

UNDERGRADUATE CURRICULUM

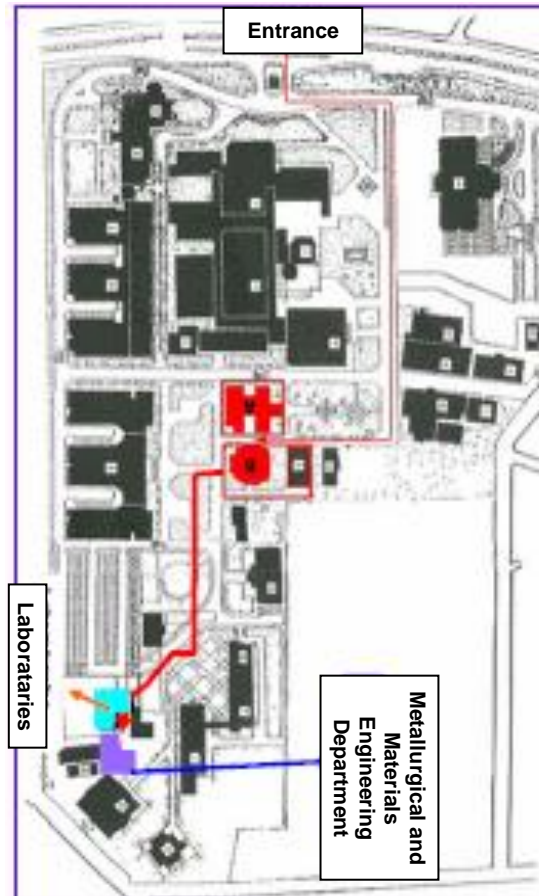
First Semester	Credit Hours	Second Semester	Credit Hours
General Chemistry I	4	General Chemistry II	4
Calculus I	4	Calculus II	4
Physics I	4	Physics II	4
Introduction to Comp.	4	Turkish Language II	2
Ata. Pr. and Hist. of Turk. Rev. I	2	Ata. Pr. and Hist. of Turk. Rev. II	2
Turkish Language I	2	Non-TechnicalElecti. II	2
Intro. to Materials Eng.	1		
	21		18

Third Semester	Credit Hours	Fourth Semester	Credit Hours
Materials Science I	3	Materials Science II	3
Differential Equations	3	Solution Thermo.	3
Metallurgical Thermodynamics	3	Materials Laboratory	3
Statics & Strength of Materials	3	Phase Equilibria	3
Engineering Drawing	3	Fund. of E&E Eng.	3
Basic Science Elective I	3	Basic Science Elective II	3
	18		18

Fifth Semester	Credit Hours	Sixth Semester	Credit Hours
Mech. Behav. of Mater.	3	Materials Character.	3
Chemical Metallurgy	3	Ceramic Process. Tech.	3
Metallography	3	Physical Metallurgy	3
Ceramic Materials	3	Deformation Processes	3
Transport Phenomena	3	Engineering Economy	2
Intro. to Economics	3	Business Law & Ethics	3
	18		17

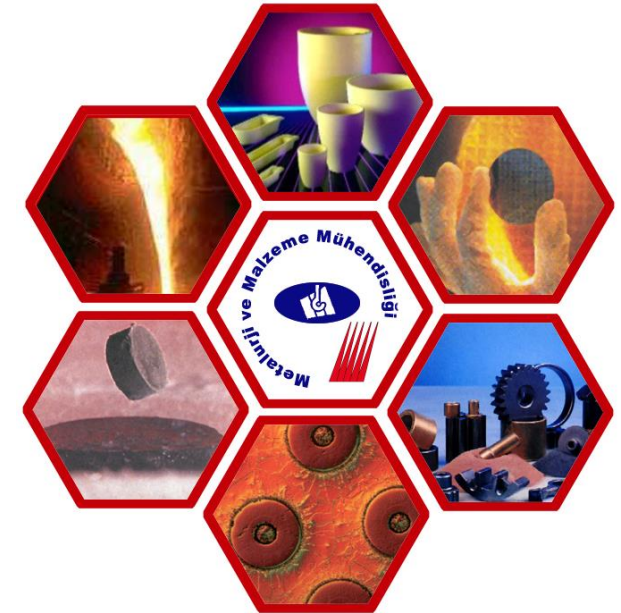
Seventh Semester	Credit Hours	Eighth Semester	Credit Hours
Degradation of Materials	3	Elec. Op. & Mag. Prop. of Materials	3
Solidification Processes	3	Engineering Project II	2
Engineering Project I	2	Technical Elective III	3
Non-Technical Elective	2	Technical Elective IV	3
Technical Elective I	3	Technical Elective V	3
Technical Elective II	3		
	16		14

Total Credits = 142
 Total Contact Hours = 159
 Total Number of Courses = 49



MARMARA UNIVERSITY ENGINEERING FACULTY

Dean: Prof. Dr. Murat DOĞRUEL



METALLURGICAL AND MATERIALS ENGINEERING DEPARTMENT

2015-2016 Academic Year

Head of Department: Prof. Dr. Recep ARTIR

MU Metallurgical and Materials Engineering Department
 Goztepe Campus
 34722 Kuyubasi, Kadıköy- Istanbul
 Phone: +90(216) 347 7681, Fax: +90(216) 345 0126
<http://mse.eng.marmara.edu.tr/>

METALLURGICAL AND MATERIALS ENGINEERING DEPARTMENT

The Department of The Metallurgical and Materials Engineering is a branch of engineering about the conversion of materials to final products needed by the society, passing through the stages of design, development and manufacturing meanwhile using the theoretical and practical knowledge. Since the beginning of the civilization, diverse materials have been used with the energy to upgrade the standard of living of societies. In the most engineering branches, new designs depend on the development of new materials. The factors leading to novelties in material use are rapid developments in the fields of energy, electronics, optics and biology as well as increasing environmental awareness. Production methods and applicable products make up the foundations of the industry. Metals, ceramics, polymers and composite materials are classes of materials for modern engineering applications. Consequently, our graduates are able to work in various advanced technology firms in civilian, public and military sectors.

The "Metallurgical and Materials Engineering Department" was established in 1997 comprising the Extractive Metallurgy Programme and Materials Science Programme. There are 7 Professors, 1 Assoc. Professor, 3 Assist. Professors and 7 research assistants in our department.

In undergraduate programme of the Metallurgical and Materials Engineering, our students have the opportunity to choose the elective courses such as social, judicial, executive and financial domains, which could orientate them according to their individual abilities beside their basic science, engineering sciences, engineering design and compulsory courses. Our academically successful students can use "the Minor Programme" that allows the specialization about the other matters at the other departments in our Faculty, or "the Double Major Programme" that gives the opportunity to get a second Bachelor Degree of a second major.

ADMINISTRATION

Head of Department:

Prof. Dr. Recep Artır 606

Vice Head of Department:

Assist. Prof. Dr. Hüseyin Adanır 688

Vice Head of Department:

Assist. Prof. Dr. Seval Genç 601

Material Science Discp.:

Prof. Dr. Ayhan Mergen 605

Extractive Metallurgy Discp.:

Prof. Dr. Engin Ziya Erkmen 621

Secretary: Fatma ELDAŞ 625

Student Representative: M. Berkay İzmir 0506 729 88 09

Club President: M. Berkay İzmir 0506 729 88 09

FACULTY MEMBERS

Prof. Dr. Recep Artır

☎ 606

Ph.D., Dept., of Engineering Materials, University of Sheffield, England, 1994. **M.S.**, Metallurgical Engineering, YU, 1988. **B.S.**, Metallurgical Engineering, İTÜ, 1985.

Asist. Prof. Dr. Seval Genç

☎ 601

Ph.D., Materials Science & Engineering, University of Pittsburgh, USA, 2002. **M.S.**, Physics, Boğaziçi University, 1994. **B.S.**, Physics Ed., Marmara University, 1991.

Asist. Prof. Dr. Hüseyin Adanır

☎ 688

Ph.D., Dept., of Materials Eng, New Mexico Inst. of Mining. Tech., USA, 2004. **M.S.**, Materials Science, Colorado School of Mines, USA 1999. **B.S.**, Metallurgical Engineering, İTÜ, 1986.

Prof. Dr. Ayhan Mergen

☎ 603

Ph.D., Dept., of Engineering Materials, The University of Sheffield, England, 1996. **B.S.**, Metallurgical Engineering, İTÜ, İstanbul, 1991.

Prof. Dr. Arif Nihat Güllüoğlu

☎ 605

Ph.D., Materials Science & Engineering, University of Alabama, USA, 1991. **M.S.**, Ceramic Engineering, Georgia Institute of Technology, USA, 1985. **B.S.** Metallurgical Engineering, İTÜ, 1982.

Prof. Dr. Altan Türkeli

☎ 602

Ph.D., School of Materials, The University of Sheffield, UK, 1989. **B.S.** Metallurgical Engineering, İTÜ, 1984.

Prof. Dr. Ömer Ziya Cebeci

☎ 262

Ph.D. Soil Engineering, Iowa State University, USA 1977. **M.S.**, Chemical Engineering, ODTÜ, 1974. **B.S.**, Chemical Engineering, ODTÜ, 1972.

Prof. Dr. Ersan Kalafatoğlu (Retired)

☎ 621

Ph.D., Univ. of Strathclyde, Glasgow, UK, 1975. **M.S.**, Chemical Engineering, İTÜ, 1972. **B.S.**, Chemical Engineering, İTÜ, 1972.

Prof. Dr. Ziya Engin Erkmen

☎ 607

Ph.D., Nuclear Engineering, University of Florida, USA, 1992. **M.S.**, Nuclear Engineering, University of Michigan, USA 1987. **B.S.**, Metallurgical Engineering, İTÜ, 1983.

Assoc. Prof. Dr. Cevat Sarıoğlu

☎ 624

Ph.D., Materials Science & Engineering, University of Pittsburg, USA, 1998. **M.S.**, Material Science & Engineering, University of Pittsburg, USA, 1993. **B.S.** Metallurgical Engineering, İTÜ, 1989.

Assoc. Prof. Dr. Serdar Aktaş

☎ 688

Ph.D., Dept., of Metallurgical and Materials Engineering, İTÜ, 2007. **M.S.**, Metallurgical Engineering, İTÜ, 2001. **B.S.**, Metallurgical Engineering, İTÜ, 1996.

Assist. Prof. Dr. Asuman Çelik Küçük

☎ 623

Ph.D., Inst., of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan, 2011. **M.S.**, Inorganic Chemistry, GYTE, 2005. **B.S.**, Chemistry, MU, 2001.

LABORATORY FACILITIES

The Materials Laboratories has 3 sections, "Materials synthesis and processing", "Materials characterization", and

"Mechanical testing". These laboratories are equipped with modern systems and devices.

Materials Synthesis Laboratories

- Crushing, Blending, Mixing
- Sizing
- Shaping presses
- Furnaces
- Special processing and synthesis equipment
- Solidification and Casting

Materials Characterization Laboratories

- X-Ray Diffractometer
- X-Ray Spectrometer
- SEM
- Thermal analysis system
- Rheometer
- FT-IR,
- Particle size analyzers
- Chemical analysis (ICP-MS, GC)
- Metallography
- Corrosion test units
- Atomic Absorption Spectroscopy

Materials Mechanical Testing Laboratories

- Tensile
- Fatigue
- Wear
- Impact
- Creep
- Hardness

INDUSTRIAL COOPERATION AREAS

- ◆ Development of bio-compatible ceramic materials,
- ◆ Electrical and magnetic properties of materials, fuel cell applications,
- ◆ Surface technologies, welding, brazing, coatings for metallic surfaces, corrosion and corrosion protection,
- ◆ Development of metal and ceramic matrix composite materials for high temperature and high performance applications,
- ◆ Problems and solutions related to metal forming processes,
- ◆ Failure analysis,
- ◆ Investigation and optimization of mechanical properties of materials such as resistance to creep, fatigue and impact,
- ◆ Amorphous materials, isostatic pressing of ceramic powders, sintering,
- ◆ Powder metallurgy, ferrous and nonferrous alloys,
- ◆ Casting technology, solidification, rapid solidification processes.