**ABDULLAH GÜL ÜNİVERSİTESİ / ABDULLAH GÜL UNIVERSITY**

**Makina Mühendisliği Lisans Programı (Yeni) /**

**Mechanical Engineering Undergraduate Program (New)**

*(Lisans eğitimine 2016 Güz döneminden itibaren başlayanlar için)*

*(For students who start their undergraduate education after Fall 2016)*

**1. SINIF / GÜZ YARIYILI (Freshman Year / FALL Semester)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Code | Course Name | Lec. | Lab | Cr. | ECTS |
| MATH 151 | Calculus I | 5 | 0 | 5 | 6 |
| PHYS 101 | Physics I | 3 | 2 | 4 | 5 |
| COMP 101 | Art of Computing | 3 | 2 | 4 | 6 |
| ENG 101 | English I | 4 | 0 | 4 | 4 |
| GLB 101 | AGU Ways | 3 | 0 | 3 | 4 |
| ME 101 | Engineering Drawing | 2 | 2 | 3 | 5 |
|  | Total Credits | 20 | 6 | 23 | 30 |

**1. SINIF / BAHAR YARIYILI (Freshman Year / SPRING Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| MATH 152 | Calculus II | MATH 151 | 5 | 0 | 5 | 6 |
| PHYS 102 | Physics II |  | 3 | 2 | 4 | 5 |
| CHEM 101 | Chemistry for Engineers |  | 3 | 2 | 4 | 5 |
| ENG 102 | English II | ENG 101 | 4 | 0 | 4 | 4 |
| GLB XXX | Global Issues Elective I |  | 3 | 0 | 3 | 4 |
| ME 102 | Eng. Innov. & Programming |  | 3 | 2 | 4 | 6 |
|  |  | Total Credits | 21 | 6 | 24 | 30 |

**2. SINIF / GÜZ YARIYILI (Sophomore Year / FALL Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| MATH 203 | Linear Algebra |  | 3 | 0 | 3 | 5 |
| MATH 205 | Differential Equations |  | 4 | 0 | 4 | 5 |
| ME 216 | Statics | PHYS 101, MATH 152 | 3 | 0 | 3 | 5 |
| ME 237  | Thermodynamics I | MATH 152 | 3 | 0 | 3 | 5 |
| GLB XXX | Global Issues Elective II |  | 3 | 0 | 3 | 4 |
| TURK 101 | Turkish I |  | 2 | 0 | 2 | 2 |
|  | Non-Technical Elective |  | 3 | 0 | 3 | 4 |
|  |  | Total Credits | 18 | 0 | 21 | 30 |

**2. SINIF / BAHAR YARIYILI (Sophomore Year / SPRING Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 204 | Strength | ME 216  | 3 | 0 | 3 | 5 |
| ME 214 | Mechatronics | PHYS 102 | 2 | 2 | 3 | 4 |
| ME 217 | Dynamics | ME 216 | 2 | 2 | 3 | 5 |
| ME 218 | Engineering Materials | CHEM 101 | 3 | 0 | 3 | 5 |
| ME 238 | Thermodynamics II | ME 237 | 3 | 0 | 3 | 5 |
| GLB XXX | Global Issues Elective III |  | 3 | 0 | 3 | 4 |
| TURK 102 | Turkish II |  | 2 | 0 | 2 | 2 |
|  |  | Total Credits | 18 | 4 | 20 | 30 |

**3. SINIF / GÜZ YARIYILI (Junior Year / FALL Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 301 | Machine Elements | ME 204 | 2 | 2 | 3 | 5 |
| ME 303  | Manufacturing Technologies | ME 218 | 3 | 0 | 3 | 5 |
| ME 305 | Modeling & Ctrl. of Dyn. Sys. | MATH 205, ME 217 | 2 | 2 | 3 | 5 |
| ME 317 | Fluid Mechanics | MATH 203, MATH 205 | 3 | 0 | 3 | 5 |
| GLB XXX | Global Issues Elective IV |  | 3 | 0 | 3 | 4 |
| HIST 201 | History of Modern Turkey I |  | 2 | 0 | 2 | 2 |
| ME 311 | Internship I |  | 0 | 0 | 0 | 4 |
|  |  | Total Credits | 15 | 4 | 17 | 30 |

**3. SINIF / BAHAR YARIYILI (Junior Year / SPRING Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 316 | Experimental Engineering | ME 214, ME 204, ME 217, ME 305, ME 317 (at least 3 of these courses) | 1 | 4 | 3 | 5 |
| ME 318 | Fluid Dynamics and Design | ME 317 | 3 | 0 | 3 | 5 |
| ME 346 | Machine Theory I | ME 217  | 2 | 2 | 3 | 5 |
| ME 352 | Heat Transfer | ME 237 | 3 | 0 | 3 | 5 |
| ME 354 | Numer. Anal. with Eng. App. | MATH 203, MATH 205  | 4 | 0 | 3 | 4 |
| HIST 202 | History of Modern Turkey II |  | 2 | 0 | 2 | 2 |
|  | Non-Technical Elective |  | 3 | 0 | 3 | 4 |
|  |  | Total Credits | 18 | 6 | 20 | 30 |

**4. SINIF / GÜZ YARIYILI (Senior Year / BAHAR Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 401 | Capstone I | Consent + 160 ECTS | 2 | 4 | 4 | 6 |
| ME 447 | Machine Theory II | ME 346 | 2 | 2 | 3 | 5 |
| ME 4XX | ME Elective |  | 3 | 0 | 3 | 5 |
| ME 4XX | ME Elective |  | 3 | 0 | 3 | 5 |
| ME 4XX | ME Elective |  | 3 | 0 | 3 | 5 |
| OHS 401 | Occupational Health and Safety I |  | 2 | 0 | 2 | 1 |
| ME 411 | Internship II |  | 0 | 0 | 0 | 4 |
|  |  | Total Credits | 15 | 6 | 18 | 31 |

**4. SINIF / BAHAR YARIYILI (Senior Year / SPRING Semester)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 402 | Capstone II | ME 401 | 2 | 4 |  4 | 9 |
| ME 4XX | ME Elective |  | 3 | 0 | 3 | 5 |
| ME 4XX | ME Elective |  | 3 | 0 | 3 | 5 |
|  | Technical Elective |  | 3 | 0 | 3 | 5 |
|  | Non-technical Elective |  | 3 | 0 | 3 | 4 |
| OHS 402 | Occupational Health and Safety II |  | 1 | 0 | 1 | 1 |
|  |  | Total Credits | 15 | 4 | 18 | 29 |

**ME Electives**

**(5 of these courses must be taken / bu derslerden 5’i alınmak zorundadır)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Code | Course Name | Prerequisite(s) | Lec. | Lab | Cr. | ECTS |
| ME 403  | Prototyping |  | 2 | 2 | 3 | 5 |
| ME 404 | Machine Design |  | 3 | 0 | 3 | 5 |
| ME 409 | Material Design for Mech. Sys. | ME 218 | 3 | 0 | 3 | 5 |
| ME 421 | Introduction to Robotics |  | 3 | 0 | 3 | 5 |
| ME 423 | Microstructure Engineering | ME 218 | 3 | 0 | 3 | 5 |
| ME 424 | Fuel Cell Science and Engineering | ME 214, ME 218, ME 238, ME 317 | 3 | 0 | 3 | 5 |
| ME 425 | Vibration Engineering | MATH 203, MATH 205, ME 217 | 3 | 0 | 3 | 5 |
| ME 428 | Finite Element Method | ME 354 | 2 | 2 | 3 | 5 |
| ME 433 | Advanced Eng. Mathematics | ME 354 | 2 | 2 | 3 | 5 |
| ME 451 | Metallic Biomaterials | ME 204, ME 218 | 3 | 0 | 3 | 5 |
| ME 478 | Int. to Automotive Engineering | ME 301, ME 305, ME 317 | 3 | 0 | 3 | 5 |
| ME 481 | Renewable Energy Technologies | ME 238, ME 318, ME 352 | 3 | 0 | 3 | 5 |
| ME 498 | Int. to Comp. Fluid Dynamics | ME 318 | 3 | 0 | 3 | 5 |