

**T.C.  
BALIKESİR UNIVERSITY  
FACULTY OF ENGINEERING  
DEPARTMENT OF FOOD ENGINEERING  
2025-2026 COURSE PLAN**

| 1. SEMESTER |                                                  |     |           |          |          |             |           |
|-------------|--------------------------------------------------|-----|-----------|----------|----------|-------------|-----------|
| Code        | Course Title                                     | C/E | T         | P        | L        | Credits     | ECTS      |
| BIO1101     | BIOLOGY                                          | C   | 2         | 0        | 0        | 2           | 2         |
| KIM1101     | GENERAL CHEMISTRY                                | C   | 3         | 0        | 0        | 3           | 4         |
| KIM1102     | GENERAL CHEMISTRY LABORATORY                     | C   | 0         | 0        | 2        | 1           | 1         |
| FIZ1101     | PHYSICS I                                        | C   | 3         | 0        | 0        | 3           | 4         |
| GMZ1101     | INTRODUCTION TO FOOD ENGINEERING                 | C   | 3         | 0        | 0        | 3           | 3         |
| GMZ1102     | BASIC INFORMATION TECHNOLOGIES                   | C   | 0         | 2        | 0        | 1           | 1         |
| MAT1101     | MATHEMATICS I                                    | C   | 3         | 1        | 0        | 3,5         | 5         |
| TRS1101     | TECHNICAL DRAWING                                | C   | 2         | 2        | 0        | 3           | 4         |
|             | <b>TOTAL</b>                                     |     | <b>16</b> | <b>5</b> | <b>2</b> | <b>19,5</b> | <b>24</b> |
| AIT1101     | ATATURK'S PRINCIPLES AND HISTORY OF REVOLUTION I | C   | 2         | 0        | 0        | 2           | 2         |
| TDI1101     | TURKISH LANGUAGE I                               | C   | 2         | 0        | 0        | 2           | 2         |
| YDI1101     | FOREIGN LANGUAGE I (ENGLISH)                     | C   | 2         | 0        | 0        | 2           | 2         |
|             | <b>TOTAL</b>                                     |     | <b>22</b> | <b>5</b> | <b>2</b> | <b>25,5</b> | <b>30</b> |

| 3. SEMESTER |                          |     |    |   |   |         |      |
|-------------|--------------------------|-----|----|---|---|---------|------|
| Code        | Course Title             | C/E | T  | P | L | Credits | ECTS |
| GMZ2101     | MASS AND ENERGY BALANCES | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2106     | FOOD CHEMISTRY I         | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2107     | GENERAL MICROBIOLOGY     | C   | 2  | 0 | 2 | 3       | 4    |
| GMZ2108     | ORGANIC CHEMISTRY        | C   | 3  | 0 | 0 | 3       | 3    |
| GMZ2109     | DIFFERENTIAL EQUATIONS   | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2110     | FLUID MECHANICS          | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2111     | TECHNICAL ENGLISH I      | C   | 3  | 0 | 0 | 3       | 4    |
| GMS21XX     | SOCIAL ELECTIVE COURSE 1 | E   | 2  | 0 | 0 | 2       | 3    |
| TOTAL       |                          |     | 22 | 0 | 2 | 23      | 30   |

| 5. SEMESTER |                                       |     |    |   |   |         |      |
|-------------|---------------------------------------|-----|----|---|---|---------|------|
| Code        | Course Title                          | C/E | T  | P | L | Credits | ECTS |
| GMZ3101     | UNIT OPERATIONS IN FOOD ENGINEERING I | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ3106     | FOOD ANALYSIS                         | C   | 2  | 0 | 2 | 3       | 5    |
| GMZ3107     | INSTRUMENTAL ANALYSIS                 | C   | 2  | 0 | 2 | 3       | 5    |
| GMZ3109     | FOOD QUALITY CONTROL AND LEGISLATION  | C   | 3  | 0 | 0 | 3       | 3    |
| ISG3101     | OCCUPATIONAL HEALTH AND SAFETY I      | C   | 2  | 0 | 0 | 2       | 2    |
| GMS31XX     | OCCUPATIONAL ELECTIVE COURSE          | E   | 3  | 0 | 0 | 3       | 4    |
| GMS31XX     | OCCUPATIONAL ELECTIVE COURSE          | E   | 3  | 0 | 0 | 3       | 4    |
| USD1XXX     | UNIVERSITY ELECTIVE COURSE 1          | E   | 2  | 0 | 0 | 2       | 3    |
|             | TOTAL                                 |     | 20 | 0 | 4 | 22      | 30   |

## 7. SEMESTER

| 2. SEMESTER |                                                   |     |           |          |          |           |           |
|-------------|---------------------------------------------------|-----|-----------|----------|----------|-----------|-----------|
| Code        | Course Title                                      | C/E | T         | P        | L        | Credits   | ECTS      |
| FIZ1201     | PHYSICS II                                        | C   | 3         | 0        | 0        | 3         | 4         |
| MAT1202     | MATHEMATICS II                                    | C   | 3         | 1        | 0        | 3,5       | 5         |
| GMZ1201     | ANALYTICAL CHEMISTRY                              | C   | 2         | 0        | 1        | 2,5       | 3         |
| GMZ1204     | LABORATORY SAFETY                                 | C   | 2         | 0        | 0        | 2         | 2         |
| KRY1201     | CAREER PLANNING                                   | C   | 1         | 0        | 0        | 1         | 2         |
| BIL1202     | INTRODUCTION TO ALGORITHMS AND PROGRAMMING        | C   | 2         | 1        | 0        | 2,5       | 3         |
| IST1202     | STATISTICS                                        | C   | 2         | 1        | 0        | 2,5       | 3         |
| EKO1202     | GENERAL ECONOMY                                   | C   | 2         | 0        | 0        | 2         | 2         |
|             | <b>TOTAL</b>                                      |     | <b>17</b> | <b>3</b> | <b>1</b> | <b>19</b> | <b>24</b> |
| AT1201      | ATATURK'S PRINCIPLES AND HISTORY OF REVOLUTION II | C   | 2         | 0        | 0        | 2         | 2         |
| TDI1201     | TURKISH LANGUAGE II                               | C   | 2         | 0        | 0        | 2         | 2         |
| YDI1201     | FOREIGN LANGUAGE II (ENGLISH)                     | C   | 2         | 0        | 0        | 2         | 2         |
|             | <b>TOTAL</b>                                      |     | <b>23</b> | <b>3</b> | <b>1</b> | <b>25</b> | <b>30</b> |

| 4. SEMESTER |                            |     |    |   |   |         |      |
|-------------|----------------------------|-----|----|---|---|---------|------|
| Code        | Course Title               | C/E | T  | P | L | Credits | ECTS |
| GMZ2201     | HEAT AND MASS TRANSFER     | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2206     | FOOD CHEMISTRY II          | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2208     | ENGINEERING THERMODYNAMICS | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ2209     | FOOD MICROBIOLOGY          | C   | 2  | 0 | 2 | 3       | 4    |
| GMZ2210     | FOOD BIOTECHNOLOGY         | C   | 3  | 0 | 0 | 3       | 3    |
| GMZ2211     | TECHNICAL ENGLISH II       | C   | 3  | 0 | 0 | 3       | 4    |
| GMJ2211     | INTERNSHIP I               | C   | 0  | 0 | 0 | 0       | 4    |
| GMS22XX     | SOCIAL ELECTIVE COURSE 2   | E   | 2  | 0 | 0 | 2       | 3    |
| TOTAL       |                            |     | 19 | 0 | 2 | 20      | 30   |

| 6. SEMESTER |                                        |     |    |   |   |         |      |
|-------------|----------------------------------------|-----|----|---|---|---------|------|
| Code        | Course Title                           | C/E | T  | P | L | Credits | ECTS |
| GMZ3201     | UNIT OPERATIONS IN FOOD ENGINEERING II | C   | 3  | 0 | 0 | 3       | 4    |
| GMZ3208     | MEAT SCIENCE AND TECHNOLOGY            | C   | 2  | 0 | 2 | 3       | 5    |
| GMZ3209     | MILK AND DAIRY PRODUCTS TECHNOLOGY     | C   | 2  | 0 | 2 | 3       | 5    |
| ISG3202     | OCCUPATIONAL HEALTH AND SAFETY II      | C   | 2  | 0 | 0 | 2       | 2    |
| GMJ3211     | INTERNSHIP II                          | C   | 0  | 0 | 0 | 0       | 3    |
| GMS32XX     | OCCUPATIONAL ELECTIVE COURSE           | E   | 3  | 0 | 0 | 3       | 4    |
| GMS32XX     | OCCUPATIONAL ELECTIVE COURSE           | E   | 3  | 0 | 0 | 3       | 4    |
| USD2XXX     | UNIVERSITY ELECTIVE COURSE 2           | E   | 2  | 0 | 0 | 2       | 3    |
| TOTAL       |                                        |     | 17 | 0 | 4 | 19      | 30   |

## 8. SEMESTER

| Code    | Course Title                                | C/E | T  | P | L | Credits | ECTS |
|---------|---------------------------------------------|-----|----|---|---|---------|------|
| GMZ4108 | FOOD ENGINEERING DESIGN I                   | C   | 3  | 0 | 0 | 3       | 5    |
| GMZ4110 | GRADUATION PROJECT I                        | C   | 0  | 2 | 0 | 1       | 2    |
| GMZ4111 | CEREAL AND CEREAL PRODUCTS TECHNOLOGY       | C   | 2  | 0 | 2 | 3       | 5    |
| GMZ4112 | VEGETABLE OIL TECHNOLOGY                    | C   | 2  | 0 | 2 | 3       | 5    |
| GMZ4113 | FRUITS AND VEGETABLES PROCESSING TECHNOLOGY | C   | 2  | 0 | 2 | 3       | 5    |
| GMS41XX | OCCUPATIONAL ELECTIVE COURSE                | E   | 3  | 0 | 0 | 3       | 4    |
| GMS41XX | OCCUPATIONAL ELECTIVE COURSE                | E   | 3  | 0 | 0 | 3       | 4    |
| TOTAL   |                                             |     | 15 | 2 | 6 | 19      | 30   |

| Code               | Course Title                        | C/E | T  | P  | L | Credits | ECTS |
|--------------------|-------------------------------------|-----|----|----|---|---------|------|
| GMZ4207            | FOOD ENGINEERING DESIGN II          | C   | 2  | 1  | 0 | 2,5     | 4    |
| GMZ4209            | GRADUATION PROJECT II               | C   | 0  | 2  | 0 | 1       | 2    |
| ELECTIVE PACKAGE 1 |                                     |     |    |    |   |         |      |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| GMS42XX            | OCCUPATIONAL ELECTIVE COURSE        | E   | 3  | 0  | 0 | 3       | 4    |
| TOTAL              |                                     |     | 20 | 3  | 0 | 21,5    | 30   |
| ELECTIVE PACKAGE 2 |                                     |     |    |    |   |         |      |
| IME4201            | TECHNICAL TRAINING IN THE WORKPLACE | E   | 5  | 26 | 0 | 18      | 24   |
| TOTAL              |                                     |     | 7  | 29 | 0 | 21,5    | 30   |

ELECTIVE COURSE LIST

| 3. SEMESTER ELECTIVE COURSES |                            |     |   |   |   |         |      |
|------------------------------|----------------------------|-----|---|---|---|---------|------|
| Code                         | Course Title               | C/E | T | P | L | Credits | ECTS |
| GMS2113                      | ENTREPRENEURSHIP I         | E   | 2 | 0 | 0 | 2       | 3    |
| GMS2114                      | HUMAN RIGHTS AND DEMOCRACY | E   | 2 | 0 | 0 | 2       | 3    |

| 4. SEMESTER ELECTIVE COURSES |                     |     |   |   |   |         |      |
|------------------------------|---------------------|-----|---|---|---|---------|------|
| Code                         | Course Title        | C/E | T | P | L | Credits | ECTS |
| GMS2223                      | ENTREPRENEURSHIP II | E   | 2 | 0 | 0 | 2       | 3    |
| GMS2224                      | BUSINESS MANAGEMENT | E   | 2 | 0 | 0 | 2       | 3    |

| 5. SEMESTER ELECTIVE COURSES |                                      |     |   |   |   |         |      |
|------------------------------|--------------------------------------|-----|---|---|---|---------|------|
| Code                         | Course Title                         | C/E | T | P | L | Credits | ECTS |
| GMS3117                      | FOOD INDUSTRY WASTES AND BY-PRODUCTS | E   | 3 | 0 | 0 | 3       | 4    |
| GMS3118                      | COLD PRESERVATION OF FOODS           | E   | 3 | 0 | 0 | 3       | 4    |
| GMS3119                      | FOOD PACKAGING                       | E   | 3 | 0 | 0 | 3       | 4    |

| 6. SEMESTER ELECTIVE COURSES |                                                  |     |   |   |   |         |      |
|------------------------------|--------------------------------------------------|-----|---|---|---|---------|------|
| Code                         | Course Title                                     | C/E | T | P | L | Credits | ECTS |
| GMS3217                      | ENGLISH ACADEMIC WRITING AND PRESENTATION SKILLS | E   | 3 | 0 | 0 | 3       | 4    |
| GMS3218                      | FOOD ADDITIVES AND TOXICOLOGY                    | E   | 3 | 0 | 0 | 3       | 4    |
| GMS3219                      | SENSORY ANALYSIS                                 | E   | 3 | 0 | 0 | 3       | 4    |

| 7. SEMESTER ELECTIVE COURSES |                                             |     |   |   |   |         |      |
|------------------------------|---------------------------------------------|-----|---|---|---|---------|------|
| Code                         | Course Title                                | C/E | T | P | L | Credits | ECTS |
| GMS4118                      | DATA ANALYSIS WITH SPSS IN FOOD ENGINEERING | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4119                      | FUNCTIONAL FOODS                            | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4120                      | QUALITY MANAGEMENT SYSTEMS                  | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4121                      | FERMENTATION TECHNOLOGY                     | E   | 3 | 0 | 0 | 3       | 4    |
| MTH41XX                      | SECTOR ON CAMPUS                            | E   | 3 | 0 | 0 | 3       | 4    |

| 8. SEMESTER ELECTIVE COURSES |                                               |     |   |   |   |         |      |
|------------------------------|-----------------------------------------------|-----|---|---|---|---------|------|
| Code                         | Course Title                                  | C/E | T | P | L | Credits | ECTS |
| ELECTIVE PACKAGE 1           |                                               |     |   |   |   |         |      |
| GMS4215                      | SPECIAL FOODS TECHNOLOGY                      | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4216                      | PRINCIPLES OF NUTRITION                       | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4217                      | FOOD MACHINERY AND EQUIPMENT                  | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4218                      | MILLING AND GRINDING TECHNOLOGY               | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4219                      | FOOD PRESERVATION METHODS                     | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4220                      | NON-THERMAL OPERATIONS OF FOODS               | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4221                      | HYGIENE AND SANITATION IN FOOD ESTABLISHMENTS | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4222                      | ETHICS IN FOOD ENGINEERING                    | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4223                      | INDUSTRIAL FOOD CATERING                      | E   | 3 | 0 | 0 | 3       | 4    |
| GMS4224                      | REACTION KINETICS                             | E   | 3 | 0 | 0 | 3       | 4    |

**GMZ:** Food Engineering Compulsory Courses  
**GMS:** Food Engineering Vocational Elective Courses  
**GMS:** Food Engineering Social Elective Courses  
**GMJ:** Food Engineering Internship