



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

| | | | | | | | | | |
|--|---|--|----------------------|---|---|--------------------------------|---|------------|---|
| Course Title | | Resistance to Insecticides | | | | | | | |
| Course Code | | ZBK625 | | Couese Level | | Third Cycle (Doctorate Degree) | | | |
| ECTS Credit | 7 | Workload | 181 (<i>Hours</i>) | Theory | 2 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | | History of insecticide resistance, classification and mode of action of insecticides will be explained. | | | | | | | |
| Course Content | | The problem of insecticide resistance and situation of resistance. Resistance occuring according to insecticide classes and cause of insecticide residues. Basic and practical approach of insecticide resistance, molecular genetic, population, biology, resistance mechanisms and resistance problems will be described very details. | | | | | | | |
| Work Placement | | N/A | | | | | | | |
| Planned Learning Activities and Teaching Methods | | | | Explanation (Presentation), Demonstration, Discussion | | | | | |
| Name of Lecturer(s) | | Prof. Cafer TURGUT | | | | | | | |

Assessment Methods and Criteria

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

Recommended or Required Reading

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| 1 | Ishaaya, I. (2001): Biochemical Sites of Insecticide Action and Resistance. Springer-Verlag |
| 2 | Denholm, I. (1999): Insecticide resistance: from mechanisms to management. Cabi Publishing |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|---|
| 1 | Theoretical | Introduction |
| 2 | Theoretical | Classification of insecticides |
| 3 | Theoretical | Uptake of insecticide to insects bodies |
| 4 | Theoretical | Molecular mechanisms of resistance |
| 5 | Theoretical | Screening of resistance I |
| 6 | Theoretical | Screening of resistance II |
| 7 | Theoretical | Variety of insecticide resistance I (morphological) |
| 8 | Intermediate Exam | Mid-Term Exam |
| 9 | Theoretical | Variety of insecticide resistance II (physiological) |
| 10 | Theoretical | Genetics of insecticide resistance |
| 11 | Theoretical | Insecticide resistance and integrated pest management |
| 12 | Theoretical | Insecticide resistance in Turkey |
| 13 | Theoretical | Control and management of insecticide resistance 1 |
| 14 | Theoretical | Control and management of insecticide resistance 2 |
| 15 | Theoretical | General review |
| 16 | Final Exam | Final Exam |

Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|---------------------------------------|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 2 | 2 | 56 |
| Lecture - Practice | 14 | 3 | 2 | 70 |
| Midterm Examination | 1 | 28 | 1 | 29 |
| Final Examination | 1 | 25 | 1 | 26 |
| Total Workload (Hours) | | | | 181 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 7 |

*25 hour workload is accepted as 1 ECTS



Learning Outcomes

| | |
|---|---|
| 1 | Having knowledge about insecticide resistance in insect |
| 2 | Molecüler mechanism of insecticide resistance |
| 3 | Having knowledge about types of insecticide resistance |
| 4 | Management and controlling of insecticide resistance |
| 5 | |

Programme Outcomes (*Plant Protection Doctorate*)

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|---|--|
| 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 | 4 | 4 | 4 | 4 | 4 |
| P2 | 3 | 3 | 3 | 3 | 3 |
| P3 | 4 | 4 | 4 | 4 | 4 |
| P4 | 5 | 5 | 5 | 5 | 5 |
| P5 | 5 | 5 | 5 | 5 | 5 |
| P6 | 4 | 4 | 4 | 4 | 4 |
| P7 | 3 | 3 | 3 | 3 | 3 |

