



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

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|--|---|---|----------------------|--|---|--------------------------------|---|------------|---|
| Course Title | | Ecophysiology of Corn and Agronomic Practices | | | | | | | |
| Course Code | | ZTB538 | | Course Level | | Second Cycle (Master's Degree) | | | |
| ECTS Credit | 8 | Workload | 204 (<i>Hours</i>) | Theory | 2 | Practice | 2 | Laboratory | 0 |
| Objectives of the Course | | The aim of this course is to determine the physiological period of maize and effect of environmental factors (temperature, rainfall, relative humidity and wind) on the period. In addition it can be made a show of some agricultural practices to provide optimal conditions. | | | | | | | |
| Course Content | | With this course, corn vegetative (4 leaf, 8 leaf, 12 leaf, 16 leaf and tasseling) and reproductive (pollination, blister, milk stage, dough stage dent stage and physiological maturity stage) growth stages are indicated. Effect of some different environmental factors (temperature, rainfall, relative humidity and wind) on corn plant development is also emphasized. Some agronomical practices (tillage, fertilization, irrigation and pesticide application) In order to provide an optimum environment for plants are determined. It is described that effects of these practices on length of physiological period of plant and the resulting of products. | | | | | | | |
| Work Placement | | N/A | | | | | | | |
| Planned Learning Activities and Teaching Methods | | | | Explanation (Presentation), Discussion, Individual Study | | | | | |
| Name of Lecturer(s) | | | | | | | | | |

Assessment Methods and Criteria

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

Recommended or Required Reading

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| 1 | E.P. ODUM and G.W. BARRETT. 2005. Fundamentals of Ecology, Thomson Learning Brooks/Cole, Belmont, CA, USA, 624 pp). |
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| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|--|
| 1 | Theoretical | Corn seed, germination physiology and light |
| | Practice | Application about Corn seed, germination physiology and light |
| | Preparation Work | Review of related issues with support of active education |
| 2 | Theoretical | Vegetative and reproductive growth stages |
| | Practice | Application about Vegetative and reproductive growth stages subjects |
| | Preparation Work | Review of related issues with support of active education |
| 3 | Theoretical | The effects of sowing time on growth stages |
| | Practice | Application about sowing time on growth stages |
| | Preparation Work | Review of related issues with support of active education |
| 4 | Theoretical | The effects of temperature changes on corn plant |
| | Practice | Application about the effects of temperature changes on corn plant |
| | Preparation Work | Review of related issues with support of active education |
| 5 | Theoretical | Natural rainfall and relative air humidity |
| | Practice | Application about Natural rainfall and relative air humidity subjects |
| | Preparation Work | Review of related issues with support of active education |
| 6 | Theoretical | Soil characteristics and Wind |
| | Practice | Application about soil characteristics and wind |
| | Preparation Work | Review of related issues with support of active education |
| 7 | Theoretical | The effects of environmental changes on corn grain quality |
| | Practice | Application about environmental changes on corn grain quality |
| | Preparation Work | Review of related issues with support of active education |
| 8 | Intermediate Exam | Midterm exam |
| 9 | Theoretical | Identification and determination of agronomical traits during corn growth period |
| | Practice | Defination of agronomical traits during corn growth period |
| | Preparation Work | Review of related issues with support of active education |



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| 10 | Theoretical | Tillage during corn growth period |
| | Practice | Tillage applications during corn growth period |
| | Preparation Work | Review of related issues with support of active education |
| 11 | Theoretical | First and second fertilizations of corn, effects of increasing the number of applications on corn grain |
| | Practice | Fertilizing applications |
| | Preparation Work | Review of related issues with support of active education |
| 12 | Theoretical | Foliar fertilization and is it necessary? |
| | Practice | Foliar fertilizer applications |
| | Preparation Work | Review of related issues with support of active education |
| 13 | Theoretical | Pesticide applications during the corn farming |
| | Practice | Pesticide applications |
| | Preparation Work | Review of related issues with support of active education |
| 14 | Theoretical | Irrigation times and methods during corn growth period |
| | Practice | Irrigation methods for corn cultivation |
| | Preparation Work | Review of related issues with support of active education |
| 15 | Theoretical | Harvest of grain and silage |
| | Practice | Harvest applications |
| | Preparation Work | Review of related issues with support of active education |
| 16 | Final Exam | Final exam |

Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|---------------------------------------|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 2 | 2 | 56 |
| Lecture - Practice | 14 | 0 | 2 | 28 |
| Assignment | 4 | 0 | 20 | 80 |
| Term Project | 1 | 0 | 30 | 30 |
| Midterm Examination | 1 | 3 | 1 | 4 |
| Final Examination | 1 | 5 | 1 | 6 |
| Total Workload (Hours) | | | | 204 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 8 |

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

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|---|--|
| 1 | Determination of physiological growth stages (vegetative and reproductive) on corn |
| 2 | The impact of environmental factors on the period |
| 3 | Determination of effects on agricultural practices of plant growth |
| 4 | Determination of effects on agricultural practices of products (grain and silage) |
| 5 | Determination of effects on quality of products |

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 | 5 | 5 | 5 | 5 | 5 |
| P2 | 5 | 5 | 5 | 5 | 5 |
| P3 | 5 | 5 | 5 | 5 | 5 |
| P4 | 5 | 5 | 5 | 5 | 5 |
| P5 | 5 | 5 | 5 | 5 | 5 |
| P6 | 5 | 5 | 5 | 5 | 5 |
| P7 | 5 | 5 | 5 | 5 | 5 |
| P8 | 5 | 5 | 5 | 5 | 5 |
| P9 | 5 | 5 | 5 | 5 | 5 |
| P10 | 5 | 5 | 5 | 5 | 5 |

