# INDUSTRIAL ENGINEERING DEPARTMENT UNDERGRADUATE CURRICULUM (2021)

## Compulsory English Preparatory Program

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| HZR001 | Foreign Language Preparatory | 24 | 0 | 0 | 0 |

### I. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| TDİ101 | Turkish I | 2 | 0 | 2 | 2 |
| YDİ101 | Foreign Language I (English) | 2 | 0 | 2 | 2 |
| ATİ101 | Principles of Atatürk and History of Turkish Revolution I | 2 | 0 | 2 | 2 |
| OMAT101 | Mathematics I | 3 | 2 | 4 | 5 |
| OFİZ101 | Physics I | 3 | 0 | 3 | 4 |
| OFİZ103 | Physics Lab -I | 0 | 2 | 1 | 2 |
| OKİM101 | Chemistry | 3 | 0 | 3 | 3 |
| ENDM101 | Introduction to Industrial Engineering | 2 | 0 | 2 | 4 |
| ENDM103 | Computer Applications and Introduction to Programming | 2 | 2 | 3 | 6 |
| | TOTAL | 19 | 6 | 22 | 30 |

### II. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| TDİ102 | Turkish II | 2 | 0 | 2 | 2 |
| YDİ102 | Foreign Language II (English) | 2 | 0 | 2 | 2 |
| ATİ102 | Principles of Atatürk and History of Turkish Revolution II | 2 | 0 | 2 | 2 |
| OMAT102 | Mathematics II | 3 | 2 | 4 | 5 |
| OFİZ102 | Physics II | 3 | 0 | 3 | 4 |
| OFİZ104 | Physics Lab -II | 0 | 2 | 1 | 2 |
| GİR102 | Entrepreneurship | 2 | 0 | 2 | 2 |
| ENDM102 | Computer Aided Drawing | 1 | 2 | 2 | 5 |
| ENDM104 | Economics | 3 | 0 | 3 | 6 |
| | TOTAL | 18 | 6 | 21 | 30 |

### III. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| OBDE201 | Nature of Science and Critical Thinking | 2 | 0 | 2 | 2 |
| OMAT203 | Linear Algebra | 3 | 0 | 3 | 4 |
| ENDM201 | Probability | 3 | 2 | 4 | 6 |
| ENDM203 | Strategic Management | 3 | 0 | 3 | 6 |
| ENDM205 | Material Science | 3 | 0 | 3 | 6 |
| ENDM207 | Computer Programming | 2 | 2 | 3 | 6 |
| | TOTAL | 16 | 4 | 18 | 30 |

### IV. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| OMAT204 | Differential Equations | 4 | 0 | 4 | 6 |
| ENDM202 | Engineering Statistics | 3 | 2 | 4 | 6 |
| ENDM204 | Work Study and Ergonomics | 3 | 2 | 4 | 6 |
| ENDM206 | Manufacturing Methods | 3 | 2 | 4 | 6 |
| ENDM208 | Operations Research I | 3 | 2 | 4 | 6 |
| STJ100 | Summer Training I | 0 | 0 | 0 | 8 |
| | TOTAL | 16 | 8 | 20 | 38 |

### V. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| OMAT301 | Numeric Methods | 3 | 0 | 3 | 4 |
| ENDM301 | Operations Research II | 3 | 2 | 4 | 6 |
| ENDM303 | Facility Design and Location | 3 | 0 | 3 | 6 |
| ENDM305 | Production Planning and Control I | 3 | 2 | 4 | 6 |
| ENDM307 | Cost Analysis | 3 | 0 | 3 | 4 |
| ENDM3** | Technical Elective | 3 | 0 | 3 | 4 |
| | Social Elective* | | | | |
| | TOTAL | 18 | 4 | 20 | 30 |

### VI. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM302 | Operations Research III | 3 | 2 | 4 | 6 |
| ENDM304 | Simulation | 3 | 2 | 4 | 5 |
| ENDM306 | Production Planning and Control II | 3 | 2 | 4 | 6 |
| ENDM308 | Statistical Quality Control | 3 | 0 | 3 | 5 |
| ENDM310 | Project Management | 2 | 0 | 2 | 4 |
| ENDM3** | Technical Elective | 3 | 0 | 3 | 4 |
| STJ200 | Summer Training II | 0 | 0 | 0 | 8 |
| | Social Elective* | | | | |
| | TOTAL | 17 | 6 | 20 | 38 |

### VII. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM401 | Technical Experience Programme | 10 | 2 | 11 | 30 |
| | or | | | | |
| ENDM403 | Industrial Engineering Design | 1 | 2 | 2 | 15 |
| ENDM4** | Technical Elective (3 courses) | 9 | 0 | 9 | 15 |
| | TOTAL | 10 | 2 | 11 | 30 |

### VIII. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM402 | Senior Project | 1 | 2 | 2 | 10 |
| ENDM404 | Engineering Economy | 3 | 0 | 3 | 5 |
| ENDM4** | Technical Elective (3 courses) | 9 | 0 | 9 | 15 |
| | TOTAL | 13 | 2 | 14 | 30 |

**Note**: *The courses to be taken from the university common elective course pool are shown as information in the transcript; however, they are not included in the credit load and GPA calculation. These courses are optional for students.
T, A, C, and ECTS credit requirements must be fulfilled with the selection of ENDM4** coded courses.

## Technical Elective Courses

### V. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM351 | Product Development | 3 | 0 | 3 | 4 |
| ENDM353 | Mathematical Modeling and Applications | 3 | 0 | 3 | 4 |
| ENDM355 | Design of Experiment | 3 | 0 | 3 | 4 |
| ENDM357 | Quality Management | 3 | 0 | 3 | 4 |

### VI. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM352 | Maintanance Management | 3 | 0 | 3 | 4 |
| ENDM354 | Service Systems | 3 | 0 | 3 | 4 |
| ENDM356 | Lean Production | 3 | 0 | 3 | 4 |
| ENDM358 | Time Series Analysis and Forecasting | 3 | 0 | 3 | 4 |

### VII. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM451 | Multiple Criteria Decision Making | 3 | 0 | 3 | 5 |
| ENDM453 | Optimization Techniques | 3 | 0 | 3 | 5 |
| ENDM455 | Assembly Line Balancing | 3 | 0 | 3 | 5 |
| ENDM457 | Scheduling | 3 | 0 | 3 | 5 |
| ENDM459 | Six Sigma | 3 | 0 | 3 | 5 |
| ENDM461 | Fuzzy Logic | 3 | 0 | 3 | 5 |
| ENDM463 | Supply Chain Management and Logistics | 3 | 0 | 3 | 5 |
| ENDM465 | Production Information Systems | 3 | 0 | 3 | 5 |

### VIII. Semester

| Code | Course Name | T | A | C | ECTS |
|---|---|---|---|---|---|
| ENDM450 | Data Mining | 3 | 0 | 3 | 5 |
| ENDM452 | Decision Analysis | 3 | 0 | 3 | 5 |
| ENDM454 | Intelligent Manufacturing Systems | 3 | 0 | 3 | 5 |
| ENDM456 | Innovation Management | 3 | 0 | 3 | 5 |
| ENDM458 | Strategic Marketing Management | 3 | 0 | 3 | 5 |
| ENDM460 | Artificial Intelligence and Applications | 3 | 0 | 3 | 5 |
| ENDM462 | Strategic Human Resources Management | 3 | 0 | 3 | 5 |