



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
FIELD CROPS
FIELD CROPS
FIELD CROPS MASTER
COURSE INFORMATION FORM

| | | | | | | | | | |
|--|--|--------------|-------------|--------|--------------------------------|----------|---|------------|---|
| Course Title | Physiology of Agricultural Plants in Stress | | | | | | | | |
| Course Code | ZTO522 | Course Level | | | Second Cycle (Master's Degree) | | | | |
| ECTS Credit | 7 | Workload | 180 (Hours) | Theory | 2 | Practice | 2 | Laboratory | 0 |
| Objectives of the Course | In general the aim of the course is to give information about response of plants against environmental stress factors. | | | | | | | | |
| Course Content | Terminology, Sources of environmental stress for plants. Physical Sources (Drought, Temperature, Radiation, Flooding, Mechanical, Electrical, Magnetic, Wind). Chemical Sources (Air Pollution, Allelochemicals, Nutrients, Pesticides, Toxins, Salts, pH of soil solution). Biotic Sources (Competition, Allelopathy, Lack of Symbiosis, Human Activities, Diseases, Insects) | | | | | | | | |
| Work Placement | | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Experiment, Demonstration, Discussion, Project Based Study, Problem Solving | | | | | | | | |
| Name of Lecturer(s) | Prof. Mehmet Ali DEMİRAL | | | | | | | | |

Assessment Methods and Criteria

| Method | Quantity | Percentage (%) |
|---------------------|----------|----------------|
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 60 |

Recommended or Required Reading

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| 1 | The Physiology of Plants under Stress. Maynard G. Hale, David M. Orcutt. 1987. John Wiley & Sons Inc. ISBN. 0-471-88997-0. |
| 2 | Bitki Besleme. Burhan Kacar, Vahap Katkat. 1998. Vipaş Yayınları. ISBN: 975-564-068-1. |
| 3 | Bitki Fizyolojisi. Burhan Kacar, Vahap Katkat, Şule Öztürk. 2002. Nobel Yayıncılık. ISBN. 978-975-591-833-4. |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|----------------------------------|
| 1 | Theoretical | Terminology |
| | Preparation Work | Power point presentation. |
| 2 | Theoretical | Physical Stress Factors |
| | Preparation Work | Power point presentation. |
| 3 | Theoretical | Physical Stress Factors |
| | Preparation Work | Power point presentation. |
| 4 | Theoretical | Physical Stress Factors |
| | Preparation Work | Power point presentation. |
| 5 | Theoretical | Physical Stress Factors |
| | Preparation Work | Laboratory work. |
| 6 | Theoretical | Physical Stress Factors |
| | Preparation Work | Laboratory work. |
| 7 | Theoretical | Physical Stress Factors |
| | Preparation Work | Laboratory work. |
| 8 | Intermediate Exam | Midterm Exam |
| 9 | Theoretical | Chemical Stress Factors |
| | Preparation Work | Laboratory work. |
| 10 | Theoretical | Chemical Stress Factors |
| | Preparation Work | Laboratory work. |
| 11 | Theoretical | Chemical Stress Factors |
| | Preparation Work | Experimental Study at greenhouse |
| 12 | Theoretical | Biotic Stress Factors |
| | Preparation Work | Power point presentation. |
| 13 | Theoretical | Biotic Stress Factors |
| | Preparation Work | Experimental Study at greenhouse |



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|----|------------------|---------------------------|
| 14 | Theoretical | Biotic Stress Factors |
| | Preparation Work | Power point presentation. |
| 15 | Theoretical | Biotic Stress Factors |
| | Preparation Work | Power point presentation. |
| 16 | Theoretical | Final Examination |

Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|---------------------------------------|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 0 | 2 | 28 |
| Lecture - Practice | 14 | 0 | 2 | 28 |
| Assignment | 2 | 0 | 10 | 20 |
| Term Project | 2 | 0 | 20 | 40 |
| Laboratory | 8 | 0 | 2 | 16 |
| Midterm Examination | 1 | 0 | 16 | 16 |
| Final Examination | 1 | 0 | 32 | 32 |
| Total Workload (Hours) | | | | 180 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 7 |

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

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|---|---|
| 1 | To be able to recognize and classify the concept of stress. |
| 2 | To be able to recognize the concept of plant under stress. |
| 3 | To be able to recognize the concept of zero stress. |
| 4 | To be able to recognize and classify the plant responses against environmental stress. |
| 5 | To learn the stress related protein synthesis, and functions of these proteins under stress conditions. |

Programme Outcomes (Field Crops Master)

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|----|---|
| 1 | To be able to improve and deepen the level of expertise in field crops on the basis of the departments licenses qualifications. |
| 2 | To be able to recognize the subjects related to field crops, to be able to solve these and make interpretation. |
| 3 | To be able to have the skills of acting independently, to have power to decide and to create. |
| 4 | To be able to work in teams between departments |
| 5 | To be able to give briefing about latest information of Field Crops in written, oral and visual ways. |
| 6 | To be able to take responsibility for developing the new approaches and to formulate a solution facing unforeseen complex situations of applications, |
| 7 | To be able to defend the original opinions in both Turkish and in foreign languages by using these languages and communicating effectively. |
| 8 | To be able to contribute to science by producing knowledge for the aim of improving quality, efficiency and sustainability |
| 9 | To be able to apply breeding methods in order to improve new varieties for Field Crops. |
| 10 | To be able to maintain and select the appropriate statistical methods within the framework of the study, evaluation of scientific ethics; to convert the results into a report/dissertation and to offer them by producing scientific publications. |

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

| | L1 | L2 | L3 | L4 | L5 |
|-----|----|----|----|----|----|
| P1 | 2 | 2 | 2 | 3 | 2 |
| P2 | 2 | 3 | 2 | 3 | 2 |
| P3 | 2 | 3 | 2 | 3 | 3 |
| P4 | 2 | 4 | 3 | 3 | 3 |
| P5 | 3 | 4 | 3 | 2 | 3 |
| P6 | 3 | 4 | 3 | 2 | 3 |
| P7 | 3 | 4 | 3 | 2 | 3 |
| P8 | 3 | 4 | 3 | 2 | 4 |
| P9 | 4 | 3 | 4 | 2 | 4 |
| P10 | 4 | 3 | 4 | 2 | 4 |

