

Course Unit Title	Course Unit Code	Semester	T + P	Credit	ECTS
SOILLESS CULTURE		Fall	3+0	3	6

<b>Prerequisites and co-requisites</b>	None
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<b>Type of Course Unit</b>	Compulsory
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<b>Objectives of the Course</b>	Fundamental information will be given on soilless agricultural practices developed in horticultural crops in order to eliminate problems arising from soil and to obtain higher quality and higher yields under controlled conditions.
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<b>Learning Outcomes</b>	1) They learn soilless cultivation systems, 2. They understands plant production in soilless environment, 3. Know the medias used in soilless agriculture, 4. Students can prepare nutrient solutions used in soilless environment, 5. They learn the effects of high and low pH and EC on plants.
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<b>Course Contents</b>	Use of soilless culture in greenhouse plant production is information on the use of all kinds.
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Week	
1	Definition of soilless culture, history, and status of Turkey in the World
2	Advantages and disadvantages of soilless culture.
3	Soilless culture techniques and classification.
4	Organic materials used in substrate culture
5	Inorganic materials used in substrate culture
6	Preparing for soilless greenhouse.
7	Mid-term exam.
8	Hydroponic culture
9	Comparison of hydroponic and substrate culture methods.
10	What are the nutrients to be used in soilless culture.
11	Calculation of nutrient solution in soilless culture and preparation used.
12	How is given the nutrient solution of soilless growing. How should be pH, EC, temperature and oxygen content of the nutrient solution.
13	The future of soilless culture
14	Wegetable growing in soilless system.

#### General effectiveness

- 1) They can produce vegetable in soilless agriculture,
- 2) Prepare the nutrient solution used in soilless agriculture,
- 3) Explain the properties of materials used in soilless agriculture,
- 4) Classify soilless agriculture.

#### Course Book

- Gül, A., 2008. Topraksız Tarım. Hasad Yayıncılık. ISBN 978-975-8377-66-4. •  
Papadopoulos, A.P., 1991. Growing greenhouse tomatoes in soil and in soilless media. Agriculture and Agri-Food Publication 1865/E. ISBN 0-662-18859-4. Canada. •  
Papadopoulos, A.P., 1994. Growing greenhouse seedless cucumbers in soil and in soilless media. •  
Resh, H. M., 1991. Hydroponic Food Production. ISBN: 0-88007-171-0. Woodbridge Pres Pub. Company. California. •  
Sevgican, A., 2003. Örtüaltı Yetiştiriciliği (Cilt II. Topraksız Tarım). Ege Üniv. Ziraat Fak. Yayınları No:526. Bornova.

#### Assessment methods

- Midterm exam : 40%**  
**Final exam : 60%**  
**Projects :**  
**Homeworks :**