

COURSE OUTLINE

1. GENERAL

SCHOOL	FOOD AND NUTRITIONAL SCIENCES		
ACADEMIC UNIT	FOOD SCIENCE AND HUMAN NUTRITION		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	3403	SEMESTER	9 th
COURSE TITLE	SPECIAL TOPICS IN FOOD CHEMISTRY		
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	ECTS	
Lectures and Laboratory exercises	5 (2+3)	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>	Specialised	general knowledge,	Skills Development
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBSITE (URL)	Special Topics in Food Chemistry - Τμήμα ΕΤΔΑ		

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

This elective course is offered to students in the 9th semester of the Department of Food Science and Human Nutrition. The curriculum is designed to provide comprehensive information and specialized knowledge in selected categories of foods, with a particular emphasis on olive oil.

The course aims to equip students with:

A solid theoretical foundation in food science related to olive oil and other food components.

Practical laboratory skills necessary to select and apply appropriate analytical methods.

The ability to determine the qualitative characteristics of olive oil and evaluate other food constituents.

Upon successful completion of the course, students will be able to:

Demonstrate coherent and comprehensive knowledge of the quality indicators associated with the food groups studied.

Assess the quality indicators of specific foods and interpret changes that influence their quality.

Utilize scientific sources effectively, critically, and responsibly to extract information related to the composition and quality of the food groups examined.

Develop a critical understanding of the evolving dynamics and contemporary issues in the field of food chemistry.

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?

<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>
	<i>... ..</i>

Analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Teamwork

Respect for the natural environment

Criticism and self-criticism

3. SYLLABUS

• Olive oil

Olive oil production (grinding, malaxation, centrifugation)

Organoleptic evaluation of olive oil

Chemical composition of olive oil

Olive oil deterioration (hydrolytic and oxidative rancidity)

Chemical analysis of olive oil – quality and authenticity criteria

Seed oils

Functionality of Triacylglycerols in Foods (margarines)

• Coffee, tea, cocoa, honey

Chemical composition and changes during the stages of production and processing

• Cereals & Legumes, Fruits & Vegetables

Chemical composition of edible plant tissues. Chemical changes that affect their quality

Chemical composition of cereal products (flour, bread)

• Special topics in food chemistry

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face (teaching in the auditorium and laboratory)																
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Power Point presentations Teaching support through access to the e-class platform Student contact via e-mail and MS Teams																
TEACHING METHODS <i>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. 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</i>	<table border="1" data-bbox="1034 510 1477 1104"> <thead> <tr> <th data-bbox="1034 510 1278 622">Activity</th> <th data-bbox="1286 510 1477 622">Φόρτος Εργασίας Εξαμήνου</th> </tr> </thead> <tbody> <tr> <td data-bbox="1034 633 1278 667">Lectures</td> <td data-bbox="1286 633 1477 667">26</td> </tr> <tr> <td data-bbox="1034 678 1278 745">Laboratory practice</td> <td data-bbox="1286 678 1477 745">39</td> </tr> <tr> <td data-bbox="1034 757 1278 824">Writing assignments</td> <td data-bbox="1286 757 1477 824">26</td> </tr> <tr> <td data-bbox="1034 835 1278 947">Study and analysis of bibliography</td> <td data-bbox="1286 835 1477 947">26</td> </tr> <tr> <td data-bbox="1034 958 1278 1025">Weekly study hours</td> <td data-bbox="1286 958 1477 1025">5</td> </tr> <tr> <td data-bbox="1034 1037 1278 1070">Final exam</td> <td data-bbox="1286 1037 1477 1070">3</td> </tr> <tr> <td data-bbox="1034 1081 1278 1104">Course total</td> <td data-bbox="1286 1081 1477 1104">125</td> </tr> </tbody> </table>	Activity	Φόρτος Εργασίας Εξαμήνου	Lectures	26	Laboratory practice	39	Writing assignments	26	Study and analysis of bibliography	26	Weekly study hours	5	Final exam	3	Course total	125
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STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>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</i> <i>Specifically defined evaluation criteria are given, and if and where they are accessible to students.</i>	<ol style="list-style-type: none"> I. Written final exam on the theory of the course, including: <ol style="list-style-type: none"> 1. Short answer questions (40%) 2. Multiple choice questions (10%) 3. Development questions (50%) II. The examination on the laboratory part of the course consists of: <ol style="list-style-type: none"> 1. Oral examination during the exercises to assess the degree of preparation (5%) 2. Written individual report (25%) 3. Final written exam in the laboratory part of the course, which includes short-answer questions and problem solving (70%) <p>The final grade for the course is the average of the grades in the Theory and Laboratory parts.</p>																

	Grading scale: 0-10 Minimum passing grade: 5 Grades posted on the e-student platform (in draft form for 1 week before final submission).
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5. ATTACHED BIBLIOGRAPHY

Suggested bibliography

Food Chemistry, Belitz, H.-D., Grosch, W., Schieberle, P., Springer

Fennema's Food Chemistry, S. Damodaran, K.L. Parkin, O.R. Fennema, 4th Ed., CRC Press

Instructor's Manual for Principles of Food Chemistry, John M. SeMan, Aspen Publishers

Food Analysis, S.S. Nielsen, 4th Ed., Springer

Olive Oil – Chemistry and Technology, D. Boskou, 2nd Ed., AOCS Press

Handbook of Olive Oil-Analysis and Properties, R. Aparicio, J. Harwood, 2nd Ed., Springer

Related Scientific Journals:

Journal of Agricultural and Food Chemistry

Food Chemistry

Journal of Food Science and Technology

Agricultural and Environmental Chemistry

International Journal of Agricultural and Food Research (IJAFR)

Journal of Food Processing & Technology

Journal of Food Composition & Analysis

Journal of the American Oil's Chemist Society