EUROPEAN UNIVERSITY

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EUROPEAN UNIVERSITY FOR CUSTOMISED EDUCATION

STUDY GUIDE

Protected cultivations

Organised by

University of Catania

1. IDENTIFYING DATA.	
· **Course Name.**	Protected cultivations
· **Coordinating University.**	University of Catania
· **Partner Universities Involved.**	
· **Course Field(s).**	Vegetable and ornamental crops

· Related Study Programme.	MSc Agricultural Science and Technology
· ISCED Code.	ISCED 2011 Levels of Education: 7 - **ISCED-F 2013 Broad Fields of Education and Training:** 8
· SDG.	*2, 4, 6, 7, 11, 12 , 13*
· Study Level.	M
· EUNICE Key Competencies	Problem solving Teamworking Communication Self-management Cognitive flexibility Digital competence Technical competence Global intercultural competence

· Number of ECTS credits allocated.	6
· Mode of Delivery.	Online live, with some exception for the lab and field activities
· Language of Instruction.	English
· Course Dates.	October-January
· Precise Schedule of the Lectures.	3h classes, twice a week
· Key Words.	out-of-season production, protected environment
· Catchy Phrase.	Smart farming starts where the weather ends

· Prerequisites and co-requisites.	- English B2 - Basic knowledge of Agronomy and Vegetables and ornamental crops
· Number of EUNICE students that can attend the Course.	45
· Number of EUNICE students that can attend the course per institution	5 per partner institution
· Course inscription procedure(s).	EUNICE Platform

2. CONTACT DETAILS.	
· **Department.**	Department of Agriculture, Food and Environment
· **Name of Lecturer.**	Cherubino Leonardi
· **E-mail.**	cherubino.leonardi@unict.it
· **Other Lecturers.**	

3. COURSE CONTENT.

- The protected cultivation in Italy and in the world . general and historical figures, diffusion and economic importance.

- Presupposition and objectives of protected cultivations . biological: the needs of the crops; . environmental: the climate and its variations; . agronomic: quantity and quality of production, stability of yields.

- The microclimate under protected cultivation and its effects on crop response.

- Classification, agronomic meaning and management of mean, techniques and structures of protection.

- Choice of species and cultivars.

- Production scheduling.

- The most significant aspects of the agronomic technique under protected environment: . soil preparation and interventions to change its characteristics; . plant pruning and training; . plant growth regulators; . growing media; . soilless cultivation.

- Specific aspects on the greenhouse cultivation of tomato, melon, chrysanthemum, poinsettia.

4. LEARNING OUTCOMES.

1. Knowledge and understanding - Understand the influence of climatic conditions on agricultural production and know the tools, structures, and techniques for protected and off-season cultivation.
2. Applying knowledge and understanding - Analyse microclimatic constraints and apply appropriate technical solutions to design and manage cultivation systems in protected environments.
3. Making judgements - Evaluate environmental conditions, identify improvement strategies, and choose solutions that optimize production in suboptimal contexts.
4. Communication skills - Clearly communicate analyses, project proposals, and management decisions using appropriate technical language and suitable informational tools.
5. Learning skills - Independently keep up to date with technical and technological innovations related to protected agriculture and integrate them into professional practice

5. OBJECTIVES.

The course is aimed at training specialists capable to analyse problems and evaluate possible options to get production fromcrops produced under modified micro- climatic conditions. These specialists will be able to put into practice the skills acquired with the purpose of planning and managing out-of-season production processes through the use of appropriate protection and suitable production techniques. At the end of the course the student will beable to design and manage crops in a protected environment

6. COURSE ORGANISATION.

UNITS

1.	The protected cultivation in Italy and in the world . general and historical figures, diffusion and economic importance
2.	Presupposition and objectives of protected cultivations . biological: the needs of the crops; .environmental: the climate and its variations; . agronomic: quantity and quality of production, stability of yields
3.	The microclimate under protected cultivation and its effects on crop response.
4.	Classification, agronomic meaning and management of mean, techniques and structures of protection.
5.	Choice of species and cultivars.
6.	Production scheduling
7.	The most significant aspects of the agronomic technique under protected environment: . soil preparation and interventions to change its characteristics; . plant pruning and training; . plant growth regulators; .growing media; . soilless cultivation.
8.	Specific aspects on the greenhouse cultivation of tomato, melon, chrysanthemum, poinsettia

LEARNING RESOURCES AND TOOLS.

Lecture presentation, papers, web resources, laboratory and field activities

PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.

Lectures, seminars, lab and field activities (onsite)

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

Oral final exam.
The evaluation will be made out of thirty. It will be necessary to obtain at least 18/30, to consider the exam passed.

OBSERVATIONS.

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

1 - Slides presented and discussed during lectures

2 - A.A.V.V. Good agricultural practices for greenhouse vegetable crops. FAO Plant Production and Protection Paper 217. 2013.

3 - Stanghellini C., van't Ooster B., Heuvelink Ep.. Greenhouse horticulture. Wageningen Academic Publisher 2019.

4 - Romano Tesi - Colture protette. Calderini Edagricole