# SOILLESS AGRICULTURAL

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| 1 | Course Title: | SOILLESS AGRICULTURAL | |
| 2 | Course Code: | PSBS416 | |
| 3 | Type of Course: | Optional | |
| 4 | Level of Course: | Short Cycle | |
| 5 | Year of Study: | 2 | |
| 6 | Semester: | 4 | |
| 7 | ECTS Credits Allocated: | 3.00 | |
| 8 | Theoretical (hour/week): | 1.00 | |
| 9 | Practice (hour/week): | 2.00 | |
| 10 | Laboratory (hour/week): | 0 | |
| 11 | Prerequisites: | None | |
| 12 | Language: | Turkish | |
| 13 | Mode of Delivery: | Face to face | |
| 14 | Course Coordinator: | Öğr. Gör. Dr. PAKİZE ÖZLEM KURT POLAT | |
| 15 | Course Lecturers: | Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği öğretim elemanları. | |
| 16 | Contact information of the Course Coordinator: | Öğr. Gör. Dr. P. Özlem KURT<br><br>ozlemkurt@uludag.edu.tr<br><br>Orhangazi Yeniköy Asil Çelik MYO, Park ve Bahçe Bitkileri Bölümü, Peyzaj ve Süs Bitkileri Yetiştiriciliği Programı | |
| 17 | Website: | | |
| 18 | Objective of the Course: | development and the importance of hydroponics, grown in soilless horticulture products, Turkey and the implementation status of hydroponic culture in the world, encountered in aquaculture in the soil problems and soilless cultivation reasons for the change, the intended use of soilless agriculture, the advantages of hydroponics, the disadvantages of soilless agriculture, establishment of hydroponic culture and implementation , soilless culture methods, growing media used in soilless cultivation, nutrient solutions used in nutrition and their preparation, macro and micronutrient balance, pH, EC. | |
| 19 | Contribution of the Course to Professional Development: | Fundamental information will be given on soilless agricultural practices developed in order to eliminate problems arising from soil in greenhouse cultivation and to obtain higher quality and higher yield under controlled conditions. | |
| 20 | Learning Outcomes: | | |
| | | **1** | To have knowledge about past, present and future of soilless agriculture |
| | | **2** | To know the definition, advantages and disadvantages of soilless agriculture |
| | | **3** | To be able to learn the possibilities of soilless agriculture in greenhouses and the types of soilless agriculture |
| | | **4** | Learning the preparation and calculation of nutrient solutions used in soilless agriculture |
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| 21 | Course Content: |

**Course Content:**

| Week | Theoretical | Practice |
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| 1 | The definition of soilless culture, history and status in the world and Turkey | |
| 2 | Reasons why soilless agriculture finds wide use in greenhouse cultivation | |
| 3 | Advantages and disadvantages of soilless agriculture | |
| 4 | Soilless cultivation techniques and classification | |
| 5 | Media used in solid medium technique and their properties | |
| 6 | Preparation of greenhouse for soilless agriculture | |
| 7 | Water culture methods used in soilless agriculture | |
| 8 | Water culture methods used in soilless agriculture (cont.) | |
| 9 | Comparison of solid culture and water culture methods | |
| 10 | Definition of nutrients to be used in soilless | |
| 12 | pH, EC, temperature and oxygen contents of nutrient solutions | |
| 14 | Visit and investigation related to soilless agriculture | |
| 22 | Textbooks, References and/or Other Materials: | Sevgican A., 2009. Örtü Altı Yetiştiriciliği ( Cilt II: Topraksız Tarım ). Ege Üniversitesi Ziraat Fakültesi Yayınları No: |
| 23 | Assesment | |

| Activites | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|
| Theoretical | 14 | 1.00 | 14.00 |
| Practicals/Labs | 14 | 2.00 | 28.00 |
| Self-study and preparation | 1 | 8.00 | 8.00 |
| Homeworks | 0 | 0.00 | 0.00 |
| Projects | 0 | 0.00 | 0.00 |
| Field Studies | 0 | 0.00 | 0.00 |
| Midterm exams | 1 | 20.00 | 20.00 |
| Others | 0 | 0.00 | 0.00 |
| Final Exams | 1 | 20.00 | 20.00 |
| Total Work Load | | | 110.00 |
| Total work load/ 30 hr | | | 3.00 |
| ECTS Credit of the Course | | | 3.00 |

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| Midterm Exam | 1 | 40.00 |
| Home work-project | 0 | 0.00 |
| Total | 2 | 100.00 |
| Contribution of Term (Year) Learning Activities to Success Grade | | 40.00 |
| Contribution of Final Exam to Success Grade | | 60.00 |
| Total | | 100.00 |
| Measurement and Evaluation Techniques Used in the Course | | Measurement and evaluation is carried out according to the principles of Bursa Uludag University Associate and Undergraduate Education Regulation |

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| 24 | **ECTS / WORK LOAD TABLE** |

| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS | | | | | | | | | | | | | | | |
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| | **PQ1** | **PQ2** | **PQ3** | **PQ4** | **PQ5** | **PQ6** | **PQ7** | **PQ8** | **PQ9** | **PQ10** | **PQ11** | **PQ12** | **PQ13** | **PQ14** | **PQ15** | **PQ16** |
| **ÖK1** | 3 | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK2** | 4 | 4 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK3** | 3 | 3 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **ÖK4** | 4 | 3 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **LO: Learning Objectives PQ: Program Qualifications** | | | | | | | | | | | | | | | | |
| **Contribution Level:** | **1 very low** | | **2 low** | | | **3 Medium** | | | **4 High** | | | **5 Very High** | | | | |