SCHOOL	ENVIRONMENT
ACADEMIC UNIT	FOOD SCIENCE AND TECHNOLOGY
LEVEL OF STUDIES	UNDREGRADUATE

COURSE CODE	FST702	**SEMESTER**	7
COURSE TITLE	**MEAT AND FISH PRODUCTS SCIENCE AND 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**
Lectures	2	
Laboratory exercise	3	
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*	Specialized general knowledge	
PREREQUISITE COURSES:	-	
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek	
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No	
COURSE WEBSITE (URL)		

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:

- Acknowledge the posthumous changes of meat and fish and on the treatments applied for their maintenance on the standardization and packaging of their products.
- Classify meat products, the choice of ingredients, the methods of preparation, the packaging, the maintenance of heat treatment and curing products, the prevention and the evaluation of defects causing quality degradation, in order to produce quality and healthy meat and fish products.
- Apply quality control methods of meat, fish and their products
- Get used to measurement and evaluation methods of main physicochemical characteristics of the quality of meat, fish and their products.
- Perform macroscopic and laboratory tests and to evaluate the quality based on them.

General Competences

1. Adapting to new situations
2. Decision-making
3. Working independently
4. Team work
5. Criticism and self-criticism
6. Production of free, creative and inductive thinking
7. Search for, analysis and synthesis of data and information, with the use of the necessary technology

SYLLABUS

Content of theoretical course:

Meat – Poultry and their products. Structure and composition of meat tissues, Conversion of muscle tissue into meat, Nutritional value, Sensory characteristics, Preservation by refrigeration and freezing, Packaging, Classification of meat products, basic salting substances, ripening products, cold cuts. Pasteurized cold cuts and products from meat pieces.
Fish. Distinguish and classify, Composition of edible flesh, Safety and nutritional value, Preservation by refrigeration and freezing, Causes of deterioration, Assessment of freshness, Freezing methods, dehydration, salting and smoking, Canning.
Eggs. Structure and composition, Nutritional value, Quality evaluation, Properties, Egg products, Pasteurization, freezing, dehydration.

Content of laboratory course:

Meat – Poultry and their products. Sample preparation, Color measurements, pH and total acidity determination and evaluation, Moisture and ash determination, Distinction between fresh and frozen, Water retention capacity and water loss during cooking, Starch and NaCl determination, Fat determination, refractive index, Proteins, total nitrogen determination, Tenderness measurement.
Fish. Sampling, Biochemical and biological functions and quality of fresh, The role of the various components in determining its quality and processing capacity, Handling of fresh catches, Freezing curve, soluble protein determination, fat determination, Preservation with various treatments, Canning, canning quality control, identification of secondary oxidation products, Enzymatic tanning on crustaceans, Other products (surimi, fermented).
Preparation of cold cuts and salted fish.

TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Use of ICT in teaching. Laboratory education. Communication with students via e-class, e-mail, etc.

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*	Activity	Semester workload
	Lectures	78
	Laboratory practise	39
	Total contact hours and training	*117*

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.*	Language of evaluation: Greek Methods of evaluation: Progress work during the semester (formative) Final examination (Concluding) Theoretical part: multiple choice questionnaires, short-answer questions, open-ended questions, problem solving. Laboratory part: multiple choice questionnaires, short-answer questions, open- ended questions, problem solving, laboratory work. Final grade: 60% theoretical grade and 40% laboratory grade The accessibility of students in criteria and final results is through website and/or e-class.

ATTACHED BIBLIOGRAPHY

- Bremner H., A.2003. Safety and Quality Issues in Fish Processing. Woodhead Publishing Limited, UK.
- Cutting C., L. 1955. Fish saving; a history of fish processing from ancient to modern times. L. Hill, London.
- Hall G., M. 1997. Fish processing technology. Springer, N.Y..
- Pearson A., M and Dutson T., R. 1999. HACCP in Meat, Poultry and Fish Processing, Volume 10 of Advances in meat research, Springer, N.Y.
- Shahidi F., Jones Y. and Kitts D., D. 1997. Seafood safety, processing, and biotechnology, Technomic, USA.
- Georgakis, S.A., Vareltzis, K.P., Amvrosiadis, I.A. (2002). Technology of food from animal origin. Publication: Xristina and Basiliki Kordali S.A.
- Bloukas, I. (2017). Meat technology. Publication: UNIBOOKS IKE
- Ramantanis, S.B. (2005). Technology of meat and its products. Publication: Xristina and Basiliki Kordali S.A.
- Vareltzis, K.P. (1999). Quality control and technology of cathes. Publication: Maria Parikou & SIA

Performance Statistics of the last 2years			
Grade (descending order)	absolute frequency	relative frequency %	sum of success rates per class
SCIENCE & TECHNOLOGY OF MEAT, FISH AND THEIR PRODUCTS			
10	20	8%	8%
9	34	14%	23%
8	58	24%	47%
7	76	32%	79%
6	51	21%	100%
	239	100%	