# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course Title | Insect Population Ecology | | | | | | | | |
| Course Code | ZBK613 | | Couse Level | | Third Cycle (Doctorate Degree) | | | | |
| ECTS Credit | 7 | Workload | 170 *(Hours)* | Theory | 3 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | Population dynamics of insect populations in agricultural area, interpretation of relationships between factors effecting insect populations and applications in plant production | | | | | | | | |
| Course Content | Distribution of insects and factors effecting distributions, population density, population increases and population dynamics in ecosystems and agro-ecosystems | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Demonstration, Discussion, Case Study, 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** | |
|---|---|
| 1 | Begon, M. And Mortimer, M., 1994. Population Ecology. Blackwell Scientific Publications, London, 220. |
| 2 | Kocataş, A., 1994. Ekoloji ve Çevre Biyolojisi. E.Ü. Fen Fakültesi Ders Kitapları Serisi No: 142. |

| **Week** | **Weekly Detailed Course Contents** | |
|---|---|---|
| 1 | Theoretical | General  definations and concepts |
| 2 | Theoretical | Population and its structural features |
| 3 | Theoretical | Samplings and numerical  characteristics of populations |
| 4 | Theoretical | Effects of age in terms of pest population dynamics |
| 6 | Theoretical | Migrations of insects |
| 7 | Intermediate Exam | Mid Term Exam |
| 8 | Theoretical | Life table of insects and its importance in terms of insect control |
| 9 | Theoretical | Sex ratio and its effects on population level |
| 10 | Theoretical | Diversity and adaptation of insects to environmental  variations |
| 11 | Theoretical | Parazitism and predation |
| 12 | Theoretical | Natural balance and effecting factors |
| 13 | Theoretical | Importance of population dynamics  of pests and natural enemies in agricultural production |
| 14 | Theoretical | Modelling of pest population increase |
| 15 | Theoretical | General review |
| 16 | Final Exam | Final Exam |

| **Workload Calculation** | | | | |
|---|---|---|---|---|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 14 | 2 | 2 | 56 |
| Term Project | 14 | 3 | 2 | 70 |
| Project | 1 | 14 | 0 | 14 |
| Midterm Examination | 1 | 14 | 1 | 15 |
| Final Examination | 1 | 14 | 1 | 15 |
| | | | Total Workload (Hours) | 170 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 7 |
| **25 hour workload is accepted as 1 ECTS* | | | | |

| Learning Outcomes | |
|---|---|
| 1 | Promote interpretation ability on the population dynamics of insects |
| 2 | Provide information on the factors effecting population changes |
| 3 | To understand the relation between different insect species in the same agro ecosystems |
| 4 | Learn relationships between prey -predator, parasitoid-host in agro ecosystems |
| 5 | |

| **Programme Outcomes** *(Plant Protection Doctorate)* | |
|---|---|
| 1 | Students improve their knowledge and skill previously gained during first cycle and second cycle programs and become a specialist their own discipline |
| 2 | Students gain knowledge and experience for using new techniques and equipments in their own discipline. |
| 3 | Students gain ability to plan and conduct scientific projects in their own discipline by using current knowledge and techniques, and to collect and analyze data and make inference on the results . |
| 4 | Students gain ability to write scientific articles and prepare them for publications and to make oral or poster presentations in scientific meetings. |
| 5 | Students gain ability to review scientific articles and projects relevant to their own discipline. |
| 6 | Students gain experiences how to get effective position in national and international projects. |
| 7 | Students gain experience for participating in and organizing scientific meetings. |

**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 | 2 | 2 |
| P2 | 3 | 3 | 3 | 3 | 3 |
| P3 | 4 | 3 | 3 | 3 | 3 |
| P4 | 4 | 4 | 4 | 3 | 3 |
| P5 | 3 | 4 | 3 | 3 | 3 |
| P6 | 2 | 2 | 2 | 2 | 2 |
| P7 | 2 | 2 | 2 | 2 | 2 |