

Focus: Electronic Materials

University Courses Shown in Green
Required Courses shown in Bold
Must take track courses in red bold

FIRST YEAR									
First Semester			SU	ECTS	Second Semester			SU	ECTS
IF	100	Computational Approaches to Problem Solvi	3	5	AL	102	Academic Literacies	3	5
MATH	101	Calculus I	3	6	MATH	102	Calculus II	3	6
NS	101	Science of Nature I	4	6	NS	102	Science of Nature II	4	6
SPS	101	Humanity and Society I	3	6	SPS	102	Humanity and Society II	3	6
TLL	101	Turkish Language and Literature I	2	3	TLL	102	Turkish Language and Literature II	2	3
HIST	191	Principles of Atatürk and the History of the T	2	3	HIST	192	Principles of Atatürk and the History of the Turi	2	3
CIP	101	Civic Involvement Projects I	0	1					
Total Credit			17	30	Total Credit			17	29
SECOND YEAR									
Third Semester			SU	ECTS	Fourth Semester			SU	ECTS
PROJ	201	Undergraduate Project Course	1	1	MATH	202	Differential Equations	3	6
ENS	205	Introduction to Materials Science	3	6	MAT	204	Electrical, Optical and Magnetic Proper	3	6
ENS	202	Thermodynamics	3	6	NS	218	Fundamentals of Nanoscience	3	6
MATH	201 / 203	Linear Algebra / Introduction to Probability	3	6	ENS	209	Introduction to Computer Aided Drafting and S	3	6
ENS	203	Electronic Circuits I	4	7	MAT	206	Kinetics of Materials	3	6
	Elective		3/4	6/7					
Total Credit			17/18	32/33	Total Credit			15	30
THIRD YEAR									
Fifth Semester			SU	ECTS	Sixth Semester			SU	ECTS
MAT	312	Materials Characterization	4	7	HUM	20X	Major Works	3	5
MAT	314	Mechanical Properties of Materials	3	5	MAT	306	Computational Techniques for Materials at the	3	5
MATH	201 / 203	Linear Algebra / Introduction to Probability	3	6	MAT	307	Composite Materials	3	6
MAT	305	Polymer Engineering: Fundamentals	3	5	MAT	308	Phase Equilibria	3	5
EE	307	Semiconductor Physics and Circuits	3	6		Elective		3/4	6/7
Total Credit			16	29	Total Credit			15/17	28/30
PROJ	395	Internship Project	0	5					
FOURTH YEAR									
Seventh Semester			SU	ECTS	Eight Semester			SU	ECTS
SPS	303	Law and Ethics	3	5	ENS	492	Graduation Project (Implementation)	3	5
ENS	491	Graduation Project (Design)	1	2	MAT	406	Nanoengineered Systems Fabrication	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

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)