τους. 7ο Συνέδριο Επίπλου FURNIDEC. Θεσσαλονίκη.

Κjučukov, G., 1990. Prüfverfahren für Eckverbindungen aus Möbelplatten bei Scherbeanspruchung. Holztechnologie 30, Nr. 4 : 204-206.

Kossatz, G., Ranta, L., Ziesel, J., 1977. Qualitätsprüfung von Möbel. Internationale Umschau und nationaler Ausblick.

Kossatz, G., Bötther, P., Marutzky, R., 1982. Zur Prüfung der Gebrauchstauglichkeit von Möbeln. Qualität und Zuverlässigkeit. Nr. 5 : 138-141.

Schubert, R., 1979. Möbelnormung und Möbelprüfung. Holz als Roh – Werkstoff 37 : 1-7.

Τσιότρας, Γ. 1995. Βελτίωση Ποιότητας. Εκδόσεις Μπένου.

Winning, K., 1985. Qualitätsprüfung von Möbeln in Betrieb. Praktische Anwendungsmethoden. Holz und Kunststoffverarbeitung Nr. 2 : 20-25.

Voluntary standard for sliced decorative wood face veneer. Industrial standard DFV-1 1995

Κοντραπλακέ – Ταξινόμηση σύμφωνα με την επιφανειακή εμφάνιση –Μέρος 1: Γενικά. ΕΛΟΤ EN 635-1

Ξύλινες κατασκευές – Επικολλητή ξυλεία από φύλλα – Κατηγορίες αντοχής και προσδιορισμός χαρακτηριστικών τιμών. ΕΛΟΤ EN 1994

Ξύλινες κατασκευές- Δομική και συγκολλητή από φύλλα ξυλεία – Προσδιορισμός της αντοχής σε διάτμηση και των μηχανικών ιδιοτήτων κατακόρυφα στις ίνες. ΕΛΟΤ EN 1193

Structural timber and glued laminated timber – Determination of some physical and mechanical properties. English version of DIN EN 408