COURSE OUTLINE

1.GENERAL

SCHOOL	AGRICULTURAL SCIENCEs		
DEPARTMENT	FOOD SCIENCE AND TEChNOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	**FST_E06**	**SEMESTER OF STUDIES**	spring
COURSE TITLE	POST-HARVEST HANDLING OF FRUIT AND VEGETABLES		

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**	**ECTS CREDITS**
Lectures	3	
Exercises	2	
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*	Elective general background
PREREQUISITE COURSES:	No
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/

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*

- Knowledge of metabolic changes in vegetable and fruit produce after harvest in relation to its morphology and physiology
- Knowledge of the principles of post-harvest technology of vegetable and fruit produce.
- Quality requirements for vegetables and fruit products in the European Union
- Understanding the role and the effect of plant growth regulators on pre- and post-harvest management
- Selection, standardization and packaging of vegetable and fruit. Methods of storage.

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	*Search for, analysis and synthesis of data and information, with the use of the necessary technology*
Adapting to new situations	*Adapting to new situations*
Decision-making	*Decision-making*
Working independently	*Working independently*
Team work	*Team work*
Working in an international environment	*Working in an international environment*
Working in an interdisciplinary environment	*Working in an interdisciplinary environment*
Production of new research ideas	*Production of new research ideas*

- Search for, analysis and synthesis of data and information, with the use of the necessary technology
- Decision-making
- Working independently
- Team work

3.SYLLABUS

- The principles of post-harvest technology of vegetable produce. The causes and magnitude of loss during post-harvest handling.
- The classification of vegetables and Metabolic changes in vegetable produce after harvest in relation to its morphology and physiology. Respiratory, water loss, respiratory rate, effect of atmospheric compositions, role of ethylene production.
- Quality requirements for vegetables and fruit products in the European Union
- Storage requirements of different vegetable types.
- Physiological and biochemical changes during the ripening of fruit under natural conditions (pre- and post-harvest).
- Exogenous methods in controlling ripening.
- Harvest, Processing and packaging line for fruit and vegetables. Innovative vegetable and fruit packaging trends.
- Preservation of fruits. Principles and methods.

4.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 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.upatras.gr
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.*	

Activities	***Work Load per semester***
Lectures (3 hours per week x 13 weeks)	39
Seminars (1 hour per week x 13 weeks)	13
Final examination (3 hours)	3
Non-guided study	70
Total number of hours for the Course (25 hours of work-load per ECTS credit)	**125**

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.*	Written examination after the end of the semester (100%) including: • Multiple-choice questions • Solving descriptive statistics problems • Solving probability and probability distributions problems • Solving statistical inference problems • Benchmarking theory elements Grading scale: 1 to 10. Minimum passing grade: 5. Examination time: 3 hours.

5. **ATTACHED BIBLIOGRAPHY**

1. Μετασυλλεκτική Φυσιολογία-Μεταχείριση οπωροκηπευτικών και τεχνολογία, Βασιλακάκης Μιλτιάδης
2. Μετασυλλεκτική Μεταχείριση Καρπών και Λαχανικών, 2013. Χ. Πάσσαμ και Ε. Τσαντίλη (Θεωρία και Εργαστήριο)