

# Metallurgical and Materials Engineering Curriculum (2014 - Current)

1.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151911200	Calculus I	4	0	0	4	4	5
151911188	Chemistry	3	0	0	3	3	3
151911189	Chemistry Lab.	0	0	2	2	1	2
151911186	Physics I	3	0	0	3	3	3
151911187	Physics I Lab.	0	0	2	2	1	2
151911112	Technical Drawing	2	2	0	4	3	4
151911191	English I	3	0	0	3	0	3
151911181	Turkish Language I	2	0	0	2	0	2
151912101	Intr.to Met.& Mat. Engineering	2	0	0	2	2	3
151912102	Technical Writing	2	0	0	2	2	3

3.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151913555	Materials Science I	3	0	0	3	3	5
151913205	Met. Thermodynamics I	3	0	0	3	3	5
151913556	Differential Equations	3	0	0	3	3	4
151913557	Engineering Mechanics	3	0	0	3	3	5
151913551	Hist. of Turkish Rev. and Prin. of Kemal Atatürk: I	2	0	0	2	0	2
151913567	Occu. Health & Safety I	2	0	0	2	2	3
151913559	Business English I	2	0	0	2	2	3
One of the Social Elective I Courses Below							
151913562	Visual Communication	2	0	0	2	2	3
151913561	First Aid	2	0	0	2	2	3
151913564	Introduction to German	2	0	0	2	2	3

5.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151915301	Iron-Steelmaking	4	0	0	4	4	5
151915309	Ceramic Materials	3	0	0	3	3	4
151915330	Materials Character.	2	2	0	4	3	5
151915331	Principles of Castings	3	0	0	3	3	4
151915334	Metallography	2	2	0	4	3	5
151915335	Mech. Properties of Mater.	2	2	0	4	3	5
One of the Social Elective II Courses Below							
151915333	Creativity	2	0	0	2	2	3
151916336	Aspects of Photography	2	0	0	2	2	3
151915337	Cyber Security	2	0	0	2	2	3
151915338	Tech. of Report Writing in Eng.	2	0	0	2	2	3

7.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151917401	Plastic Forming	3	0	0	3	3	5
151917617	Design In Met. & Materials Eng.	2	2	0	4	3	5
151917624	Physical Metallurgy	3	0	0	3	3	5
151917632	Entrepreneurship	2	0	0	2	2	3
One of the Design Elective I Courses Below							
151917629	Non-Ferrous Metal Casting Design	3	0	0	3	3	5
151917630	Design With Smart Materials	3	0	0	3	3	5
151917631	Polymer Materials and Design	3	0	0	3	3	5
One of the Technical Elective I Courses Below							
151917620	Mechanical Metallurgy	3	0	0	3	3	4
151917621	Powder Metallurgy	3	0	0	3	3	4
151917623	Hydrometallurgy	3	0	0	3	3	4
151917636	Tech. and Des. of Semiconductors	3	0	0	3	3	4
One of the Metall. and Mater. Eng. Application Elective Courses Below							
151917633	Extractive Met. App.	1	2	0	3	2	3
151917634	Alloy Synthesis Perf. & App.	1	2	0	3	2	3
151917635	Ceramic Mater. App.	1	2	0	3	2	3

2.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151912192	Physical Chemistry	3	0	0	3	3	6
151912193	Calculus II	4	0	0	4	4	5
151912183	Physics II	3	0	0	3	3	3
151912184	Physics II Lab.	0	0	2	2	1	2
151912112	Economy	3	0	0	3	3	4
151012210	English II	3	0	0	3	0	3
151912182	Turkish Language I	2	0	0	2	0	2
One of the Informatics Elective Courses Below							
151912194	Basic Computer Sci.	2	2	0	4	3	5
151912195	Information Tech.	2	2	0	4	3	5
151912196	Comp. Aided Draw.	2	2	0	4	3	5

4.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151914555	Phase Diagrams	3	0	0	3	3	5
151914202	Engineering Math.	3	0	0	3	3	5
151914556	Materials Science II	3	0	0	3	3	5
151913206	Met. Thermodynamics II	3	0	0	3	3	5
151914552	Hist. of Turkish Rev. & Pri. of Kemal Atatürk: II	2	0	0	2	0	2
151914557	Business English II	2	0	0	2	2	3
151914558	Extractive Metallurgy	3	0	0	3	3	5

6.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151916325	Non-Ferrous Metal Production	3	0	0	3	3	4
151916306	Alloying Design	3	0	0	3	3	5
151916326	Transport Phenomena	3	0	0	3	3	4
151916335	Casting Technologies	2	2	0	4	3	5
151916328	Polymeric Materials	3	0	0	3	3	4
151916336	Heat Treatments of Metals	2	2	0	4	3	5
One of the Social Elective III Courses Below							
151916337	Org. Management	2	0	0	2	2	3
151916338	Intellectual Property Rights	2	0	0	2	2	3
151916340	Business Law	2	0	0	2	2	3

8.Semester	Course Name	T	P	L	SUM	CRE	ECTS
151918402	Composite Materials	3	0	0	3	3	5
151918553	Corrosion	3	0	0	3	3	5
151918552	Occu. Health and Safety II	2	0	0	2	2	3
One of the Design Elective II Courses Below							
151918548	Materials Prop. and Developing	3	0	0	3	3	5
151918550	Product. Process. of Ceramic Mate.	3	0	0	3	3	5
151918551	Clean Energy and Design	3	0	0	3	3	5
One of the Technical Elective II Courses Below							
151918540	Surface Processes of Materials	3	0	0	3	3	4
151918542	Glass Technology	3	0	0	3	3	4
151918543	Failure Analysis	3	0	0	3	3	4
One of the Technical Elective III Courses Below							
151918545	Welding Technology and its Metallurgy	3	0	0	3	3	4
151918546	Biomaterials	3	0	0	3	3	4
151918547	Nanomaterials	3	0	0	3	3	4
151918556	Electrical, Magnetic & Optical Prop. of Mater.	3	0	0	3	3	4
One of the Engineering Research Below							
151918521	Res. on Corrosion	1	4	0	5	3	6
151918522	Res. on High Temp. Mater.	1	4	0	5	3	6
151918523	Res. on Mech. Beh. of the Metals	1	4	0	5	3	6
151918524	Invest. of Welding, Failures & Control in Metallurgy	1	4	0	5	3	6
151918525	Hyrometallurgical Research	1	4	0	5	3	6
151918526	Plastic Forming Researches	1	4	0	5	3	6
151918529	Biomaterials Research	1	4	0	5	3	6
151918530	Adv. Technological Mater. Res.	1	4	0	5	3	6
151918532	Ceramic Materials Research	1	4	0	5	3	6
151918533	Tech.Of Casting Eng. Res.	1	4	0	5	3	6
151918554	Mater.CharacterizationRes.	1	4	0	5	3	6
151918555	Nano Materials Research	1	4	0	5	3	6
151918557	Micro - Nano Mater.Res.	1	4	0	5	3	6