ABDULLAH GÜL UNIVERSITY / ABDULLAH GÜL ÜNİVERSİTESİ

Industrial Engineering Undergraduate Program /Endüstri Mühendisliği Lisans Programı

(For students who start their undergraduate education from 2025-2026 Fall Semester and later)

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|  **Freshman Year / FALL Semester – 1. SINIF GÜZ YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| MATH101 | Calculus I  | 5 | 0 | 5 | 7 |   |   |
| PHYS101 | Physics I | 3 | 2 | 4 | 5 |   |   |
| PHYS107 | Physics Laboratory I | 0 | 2 | 1 | 2 |   |   |
| COMP 103 | Art of Computing | 3 | 2 | 4 | 5 |   |   |
| GLB 101 | AGU Ways | 3 | 0 | 3 | 4 |   |   |
| ENG 101 | English I | 4 | 0 | 4 | 4 |   | BRIDGE\*\*\* |
| CHEM 101 | Chemistry for Engineers | 3 | 2 | 4 | 5 |   |   |
|   | **Total**  | 21 | 8 | 25 | 32 |   |   |

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| **Freshman Year / SPRING Semester - 1. SINIF BAHAR YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| MATH 102 | Calculus II | 5 | 0 | 5 | 7 |   | MATH 101 |
| BIO 101\* | Biology for Engineers I  | 3 | 2 | 4 | 5 |   |   |
| COMP 112 | Object Oriented Programming | 3 | 2 | 4 | 5 |   | COMP 103 |
| IE 102 | Exploring Profession | 3 | 1 | 4 | 4 |   |   |
| GLB 1XX | Global Issues Elective I | 3 | 0 | 3 | 4 |   |   |
| ENG 102 | English II | 4 | 0 | 4 | 4 |   | ENG 101 |
| CP 100 | Career Planning | 1 | 0 | 1 | 1 |   |   |
|   | **Total**  |  22 | 5 | 25 | 30 |   |   |

*\*BIO102 can be selected if BIO101 is not offered in that semester.*

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| **Sophomore Year / FALL Semester - 2. SINIF GÜZ YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| MATH 203 | Linear Algebra  | 3 | 0 | 3 | 5 |   |   |
| IE 201 | Probability | 3 | 0 | 3 | 6 |   | MATH 101 |
| IE 211 | Mathematical Modeling | 3 | 2 | 4 | 7 |   | MATH 101 |
| ECON 222 | Economics for Engineers | 3 | 0 | 3 | 4 |   |   |
| TURK01\* | Turkish Language Pool I | 2 | 0 | 2 | 2 |   |   |
| GLB 2XX | Global Issues Elective II | 3 | 0 | 3 | 4 |   |   |
| HIST01\* | History of Turkey Pool I | 2 | 0 | 2 | 2 |   |   |
|   | **Total** | 19 | 2 | 20 | 30 |   |   |

*\*TURK 103 – Turkish I for non-Turkish citizens, HIST 203 for non-Turkish citizens*

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| **Sophomore Year / SPRING Semester - 2. SINIF BAHAR YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| IE 202 | Statistics | 4 | 0 | 4 | 7 |   | IE 201 |
| IE 212 | Deterministic Optimization | 4 | 0 | 4 | 7 |   | MATH 203, IE 211 |
| IE 242 | Business Process Analysis and Design | 3 | 0 | 3 | 5 |   |   |
| TURK02\* | Turkish Language Pool II | 2 | 0 | 2 | 2 |   |   |
| GLB 2XX | Global Issues Elective III | 3 | 0 | 3 | 4 |   |   |
| PHYS 102 | Physics II | 2 | 2 | 4 | 5 |   |   |
| PHYS 108 | Physics II LAB | 0 | 2 | 1 | 2 |   |   |
|   | **Total**  | 18 | 4 | 21 | 32 |   |   |

*\*TURK 104- Turkish II for non-Turkish citizens*

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| **Junior Year / FALL Semester - 3. SINIF GÜZ YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| IE 375 | Production and Service Systems Management I | 4 | 0 | 4 | 6 |   | IE 211 |
| IE 325 | System Simulation | 3 | 2 | 4 | 7 |   | IE 202 |
| IE 335 | Stochastic Models | 3 | 0 | 3 | 5 |   | IE 201 |
| IE 346 | Engineering Economics and Cost Analysis | 3 | 0 | 3 | 5 |   |   |
| IEMX | Math Elective  | 3 | 0 | 3 | 5 |   |   |
| GLB 3XX | Global Issues Elective IV | 3 | 0 | 3 | 4 |   |   |
|   | **Total** | 19 | 2 | 20 | 32 |   |   |

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| **Junior Year / SPRING Semester - 3. SINIF BAHAR YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| IE 376 | Production and Service Systems Management II | 4 | 0 | 4 | 6 |   | IE 375 |
| IEDX | IE Elective | 3 | 0 | 3 | 5 |   |   |
| IEDX | IE Elective | 3 | 0 | 3 | 5 |   |   |
| IEDX | IE Elective | 3 | 0 | 3 | 5 |   |   |
| HIST02\* | History of Turkey Pool II | 2 | 0 | 2 | 2 |   |   |
| COMP 204 | Database Management Systems | 3 | 0 | 3 | 5 |   |   |
|   | **Total** | 18 | 0 | 18 | 28 |   |  |

*\*HIST 204 for non-Turkish citizens*

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| **Senior Year / FALL Semester - 4. SINIF GÜZ YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| IE 497 | Capstone Design Project I | 0 | 2 | 1 | 10 |   | 160 ECTS,  |
|   |   |   |   |   |   |   | All pre-capstone courses (IE 212, IE 222, IE 376) must be already taken and at least two of them must be successful |
| OHS 401 | Occupational Health and Safety I | 2 | 0 | 2 | 1 |   |   |
| IETX | Technical Elective\* |   |   |   | 5 |   |   |
| IENX | Elective (Non-technical) |   |   |   | 4 |   |   |
| IETX | Technical Elective\* |   |   |   | 5 |   |   |
| IENX | Elective (Non-technical)  |   |   |   | 4 |   |   |
|   | **Total** |   |   |   | 29 |   |   |

*\*For technical elective courses, IE technical elective courses or any technical course from other departments can be taken*

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| **Senior Year / SPRING Semester - 4. SINIF BAHAR YARIYILI** |
| **Code** | **Course Name** | **Lec.** | **Lab** | **Credits** | **ECTS** |  | **Prerequisites** |
| OHS 402 | Occupational Health and Safety II | 2 | 0 | 2 | 1 |   |   |
| IE 298 | Summer Practice I | - | 2 | 1 | 5 |   |   |
| IE 398 | Summer Practice II | - | 2 | 1 | 5 |   |   |
| IESX | Senior Elective | - | 2 | 1 | 20 |   |   |
|   | **Total** |   |   |   | 31 |   |   |

**IEDX- IE Electives**

*(3 IE elective courses must be taken)*

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| **Code** | **Course** | **T** | **P** | **Credits** | **ECTS** | **Prerequisites** |
| IE 345 | Financial and Managerial Accounting | 3 | 0 | 3 | 5 | - |
| IE 380 | Quality Control and Assurance  | 3 | 0 | 3 | 5 | IE 202 |
| IE 326 | Business Analytics | 3 | 0 | 3 | 6 | IE 212, IE 202 |
| IE 395 | Decision and Risk Analysis | 3 | 0 | 3 | 5 | IE 212, IE 201 |
| IE 351 | Project Management | 3 | 0 | 3 | 5 | - |
| IE 374 | Supply Chain Management | 3 | 0 | 3 | 5 | - |
| IE 417 | Heuristic Methods in Optimization  | 3 | 0 | 3 | 5 | - |

**IEMX- Math Electives**

(1 math elective must be taken)

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| **Code** | **Course Name** | **T** | **P** | **Credits** | **ECTS** | **Prerequisites** |
| MATH 205 | Differential Equations | 3 | 0 | 3 | 5 | - |
| IE 478 | Machine Scheduling | 3 | 0 | 3 | 5 | - |
| IE 402 | Discrete Mathematics | 3 | 0 | 3 | 5 | - |
| IE 415 | Discrete Optimization | 3 | 0 | 3 | 5 | - |
| IE 416 | Nonlinear Programing | 3 | 0 | 3 | 5 | - |

**IESX-Senior Electives**

(1 senior elective category must be taken)

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| **Code** | **Course Name** | **T** | **P** | **Credits** | **ECTS** | **Prerequisites** |
| IE 498 | Capstone Project 2 | 1 | 0 | 1 | 10 | IE 497 |
| IETX | Technical Elective\* |  |   |   | 5 |  |
| IETX | Technical Elective\* |   |   |   | 5 |   |
| IE 400 | Workplace Experience | 1 | 0 | 1 | 20 | IE 497 |

**GLB Electives**

*(4 GLB courses must be taken)*

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| **Code** | **Course Name** | **T** | **P** | **Credits** | **ECTS** |
| GLB 102 | Innovation and Entrepreneurship | 3 | 0 | 3 | 4 |
| GLB 201 | Food and Health | 3 | 0 | 3 | 4 |
| GLB 202 | Immigration and Population | 3 | 0 | 3 | 4 |
| GLB 301 | Sustainability | 3 | 0 | 3 | 4 |

**Technical Electives offered by IE department**

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| --- | --- | --- | --- | --- | --- |
| **Code** | **Course** | **T** | **P** | **Credits** | **ECTS** |
| IE 345 | Financial and Managerial Accounting | 3 | 0 | 3 | 5 |
| IE 380 | Quality Control and Assurance  | 3 | 0 | 3 | 5 |
| IE 326 | Business Analytics | 3 | 0 | 3 | 6 |
| IE 395 | Decision and Risk Analysis | 3 | 0 | 3 | 5 |
| IE 351 | Project Management | 3 | 0 | 3 | 5 |
| IE 374 | Supply Chain Management | 3 | 0 | 3 | 5 |
| IE 417 | Heuristic Methods in Optimization  | 3 | 0 | 3 | 5 |
| IE 348 | Marketing Engineering | 3 | 0 | 3 | 5 |
| IE 353 | Strategic Management | 3 | 0 | 3 | 5 |
| IE 358 | Ergonomics | 3 | 0 | 3 | 5 |
| IE 391 | Industry Applications I | 3 | 0 | 3 | 5 |
| IE 392 | Industry Applications II | 3 | 0 | 3 | 5 |
| IE 415 | Discrete Optimization | 3 | 0 | 3 | 5 |
| IE 416 | Nonlinear Programming | 3 | 0 | 3 | 5 |
| IE 425 | System Dynamics | 3 | 0 | 3 | 5 |
| IE 448 | International Marketing Tool: Turquality | 3 | 0 | 3 | 5 |
| IE 454 | Sustainable Energy Systems | 3 | 0 | 3 | 5 |
| IE 461  | Manufacturing Systems | 3 | 0 | 3 | 5 |
| IE 462 | Lean Manufacturing | 3 | 0 | 3 | 5 |
| IE 464 | Operations Research Models in Disaster Management | 3 | 0 | 3 | 5 |
| IE 472 | Production Planning and Scheduling | 3 | 0 | 3 | 5 |
| IE 474 | Humanitarian Logistics | 3 | 0 | 3 | 5 |
| IE 475 | Facility Layout and Location | 3 | 0 | 3 | 5 |
| IE 486 | Healthcare Operations Management | 3 | 0 | 3 | 5 |
| IE 494 | Industry 4.0 | 3 | 0 | 3 | 5 |