

Focus: Electronic Materials

| FIRST YEAR | | | | | | | |
|---------------------|-----------|---|-----------------|-----------|--|-----|-----|
| First Semester | | | Second Semester | | | | |
| MJC | 100 | Majors: Informative Course | 0 | 1 | ENG 102 Freshman English II | 3 | 4 |
| ENG | 101 | Freshman English I | 3 | 3 | HIST 192 The Making of Modern Turkey II | 2 | 3 |
| HIST | 191 | The Making of Modern Turkey I | 2 | 3 | MATH 102 Functions: Discrete and Continuous II | 3 | 6 |
| MATH | 101 | Functions: Discrete and Continuous I | 3 | 6 | NS 102 Science of Nature II | 4 | 6 |
| NS | 101 | Science of Nature I | 4 | 6 | SPS 102 Humanity and Society II | 3 | 6 |
| SPS | 101 | Humanity and Society I | 3 | 6 | TLL 102 Turkish Language and Literature II | 2 | 3 |
| TLL | 101 | Turkish Language and Literature I | 2 | 3 | PROJ 102 Project Course | 3 | 2 |
| CIP | 101 | Civic Involvement Projects I | 0 | 2 | | | |
| Total Credit | | | 17 | 30 | Total Credit 20 30 | | |
| SECOND YEAR | | | | | | | |
| Third Semester | | | Fourth Semester | | | | |
| CS | 201 | Introduction to Computing | 3 | 6 | MATH 202 Differential Equations | 3 | 6 |
| ENS | 205 | Introduction to Materials Science | 3 | 6 | MAT 204 Electrical, Optical and Magnetic Properties of Materials | 3 | 6 |
| ENS | 202 | Thermodynamics | 3 | 6 | NS 218 Fundamentals of Nanoscience | 3 | 6 |
| MATH | 203 / 201 | Intro. To Prob. & Stat./ Linear Algebra | 3 | 6 | ENS 209 Introduction to Computer Aided Drafting and Simulation | 3 | 6 |
| ENS | 203 | Electronic Circuits I | 4 | 7 | MAT 206 Kinetics | 3 | 6 |
| Total Credit | | | 16 | 31 | Total Credit 15 30 | | |
| THIRD YEAR | | | | | | | |
| Fifth Semester | | | Sixth Semester | | | | |
| MAT | 312 | Materials Characterization | 4 | 7 | HUM 2XX Major Works | 3 | 5 |
| MAT | 314 | Mechanical Properties of Materials | 3 | 5 | MAT 306 Computational Techniques for Materials at the Nanoscale | 3 | 5 |
| MATH | 203 / 201 | Intro. To Prob. & Stat./ Linear Algebra | 3 | 6 | MAT 308 Phase Equilibria | 3 | 5 |
| EE | 307 | Semiconductor Physics and Circuits | 3 | 6 | MAT 307 Composite Materials | 3 | 6 |
| MAT | 305 | Polymer Engineering I | 3 | 5 | Elective | 3/4 | 6-7 |
| Total Credit | | | 16 | 29 | Total Credit 15/16 27-28 | | |
| PROJ | 302 | Summer Project | 0 | 5 | | | |
| FOURTH YEAR | | | | | | | |
| Seventh Semester | | | Eight Semester | | | | |
| ENS | 491 | Graduation Project (Design) | 1 | 2 | ENS 492 Graduation Project (Implementation) | 3 | 5 |
| SPS | 303 | Law and Ethics | 3 | 5 | MAT 406 Fundamentals of Nanoengineering | 3 | 5 |
| MAT | 408 | Introduction to Ceramics | 3 | 5 | Elective | 3 | 5-6 |
| PHYS | 302 | Solid State Physics | 3 | 6 | Elective | 3/4 | 6-7 |
| PHYS | 303 | Quantum Mechanics I | 3 | 6 | Elective | 3/4 | 6-7 |
| ME | 402 | Plasmonics | 3 | 6 | | | |
| Total Credit | | | 16 | 30 | Total Credit 15/17 27-30 | | |

University Courses Shown in Green

Required Courses shown in Bold

Must take focus area courses in red bold

Recommended electives:

| | | |
|------|-----|---|
| EE | 407 | Microelectronic Fabrication |
| EE | 408 | Modeling of Semiconductor Devices |
| EE | 307 | Semiconductor Physics and Circuits |
| ENS | 201 | Electromagnetism |
| NS | 214 | Waves, oscillations and optics |
| PHYS | 492 | Modern Topics in Condensed Matter Physics |

(at least two to complete track)