

COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
DEPARTMENT	FOOD SCIENCE AND TECNOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	FST_600	SEMESTER OF STUDIES	6 th
COURSE TITLE	TECHNOLOGY & QUALITY CONTROL OF FOOD OF ANIMAL ORIGIN II		
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 CREDITS	
Lectures	3		
Lab. Exercises	2		
Total	5	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background		
PREREQUISITE COURSES:	Typically, there are not any prerequisite courses		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/courses/FST169/		

2. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> <p>The aim of this course is to give students the basic knowledge in the field of animal-originated food technology, specifically regarding technology of milk and dairy products.</p> <p>Upon successful completion of this course the student will be able to:</p> <ul style="list-style-type: none"> • know the mechanisms governing the processing of milk and dairy products • know the techniques and methods applied to control the quality of milk and dairy products, both during production and during their storage • recognize, understand and interpret the mechanisms and properties used by these techniques • have the ability to describe, explain and evaluate the contribution of each mechanism

- or factor in the evolution of a process
- have the experience of applying the above knowledge and analytical skills in industrial-type processes.

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?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and

sensitivity to gender issues

Criticism and self-criticism

Promotion of free, creative and inductive thinking

By the end of this course, the student will have acquired the following general competencies (from the list above):

- Critical thinking
- Decision-making
- Problem solving ability
- Working in an interdisciplinary environment

3.SYLLABUS

- Lectures

1. Chemical composition of milk
2. Physicochemical properties of milk
3. Microbiology of raw milk
4. Raw milk quality control
5. Heat treatment of milk – Pasteurization
6. Long life milk – Sterilization
7. Condensed milk – Milk powder
8. Technology and quality control of fermented milks (yogurt, sour milk, kefir)
9. Basic preparation stages and main types of cheese
10. Protected Designation of Origin (PDO) Greek cheeses
11. Quality control of cheeses – Alterations and defects of cheeses
12. Other dairy products (cream, butter, ice cream)
13. Modern trends in milk technology

-Laboratory exercises

1. Sampling of milk and milk products
2. Determination of specific gravity of milk
3. Determination of acidity in milk
4. Method for determining abnormal (mastitic) milk (California test)
5. Evaluation of milk health status
6. Checking the presence of antibiotics in milk
7. Standardization of milk
8. Methods of determining the degree of heating of milk (alkaline phosphatase test, peroxidase test)
9. Determination of sodium chloride in cream cheese
10. Adulteration of milk
11. Determination of enterotoxin in cheese

4.TEACHING AND LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY</p> <p><i>Face-to-face, Distance learning, etc.</i></p>	<p>Face-to-face</p>													
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of Information and Communication Technologies (ICTs) (e.g., PowerPoint) in teaching. Communication with students: through e-mail, department's website and platform e-class. The lectures' content of the course for each chapter are uploaded on the internet, in the form of a series of PDF files, where students can freely download them from the platform e-class (https://eclass.upatras.gr/).</p>													
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>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.</i></p> <p><i>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></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><i>Activities</i></th> <th style="text-align: center;"><i>Work Load per semester</i></th> </tr> </thead> <tbody> <tr> <td>Lectures (3 hours per week x 13 weeks)</td> <td style="text-align: center;">39</td> </tr> <tr> <td>Laboratory exercises (2 hours per week x 11 weeks)</td> <td style="text-align: center;">22</td> </tr> <tr> <td>Final examination (3 hours)</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Non-guided study</td> <td style="text-align: center;">61</td> </tr> <tr> <td>Total number of hours for the Course (25 hours of work-load per ECTS credit)</td> <td style="text-align: center;">125</td> </tr> </tbody> </table>		<i>Activities</i>	<i>Work Load per semester</i>	Lectures (3 hours per week x 13 weeks)	39	Laboratory exercises (2 hours per week x 11 weeks)	22	Final examination (3 hours)	3	Non-guided study	61	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125
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<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><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></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Students are evaluated through a written final exam (100%), which includes a total of 50 and 20 questions for lectures and laboratory exercises, respectively. The questions include the following:</p> <ul style="list-style-type: none"> • Multiple-choice questions (60% of total questions) • True or False questions (35% of total questions) • Short answer questions (5% of total questions) <p><u>Grading scale:</u> 0.5 to 10.0 <u>Minimum passing grade:</u> 5.0 <u>Examination time:</u> 3 hours</p> <p>The final grade for the course is the average of grades in the final written examination for lectures and laboratory exercises, provided that the minimum passing grade has been achieved (i.e., ≥ 5.0) for each part of the course.</p> <p>All performance evaluation criteria are announced in the introductory lecture of the course, which is posted and easily accessible by students on the online page of the course at the e-class platform.</p>													

5. ATTACHED BIBLIOGRAPHY

- *Suggested bibliography:*

1. Marth, E. H., & Steele, J. S. (2001). Applied dairy microbiology (2nd edn.) New York, New York: Marcel Dekker, Inc..

- *Suggested scientific journals:*

1. International Dairy Journal
2. Journal of Dairy Science
3. International Journal of Dairy Technology