COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
ACADEMIC UNIT	CROP SCIENCE		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	CRS_601	**SEMESTER OF STUDIES**	6th
COURSE TITLE	Greenhouse Crop Production		
FACULTY MEMBER			

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	
Tutorials	1	
Lab exercises	2	
Total	5	5

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialized general knowledge
PREREQUISITE COURSES:	Typically, there are no prerequisite courses
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek. Teaching may be performed in English in case foreign students attend the course.
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (English)
COURSE WEBPAGE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

• 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

The greenhouse crop production course aims to train students in frontline vegetable cultivation techniques under greenhouse conditions when outdoor environmental conditions are not optimum or detrimental for open field production. Students after their successful course completion will acquire solid background on vegetable production under fully controlled environmental conditions especially during fall and winter where outdoor climate parameters are inappropriate for commercial open field crop establishments.

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* *Production of free, creative and inductive thinking* *……* *Others…* *…….*

- Decision making
- Autonomous work
- Group work
- Promotion of new research ideas.
- Promotion of free, creative and inductive thinking

3. SYLLABUS

1. General approaches on economic importance of greenhouse vegetable production; emerging strong points, problems and forthcoming challenges for the agrifood affiliated sector.
2. Greenhouse tomato cultivation techniques (I).
3. Greenhouse tomato cultivation techniques (II).
4. Greenhouse pepper cultivation techniques (I).
5. Greenhouse pepper cultivation techniques (II).
6. Greenhouse eggplant cultivation techniques.
7. Greenhouse cucumber cultivation techniques.
8. Greenhouse zucchini cultivation techniques.
9. Greenhouse melon cultivation techniques (I).
10. Greenhouse melon cultivation techniques (II).
11. Greenhouse watermelon cultivation techniques.
12. Greenhouse bean cultivation techniques.
13. Greenhouse lettuce cultivation techniques.

Laboratory exercises

- Solanaceae propagation (tomato, eggplant, pepper).
- Curcubitaceae (cucumber, watermelon, melon, zucchini).
- Lettuce propagation.
- Tomato pruning, tying up and support.
- Pepper and eggplant pruning, tying up and support.
- Cucumber, watermelon and mellon pruning, tying up and support.

4. TEACHING AND LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, self-tests of students and problem-solving seminars., face to face.

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES ***Use of ICT in teaching, laboratory education, communication with students***	Use of Information and Communication Technologies (ICTs) in teaching. Scenarios *in silico* and evaluation of greenhouse crop production data will be integrated in the course. Exemplary solutions will be provided.
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 nondirected study according to the principles of the ECTS*	

Activity	***Semester workload***
Lectures (2 conduct hours per week x 13 weeks)	26
Lab Practice (2 conduct hour per week x 6 weeks)	12
Tutorials (1 conduct hour per week x 13 weeks)	13
Individual and group lab reports	6
Hours for private study of the student, preparation and attendance mid-term or/and final examinations.	68
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***125 hours (total student work-load)***

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.*	Strong participation in the course is required. Projects need deep learning approach and student's critical thought (40% of the final mark). Final written examination is mandatory. Examination will be based on full length questions and / or multiple-choice questions (60% of the final mark). Minimum pass mark: 5 (full scale: 0-10) The above-mentioned process will be taking place in Greek and for foreign students (eg ERASMUS students) in English.

5. ATTACHED BIBLIOGRAPHY

Proposed literature (indicative and not restrictive):

1. Ολύμπιος, Χ. 2001. Η τεχνική της καλλιέργειας των κηπευτικών στα θερμοκήπια. Εκδόσεις Σταμούλη, σελ. 772.

2. Von Zabelitz, C 2011. Integrated greenhouse systems for mild climates. Springer-Verlag, 363p.

Proposed research journals for further reading (indicative and not restrictive):

1. HortScience
2. Journal of Horticultural Science and Biotechnology