# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

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|---|---|---|---|---|---|---|---|---|---|
| Course Title | Enzyme Biotechnology | | | | | | | | |
| Course Code | KİM557 | | Couse Level | Second Cycle (Master's Degree) | | | | | |
| ECTS Credit | 6 | Workload | 156 *(Hours)* | Theory | 3 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | Basic definitions, biotechnology techniques, application areas of biotechnology, traditional and modern biotechnology, enzymes, enzymes which are used in biotechnology, enzyme types, enzyme biotechnology in paper industry, textile and enzyme biotechnology, biofuels and enzyme biotechnology and recent research areas. | | | | | | | | |
| Course Content | Definition of biotechnology, application areas, enzymes in biotechnology, industrial applications of biotechnology. | | | | | | | | |
| 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 | 20 |
| Final Examination | 1 | 60 |
| Assignment | 1 | 20 |

| **Recommended or Required Reading** | |
|---|---|
| 1 | Lecture notes of lecturer. |

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | Basic definitions |
| 2 | Theoretical | Biotechnology techniques |
| 3 | Theoretical | Application areas of biotechnology |
| 4 | Theoretical | Enzymes |
| 5 | Theoretical | Factors that effects the enzymatic activity |
| 6 | Theoretical | Enzymes that are used in biotechnology |
| 7 | Theoretical | Enzyme types |
| 8 | Intermediate Exam | Midterm Exam |
| 9 | Theoretical | Enzyme biotechnology in paper industry |
| 10 | Theoretical | Textile and enzyme biotechnology |
| 11 | Theoretical | Biofuels and enzyme biotechnology |
| 12 | Theoretical | Traditional and modern biotechnology |
| 13 | Theoretical | Resent research areas |
| 14 | Theoretical | Student presentation |
| 15 | Theoretical | Student presentation |
| 16 | Final Exam | Final exam |

| **Workload Calculation** | | | | |
|---|---|---|---|---|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 14 | 0 | 3 | 42 |
| Assignment | 1 | 30 | 0 | 30 |
| Midterm Examination | 1 | 40 | 2 | 42 |
| Final Examination | 1 | 40 | 2 | 42 |
| | | | Total Workload (Hours) | 156 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 6 |
| **25 hour workload is accepted as 1 ECTS* | | | | |

| Learning Outcomes | |
|---|---|
| 1 | to be able to recognize the basic knowledge about enzymes. |
| 2 | to be able to discuss about biotechnology and application areas. |
| 3 | to be able to define the use of enzyme in various technologies. |
| 4 | to be able to discuss about the future application of enzyme in biotechnology area. |
| 5 | to be able to recognize about industrial applications of enzymes |

| **Programme Outcomes** *(Chemistry Master)* | |
|---|---|
| 1 | To be able to gain proficiency in depths and analysis by statistical methods in the same or a related area depending on the undergraduate competence,. |
| 2 | To be able to use the knowledge of his/her field and the skills to solve problems and/or applications in interdisciplinary research. |
| 3 | To be able to adopt to evaluate the information and skill his/her field by critical approach. |
| 4 | To be able to evaluate the effect of important persons, case and fact on his/her field applications. |
| 5 | To be able to gain the ability to discuss write and orally present to a group of literate listener. |
| 6 | To be able to communicate orally and written in a foreign language at least at European language B2 level. |
| 7 | To be able to use computer programs related to his/her field and have skills for informatics communication. |
| 8 | To be able to be careful in protecting social, scientific and cultural ethics in collection data, application and presentation. |
| 9 | To be able to develop strategic, political and application plans in his/her field and may evaluate the outcomes in quality periods. |

**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 |
| P3 | | | 5 | 5 | 5 |
| P8 | 5 | 5 | 5 | 5 | 5 |