



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

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|--|---|---|-------------|--|---|--------------------------------|---|------------|---|
| Course Title | | Population Biology | | | | | | | |
| Course Code | | ZTB501 | | Couse Level | | Second Cycle (Master's Degree) | | | |
| ECTS Credit | 8 | Workload | 200 (Hours) | Theory | 3 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | | To determine the relationship between gene and genotypes in population and to stressed the population equilibrium and factors affecting equilibrium. | | | | | | | |
| Course Content | | Determining the structure of populations, changing the genetic structure of the population, mutation, migration, selection and random drift factors such as the theory of evolution and quantitative genetic theory are examined and the student to gain basic knowledge about these areas. | | | | | | | |
| Work Placement | | N/A | | | | | | | |
| Planned Learning Activities and Teaching Methods | | | | Explanation (Presentation), Discussion, Project Based Study, Individual Study, Problem Solving | | | | | |
| Name of Lecturer(s) | | Prof. Aydın ÜNAY, Prof. Öner CANAVAR | | | | | | | |

Assessment Methods and Criteria

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

Recommended or Required Reading

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| 1 | 1. Wilson, E. O. And Bossert, W.H. 1973. Einführung in die populationsbiologie |
| 2 | 2. Wricke, G. 1972. Populationsgenetik. |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|--|
| 1 | Theoretical | Population as a basic unit of ecology |
| | Preparation Work | Literature review |
| 2 | Theoretical | Dynamic of a population |
| | Preparation Work | Literature review |
| 3 | Theoretical | Interaction of populations |
| | Preparation Work | Literature review |
| 4 | Theoretical | Genetic structure of populations |
| | Preparation Work | Literature review |
| 5 | Theoretical | Hardy-Weinberg's populations |
| | Preparation Work | Literature review |
| 6 | Theoretical | Factors affecting genetic structure of population |
| | Preparation Work | Literature review |
| 7 | Theoretical | Mutation |
| | Preparation Work | Literature review |
| 8 | Intermediate Exam | Midterm exam |
| 9 | Preparation Work | Literature review |
| 10 | Theoretical | Selection I |
| | Preparation Work | Literature review |
| 11 | Theoretical | Selection II |
| | Preparation Work | Literature review |
| 12 | Theoretical | Essential selection types |
| | Preparation Work | Literature review |
| 13 | Theoretical | The combine effects of factors affecting genetic structure of population |
| | Preparation Work | Literature review |
| 14 | Theoretical | Genetic polymorphism |
| | Preparation Work | Literature review |
| 15 | Theoretical | Presentation of assignments |
| | Preparation Work | Literature review |



| | | |
|----|------------|------------|
| 16 | Final Exam | Final exam |
|----|------------|------------|

Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|--|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 3 | 3 | 84 |
| Term Project | 2 | 13 | 20 | 66 |
| Midterm Examination | 1 | 0 | 10 | 10 |
| Final Examination | 1 | 10 | 30 | 40 |
| Total Workload (Hours) | | | | 200 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 8 |

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

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|---|--|
| 1 | 1. To be able to comprehend the historical development of population biology and evolution |
| 2 | 2. To be able to comprehend the balance of population, mutation, migration, selection and adaptation |
| 3 | 3. To be able to estimate the population size for breeding purpose |
| 4 | 4. To be able to produce an idea about the genetic structure of populations |
| 5 | 5. To be able to create variation to improve new genotypes, and predict the effects of gene |

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 | 4 | 4 | 5 | 5 |
| P2 | 3 | 2 | 3 | 2 | 2 |
| P3 | 2 | 2 | 1 | 1 | 1 |
| P4 | 2 | 2 | 3 | 3 | 2 |
| P5 | 4 | 4 | 4 | 3 | 2 |
| P6 | 3 | 3 | 3 | 3 | 3 |
| P7 | 2 | 2 | 3 | 4 | 3 |
| P8 | 4 | 5 | 5 | 5 | 4 |
| P9 | 5 | 5 | 5 | 5 | 5 |
| P10 | 3 | 4 | 3 | 3 | 3 |

