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**ESKİŞEHİR OSMANGAZİ UNIVERSITY**

**GRADUATE SCHOOL OF NATURAL AND APPLİED SCİENCES**

**COURSE INFORMATION FORM**

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| **DEPARTMENT** |  HORTICULTURE (MSc) | **YARIYIL** |  FALL/SPRİNG |

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| **COURSE** |
| **CODE** |  0 | **TITLE** | Fundamentals Ecological, Biological and Physiological Principles of Horticulture |

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| **LEVEL** | **HOUR/WEEK** | **Credit** | **ECTS** | **TYPE** | **LANGUAGE** |
| **Theory** | **Practice** | **Laboratory** |
|  **MSc** | 3 | 0 | 0 | 3 | 7.5 | COMPULSORY( X ) | ELECTİVE( ) | TURKİSH |
| **CREDİT DISTRIBUTION** |
| **Basic Science** | **Basic Engineering** | **Horticulture** |
|   |   | X |
| **ASSESSMENT CRITERİA** |
| **SEMESTER ACTIVITIES** | **Evaluation Type** | **Number** |  **Contribution ( % )** |
| Midterm |  | 40 |
| Quiz |   |    |
| Homework |   |    |
| Project |  |  |
| Report |   |    |
| Seminar |   |    |
| Other (………) |   |    |
| **Final Examination** | 60 |
| **PREREQUISITE(S)** |  |
| **SHORT COURSE CONTENT** | To give advance information on ecological, biological and physiological principles of horticultural plants |
| **COURSE OBJECTIVES** | Growth, development and maturation in horticulture and maintenance of vitality. The explanation of vital activities and functions in physics, chemistry and biological rules. |
| **COURSE CONTRIBUTION TO THE PROFESSIONAL EDUCATION** |  Analytical thinking, synthesize and able to express their ideas. |
| **LEARNING OUTCOMES OF THE COURSE** | * It can be learned the importance and effects of ecological factors in horticultural plants.
* It can be learned classify important biological events in horticultural plants.
* it can be known important physiological events in horticultural plants
* The students can understand about stress
* The students can make a link between ecology, biology and physiology.
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| **TEXTBOOK** | Kaşka, Nurettin ve Kargı Paydaş Sevgi (2007) Meyve Ağaçları Fizyolojisi (büyüme ve Gelişme),Nobel Kitabevleri, Adana (Çeviri)Gökmen, Sabri (2007) Genel Ekoloji, Nobel Yayın Dağıtım, Ankara |
| **OTHER REFERENCES** | Akman, Yıldırım ve Darıcı, Cengiz (1998) Bitki Fizyolojisi (Beslenme ve Gelişme Fizyolojisi), Ankara |

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| **COURSE SCHEDULE (Weekly)** |
| **WEEK** | **TOPİCS** |
| 1 | General Characteristics of Horticultural Plants in Terms of Ecological, Biological and Physiological Aspect, Effect of Ecological Factors on Physiological Characteristics |
| 2 | Vegetative and Generative Growth Concepts - Topics |
| 3 | Flower and Fruit Initiation |
| 4 | Physiological and Biological Factors Affecting Fruit Growth and Development |
| 5 | Plant-Water Relationships, Mineral Uptake by Plants, Transportation Systems of Plants |
| 6 | The Use of Mineral Materials (Ions) and Their Main Tasks in the Plant |
| 7 | *Midterm Examination*The Effects of Plant Nutrient Elements |
| 8 | Plant Nutrient Elements Needs of Plants, The Symptoms of Excess And Deficiency of Plant Nutrient Elements |
| 9 | Growth Rule, Relationships Between Carbohydrates and Plant Development |
| 10 | Carbon Assimilation (Photosynthesis), Respiration |
| 11 | Storage and Transportation of Assimilates |
| 12,13 | The Place, Importance and Usage of Growth Regulators in The Plant Physiology of Horticulture |
| 14 | Biochemistry of Abscission and Senescence, general evaluation of course contents |
| 15,16 | *Final Examination*  |

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| **CONTRIBUTION OF THE COURSE LEARNING OUTCOMES TO THE HORTICULTURE MSc PROGRAM LEARNİNG OUTCOMES** | **CONTRIBUTION LEVEL** |
| **NO** | **LEARNING OUTCOMES (MSc)** | **3**High | **2**Mid | **1**Low |
| **LO 1** | To have integrated theoretical and practical (land and laboratory) information on growing and breeding of fruits, vegetables, grapevine and ornamental plants, and to use and transfer these information accurately | **[ ]**  | **[x]**  | **[ ]**  |
| **LO 2** | To have theoretical and practical (land and laboratory) information on growing and breeding of fruits, vegetables, grapevine and ornamental plants, and to use and transfer these information accurately | **[x]**  | **[ ]**  | **[ ]**  |
| **LO 3** | To have the skill of utilizing different techniques for sustainable usage and protection of genetic resources in horticultural area and environment | **[ ]**  | **[x]**  | **[ ]**  |
| **LO 4** | To have the information on good agricultural practices and ecological agriculture, and by the way, to decide the right time of cultural practices of the horticultural crops, and to have the ability of describing the pest and diseases of horticultural plants | **[ ]**  | **[x]**  | **[ ]**  |
| **LO 5** | To have the skill on observing the changes through harvest, post harvest, and storage of horticultural crops, and to have the integrated information on storage conditions | **[ ]**  | **[x]**  | **[ ]**  |
| **LO 6** | To have the ability of getting the data on horticultural area, and evaluation, recording, project creation and application skills | **[ ]**  | **[ ]**  | **[x]**  |
| **LO 7** | To have the ability of working in individual, multiple and different disciplined teams, and having the responsibility | **[ ]**  | **[ ]**  | **[x]**  |
| **LO 8** | Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language. | **[ ]**  | **[ ]**  | **[x]**  |
| **LO 9** | Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement. | **[x]**  | **[ ]**  | **[ ]**  |
| **LO 10** | Understanding of professional and ethical issues and taking responsibility | **[ ]**  | **[x]**  | **[ ]**  |

**Prepared by: Prof. Dr. Rafet ASLANTAŞ** **Date: 13.11.2017** **Signature**: