

COURSE OUTLINE

1. GENERAL

SCHOOL	FOOD AND NUTRITIONAL SCIENCES		
ACADEMIC UNIT	FOOD SCIENCE AND HUMAN NUTRITION		
LEVEL OF STUDIES	BACHELOR OF SCIENCE		
COURSE CODE	2630	SEMESTER	8 th
COURSE TITLE	FOOD PACKAGING		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures and laboratory experiments		5	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
PREREQUISITE COURSES:	Food Engineering, Food Preservation		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	https://w1.aua.gr/etda/en/courses/food-packaging/		

2. LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area
- Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B
- Guidelines for writing Learning Outcomes

The course material includes: a brief presentation of preservation methods and packaging trends. Terminology, scientific and technical aspects of packaging materials: glass, plastics (polymers), paper, wood and metals.

Environmental and legal issues of food packaging and future trends.

Specific issues such as intelligent materials in food packaging, active, biodegradable, vacuum packaging etc. are topics of term papers prepared by the students.

After successful completion of this course the student will gain knowledge about scientific and technical issues of packaging materials. He will be able to specify packaging requirements for various types of foods with regard to benefits, cost and safety issues as well.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

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|---|---|
| <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> | <i>Project planning and management</i> |
| <i>Adapting to new situations</i> | <i>Respect for difference and multiculturalism</i> |
| <i>Decision-making</i> | <i>Respect for the natural environment</i> |
| <i>Working independently</i> | <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> |
| <i>Teamwork</i> | <i>Criticism and self-criticism</i> |
| <i>Working in an international environment</i> | <i>Production of free, creative and inductive thinking</i> |
| <i>Working in an interdisciplinary environment</i> | <i>.....</i> |
| <i>Production of new research ideas</i> | <i>Others...</i> |

- Retrieve, analyse and synthesize data and information
- Work in teams

3. SYLLABUS

1. Course Structure. Introduction.
2. Brief exploitation of recent aspects in preservation and packaging trends. Examples of packaged foods
3. Packaging materials: Glass
4. Packaging materials: Metal
5. Packaging materials: Plastics
6. Biodegradable packaging materials
7. Permeability and mechanical properties of polymers-Exercises
8. Packaging materials: Paper
9. Shelf life of packed foods- Exercises
10. Modified atmosphere packaging, controlled atmospheres, active packaging
11. Smart packaging
12. Food packaging laws and regulations. Environmental aspects. Recycling, energy recovery. Future trends
13. Overview. Case studies.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	In class teaching (power point presentations) Laboratory exercises in teams Term paper (in teams)
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	

TEACHING METHODS													
<p>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</p> <p>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</p>	<table border="1"> <thead> <tr> <th style="text-align: center;">Activity</th> <th style="text-align: center;">Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td style="text-align: center;">36</td> </tr> <tr> <td>Laboratory meetings</td> <td style="text-align: center;">12</td> </tr> <tr> <td>Term paper</td> <td style="text-align: center;">34</td> </tr> <tr> <td>Personal study</td> <td style="text-align: center;">43</td> </tr> <tr> <td>Course total</td> <td style="text-align: center;">125</td> </tr> </tbody> </table>	Activity	Semester workload	Lectures	36	Laboratory meetings	12	Term paper	34	Personal study	43	Course total	125
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STUDENT PERFORMANCE EVALUATION													
<p>Description of the evaluation procedure</p> <p>Language of evaluation, methods of evaluation, summative or conclusive, multiple-choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</p> <p>Specifically defined evaluation criteria are given, and if and where they are accessible to students.</p>	<p>I. Final written examination (50% of the final course grade) that includes:</p> <ul style="list-style-type: none"> ➤ Multiple choice questions ➤ Short answer questions ➤ Judgment questions <p>II. Term paper (50%), written text (35%) and oral presentation (15%)</p>												

5. ATTACHED BIBLIOGRAPHY

<p>- Suggested bibliography:</p> <p>1) Παπαδάκης Σ. 2018. Συσκευασία Τροφίμων. 2η έκδοση. Τζιόλας ISBN: 9789604182268</p> <p>2) Μπλούκας Ι. 2004. Συσκευασία Τροφίμων Σταμούλη ISBN:9603515086</p> <p>3) Gordon L. Robertson. 2012. Food Packaging: Principles and Practice. CRC Press (3rd ed.). ISBN 9781439862414</p> <p>- Related academic journals:</p> <p>1) Food Packaging and Shelf Life (Elsevier)</p> <p>2) Packaging Technology and Science (Wiley)</p>
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