

**Focus: Structural Materials and Processing**

University Courses Shown in Green

**Required Courses shown in Bold**

**Must take focus area courses in red bold**

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					
<b>Total Credit 17 30</b>					<b>Total Credit 20 30</b>				
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	3	6
ENS	202	<b>Thermodynamics</b>	3	6	NS	218	<b>Fundamentals of Nanoscience</b>	3	6
MATH	201	Linear Algebra	3	6	ENS	209	Introduction to Computer Aided Drafting and S	3	6
ENS	204	<b>Mechanics</b>	3	6	MAT	206	Kinetics	3	6
<b>Total Credit 15 30</b>					<b>Total Credit 15 30</b>				
THIRD YEAR									
Fifth Semester					Sixth Semester				
MAT	312	<b>Materials Characterization</b>	4	7	HUM	2XX	Major Works	3	5
MAT	314	<b>Mechanical Properties of Materials</b>	3	5	MAT	306	Computational Techniques for Materials at the	3	5
ENS	203/211	Electronic Circuits I/ Signals	4/3	7/6	MAT	307	<b>Composite Materials</b>	3	6
MAT	309	<b>Transport Phenomena in Materials Proce</b>	3	6	MATH	203	Intro. To Prob. & Stat.	3	6
MAT	305	<b>Polymer Engineering I</b>	3	5			Elective	3/4	6-7
<b>Total Credit 16/17 30-31</b>					<b>Total Credit 15/16 28-29</b>				
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
ME	301	<b>Mechanical Systems</b>	3	6			Elective	3	5-6
MAT	408	Introduction to Ceramics	3	5			Elective	3/4	6-7
		Elective	3/4	6-7			Elective	3/4	6-7
		Elective	3/4	6-7					
<b>Total Credit 16/17 30-31</b>					<b>Total Credit 15/17 27+</b>				

Recommended electives:

- IE 309 Manufacturing Processes
- IE 402 Integrated Manufacturing Sys.
- IE 416 Additive Manufacturing
- MAT 402 Polymer Engineering II
- ME 302 Mechanical Systems II
- ME 303 Control System Design
- ME 415 Comp. Analysis & Simulation

(at least two to complete track)