COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Free Elective]		
COURSE CODE	181	**SEMESTER**	7th
COURSE TITLE	MEAT AND MILK PRODUCTS TECHNOLOGY		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS (ECTS)**
Lectures+practical exercises+project	5	5
Total	**5**	**5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Scientific area
PREREQUISITE COURSES:	Food Microbiology, Food Engineering, Food Chemistry
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	Yes (in English)
COURSE WEBSITE (URL):	-

(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*

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

- Develop critical thinking and the skills required to integrate and evaluate the effectiveness and impact of the multidimensional processes applied in the production of various dairy and meat products.
- Design and organize the production of conventional products as well as define the requirements for new dairy and meat products.
- Interpret technological interventions.
- Apply the relevant requirements within dairy and meat enterprises.
- Inspect and assess the production process and propose corrective actions.
- Work individually, independently, and collaboratively with peers.
- Analyze and synthesize data and information, utilizing the necessary technologies.
- Make informed decisions regarding new research ideas.

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	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*.....*
Production of new research ideas	*Others...*
	.....

- Independent Work
- Adaptation to New Situations
- Decision-Making
- Autonomous Work
- Teamwork
- Work in an International Environment
- Work in an Interdisciplinary Environment
- Generation of New Research Ideas
- Project Design and Management

(3) SYLLABUS

Lectures:

1. Introduction, composition, structure, and physical properties of milk.
2. Proteins and fat.
3. Lactose and salts.
4. Factors affecting the composition and quality of milk. Utilization of milk.
5. Heat-treated, potable, and liquid milks.
6. Fermented dairy products.
7. Cream, butter, and ice cream.
8. Introduction to Food Technology of Animal Origin. Conversion of the muscular system into meat.
9. Meat technologies.
10. Preservation of fresh meat. Additives and processing aids.
11. Heat-treated products from comminuted meat and whole meat cuts.
12. Fermented and fresh sausages.
13. Evaluation and interventions in meat product production.

Laboratory / Tutorial Exercises:

1. Guided tour of the dairy plant and presentation on milk production and utilization.
2. Determination of the physicochemical properties of milk (acidity, specific gravity).
3. Automated determination of the main components of milk (Milkoscan).
4. Problem-solving related to adulteration of raw milk.
5. Cream separation and problem-solving in fat standardization.
6. Cheese production.
7. Yogurt production.

Independent Assignment

(4) TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD *Face-to-face, Distance learning, etc.*	In the classroom and in the laboratory

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	PowerPoint Through the e-class electronic platform Use of video projector Use of software Use of the internet
TEACHING METHODS *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*	
STUDENT PERFORMANCE EVALUATION *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	I. Written Final Examination (60%) II. Exercises and Independent Study (40%)

Activity	***Semester workload***
Lectures	60
Laboratory exercises	26
Autonomous study	39
Course total (25 h of workload per ECTS)	***125***

(5) ATTACHED BIBLIOGRAPHY

Suggested Bibliography:

• Kaminaridis, St. & Moatsou, G., *Dairy Science*, Embryo Publications, 2009.
• Walstra, P., Wouters, J.T.M. & Geurts, T.J., *Dairy Science and Technology*. Second Edition. CRC – Taylor & Francis, New York, 2006.
• Park, Y.W. & Haenlein, G.F.W., *Milk and Dairy Products in Human Nutrition*. Wiley-Blackwell, UK, 2013.
• St. Deligeorgis, *Introduction to Livestock Production Systems*, 1997.

Relevant Scientific Journals:

• *International Dairy Journal*
• *International Journal of Dairy Technology*
• *Dairy Science and Technology*
• *Food Chemistry*
• *Small Ruminant Research*
• *Journal of Dairy Science*
• *Journal of Dairy Research*
• *Milchwissenschaft*
• *Innovative Food Science and Emerging Technologies*
• Laca, G.A. & Dement, M.W., *Livestock Production Systems*, EOLSS, 2013