# AYDIN ADNAN MENDERES UNIVERSITY
# COURSE INFORMATION FORM

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|---|---|---|---|---|---|---|---|---|---|
| Course Title | Food Biotechnology and Fermented Food Technology | | | | | | | | |
| Course Code | GKA215 | | Couse Level | Short Cycle (Associate's Degree) | | | | | |
| ECTS Credit | 4 | Workload | 100 *(Hours)* | Theory | 2 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | By examining this derste fermentation technology, fermented products such as pickles, olives, boza, vinegar, kefir, bread crust will be discussed.<br>In addition, fermentation technology will be used to produce products such as amino acids and vitamins. | | | | | | | | |
| Course Content | Information about food biotechnology will be shared. It contains information on fermentation applications in the food industry.<br>The link between the enzymes and the foods is shown. Bread yeast, fermented meat products, fermented dairy products, probiotic organisms, fermented alcohol products, genetically modified organisms, flavor and aroma substances. | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Discussion, Case Study | | | | | | | | |
| Name of Lecturer(s) | Ins. Alican TAŞÇIOĞLU | | | | | | | | |

| Assessment Methods and Criteria | | |
|---|---|---|
| Method | Quantity | Percentage (%) |
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 70 |

| Recommended or Required Reading | |
|---|---|
| 1 | FOOD BIOTECHNOLOGY/ NOBEL PUBLICATIONS/EDITOR Prof.Dr. NECLA ARAN |

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | Introduction to fermentation. The importance of fermentation in the food sector |
| 2 | Theoretical | Biochemistry and molecular biology |
| 3 | Theoretical | Fermentation technology in food industry |
| 4 | Theoretical | Application areas of enzymes in food industry |
| 5 | Theoretical | Bread yeast production |
| 6 | Theoretical | Fermented meat products |
| 7 | Theoretical | Fermented dairy products |
| 8 | Intermediate Exam | Midterm |
| 9 | Theoretical | Probiotic organisms and cheese |
| 10 | Theoretical | Fermented herbal products |
| 11 | Theoretical | Biotechnological applications in fats |
| 12 | Theoretical | Aroma biotechnology |
| 13 | Theoretical | Plant biotechnology |
| 14 | Theoretical | Genetically modified foods |
| 15 | Theoretical | Food biosynthesis |
| 16 | Final Exam | Final exam |

| Workload Calculation | | | | |
|---|---|---|---|---|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 14 | 0 | 2 | 28 |
| Lecture - Practice | 2 | 0 | 10 | 20 |
| Laboratory | 4 | 0 | 6 | 24 |
| Midterm Examination | 1 | 10 | 0 | 10 |

| | | | | |
|---|---|---|---|---|
| Final Examination | 1 | 18 | 0 | 18 |
| | | | Total Workload (Hours) | 100 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 4 |
| **25 hour workload is accepted as 1 ECTS* | | | | |

| **Learning Outcomes** | |
|---|---|
| 1 | Learning what the fermentation means |
| 2 | Learning the places where fermentation is applied |
| 3 | Learning the varieties of fermented products |
| 4 | Gain information about genetically modified organisms |
| 5 | To be able to understand some basic concepts of biotechnology |

| **Programme Outcomes** *(Food Quality Control and Analysis)* | |
|---|---|
| 1 | Having basic knowledge about food products |
| 2 | Having knowledge for Production and hygiene in food products, preservation, microbiology, quality control and analysis |
| 3 | Having skills and discipline for working in the laboratory and using laboratory materials, |
| 4 | Developing positive attitudes about learning and knowledge and lifelong learning in the field. |
| 5 | Using the information and communication technologies at the level required by the work areas |
| 6 | Act in accordance with scientific, cultural and ethical values |
| 7 | Having sufficient consciousness about environmental protection, occupational health and safety issues. |

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