

INSTITUTE OF ENGINEERING AND NATURAL SCIENCES

The Institute aims at upholding an understanding of education which, with conscious eagerness for the truth, rises above cultural roots; is shaped by contemporary scientific and technological values and constantly searches for, finds and shares the new. The Institute of Engineering and Physical Sciences exists to offer education in engineering, architecture and natural sciences; and to help postgraduate students develop their skills in education, research, application and management with regard to their respective fields. We aim to enrich the intellectual capacity of its students and equip them with necessary technical skills and thus helping them become members of a distinguished work force who are dynamic, sensitive to the problems of their society, successful, up-to-date on international scientific works and have the expertise needed in their fields.

- Architecture (M.Sc., M.Sc. English, Ph.D.)
- Architectural Restoration (M.Sc.)
- Cultural Heritage Conservation and Management (M.Sc.)
- Computer Engineering (M.Sc.)
- Biomedical Engineering (M.Sc.)



 Location : Topkapı Campus
 Website : mfbe.fsm.edu.tr

Courses Offered / Architecture (M.Sc.)

First Year - First Semester		
Course Code	Course Name	ECTS
MIM502	Theoretical Design Studio	9
MIM503	Architectural Research Methods	7
	Elective Course	7
	Elective Course	7
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
MIM504	Intercultural Studies in History of Architecture, Theory and Criticism	9
	Elective Course	7
	Elective Course	7
MIM509	Seminar	7
Total ECTS		30

Second Year - Third and Fourth Semesters		
Course Code	Course Name	ECTS
MIM500	Master Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Course Code	Course Name	ECTS
MIM501	Interdisciplinary Workshop	7
MIM511	Relationship Between Art & Architecture	7
MIM512	Evolution of Built Environment in Architecture	7
MIM515	20th Century Movements in Architecture and Urbanism	7
MIM521	Traditional Housing in Anatolia	7
MIM522	Culture of Ottoman Architecture	7
MIM547	Observations and Interrogation in Restoration	7
MIM557	Energy Efficient Buildings	7
MIM558	Sustainability in Architecture	7
MIM559	Istanbul's Urban Codes	7
MIM563	Museology Design	7
MIM591	Transformation Architecture	7

Total ECTS Required for Graduation 120

Courses Offered / Architecture (M.Sc. English)

First Year - First Semester		
Course Code	Course Name	ECTS
MARC 502	Research Methods in Architecture	7
MARC 503	History, Theory and Principles of Architecture	7
MARC 510	Design Project I	9
MARC 530	Conservation Project I	
MARC 550	Research Workshop I	
MARC 570	Construction Science Laboratory I	
	Elective Course I	7
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
MARC 511	Design Project II	9
MARC 531	Conservation Project II	
MARC 551	Research Workshop II	
MARC 571	Construction Science Laboratory II	
	Elective Course II	7
	Elective Course III	7
MARC 501	Seminar	7
Total ECTS		30

Second Year - Third and Fourth Semesters		
Course Code	Course Name	ECTS
MARC 500	Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Architectural Design Module		
Course Code	Course Name	ECTS
MARC 512	Heritage and Architecture Design	7
MARC 513	Tools for Architectural Design & Composition	
MARC 514	Architecture and Urban Design	
MARC 515	Sustainable Design	
MARC 516	Seminar in Contemporary Architecture	
MARC 517	Human-Environment Studies	
MARC 518	Architecture, Urbanization and Heritage	

ELECTIVE COURSES		
Conservation Module		
Course Code	Course Name	ECTS
MARC 532	Theory of Conservation	7
MARC 533	Principles and Methods of Conservation	
MARC 534	Conservation of Historic Environments	
MARC 535	Heritage Management	
MARC 536	Traditional Building Materials and Conservation Techniques	
MARC 537	Traditional Structural Systems and Building Techniques	
MARC 538	Heritage Recording and Information Management	

ELECTIVE COURSES		
History, Theory and Criticism Module		
Course Code	Course Name	ECTS
MARC 552	Readings on the History of Architecture	7
MARC 553	History of Art and Architectural Styles	
MARC 554	Studies in Ottoman Archives and Architecture	
MARC 555	Advanced Studies in Islamic Art and Architecture	
MARC 556	History of Ottoman Architecture	
MARC 557	The Civilizations and Architecture of Anatolia	
MARC 538	The 20th Century Architecture of Turkey	

ELECTIVE COURSES		
Construction Science Module		
Course Code	Course Name	ECTS
MARC 572	Building Technology and Structural Design	7
MARC 573	Computer Applications in Architecture	
MARC 574	Introduction to Construction Management	
MARC 575	Principles of Green Building Design	
MARC 576	Energy Analyses of Buildings	
MARC 577	Innovation & Sustainability	

Total ECTS Required for Graduation 120

Courses Offered / Architecture (Ph.D.)

First Year - First Semester		
Course Code	Course Name	ECTS
MİM601	History of Design Theories	7
MİM605	Human and Space	9
	Elective Course	7
	Elective Course	7
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
MİM602	Architectural Criticism	9
	Elective Course	7
	Elective Course	7
MİM609	Seminar	7
Total ECTS		30

Second, Third and Fourth Years		
Course Code	Course Name	ECTS
MİM600	Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Course Code	Course Name	ECTS
MİM503	Architectural Research Methods	7
MİM511	Relationship Between Art & Architecture	7
MİM512	Evolution of Built Environment in Architecture	7
MİM515	20th Century Movements in Architecture and Urbanism	7
MİM521	Traditional Housing in Anatolia	7
MİM522	Architectural Culture in Ottoman Empire	7
MİM547	Observations and Interrogation in Restoration	7
MİM557	Energy Efficient Buildings	7
MİM558	Sustainability in Architecture	7
MİM559	Istanbul's Urban Codes	7
MİM563	Design in Museology	7
MİM604	Urban Conservation and Conservation Awareness	7

Total ECTS Required for Graduation **180**

Courses Offered / Architectural Restoration (M.Sc.)

First Year - First Semester		
Course Code	Course Name	ECTS
RES501	Conservation Studio I	9
RES510	Theory of Conservation	7
RES557	Conservation Techniques and Methods	7
RES544	Deterioration and Conservation in Traditional Building Materials	7
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
RES502	Conservation Studio II	9
RES545	Laboratory Training for Architectural Conservators	7
	Elective Course	7
RES509	Seminar	7
Total ECTS		30

Second Year - Third and Fourth Semesters		
Course Code	Course Name	ECTS
RES500	Master Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Course Code	Course Name	ECTS
RES510	Conservation Theory	7
RES513	Conservation Concepts and the Legal Aspects of Conservation	7
RES521	Architecture of Anatolian Civilizations	7
RES522	Architecture of Turkish-Islamic Civilizations	7
RES523	Urban History of Anatolia	7
RES524	Ottoman Architecture	7
RES541	Traditional Buildings and Materials	7
RES542	Architectural Survey and Analysis Methods	7
RES543	Structures and Materials	7
RES551	Conservation and Restoration Methods I	7
RES552	Conservation and Restoration Methods II	7
RES553	Observation and Inquisition in Restoration	7
RES554	Settlements Within Historic Environments	7
RES555	Assessments of Historic Environments	7
RES556	Methods of Documenting Structures	7
RES561	Construction Techniques in Ottoman Architecture	7
RES562	Structural Systems and Engineering of Historical Buildings	7
RES571	Diagnostic Techniques and Technologies Before Restoration	7

Total ECTS Required for Graduation **120**



Courses Offered / Cultural Heritage Conservation and Management (M.Sc.)

First Year - First Semester		
Course Code	Course Name	ECTS
KOR	Conservation and Management Planning	8
	Historical Improvements of Case of Conservation	8
	Elective Course I	7
	Elective Course I	7
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
KDR	Legal, Administrative and Economics Dimensions of Conservation	8
	Implementations of Conservation Science Branch	8
	Elective Course I	7
	Seminar and Research Methods	7
Total ECTS		30

Second Year - Third and Fourth Semester		
Course Code	Course Name	ECTS
KDR	Thesis	60
Total ECTS		60

Total ECTS Required for Graduation **120**

Courses Offered / Computer Engineering (M.Sc.)

First Year - First Semester		
Course Code	Course Name	ECTS
BLM501	Scientific Research Methods	6
	Elective Course I	8
	Elective Course I	8
	Elective Course I	8
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
BLM502	Computer Engineering Project Management	8
	Elective Course IV	8
	Elective Course V	8
	Seminar	6
Total ECTS		30

Second Year - Third and Fourth Semesters		
Course Code	Course Name	ECTS
BLM500	Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Course Code	Course Name	ECTS
BLM511	Advanced Techniques in Algorithm Analysis and Design	8
BLM513	Discrete Structures and Applications	8
BLM515	Software Development on Databases	8
BLM512	Software Testing	8
BLM514	Service Oriented Software Development	8
BLM516	Software Pattern Design	8

ELECTIVE COURSES		
Course Code	Course Name	ECTS
BLM518	Mobile Software Application Development	8
BLM520	Data Science	8
BLM531	Artificial Intelligence Techniques and Applications	8
BLM533	Fuzzy Decision Processes	8
BLM532	Linear Programming and Optimization	8
BLM534	Data Mining Techniques	8
BLM536	Computer Learning	8
BLM542	Robotic Systems Design	8
BLM551	Modern Computer Architecture	8
BLM553	Advanced Digital System Design	8
BLM552	Intelligent Systems and the Internet of Objects	8
BLM561	Advanced Computer Networks	8
BLM562	Wireless Sensor Networks	8
BLM564	Network Security and Cryptography	8
BLM582	Digital Signal Processing	8
BLM583	Image Processing	8
BLM582	Medical Image Processing	8

Total ECTS Required for Graduation **120**



Courses Offered / Biomedical Engineering (M.Sc)

First Year - First Semester		
Course Code	Course Name	ECTS
BME501	Scientific Research Methods	6
	Elective Course I	8
	Elective Course I	8
	Elective Course I	8
Total ECTS		30

First Year - Second Semester		
Course Code	Course Name	ECTS
BME502	Biomedical Engineering Project Management	8
	Elective Course IV	8
	Elective Course V	8
	Seminar	6
Total ECTS		30

Second Year - Third and Fourth Semesters		
Course Code	Course Name	ECTS
BME500	Thesis	60
Total ECTS		60

ELECTIVE COURSES		
Course Code	Course Name	ECTS
BME511	Biomedical Image Processing	8
BME512	Biomedical Image Processing	8
BME513	Biomedical Systems	8
BME514	Modeling of Biomedical Systems	8

ELECTIVE COURSES		
Course Code	Course Name	ECTS
BME515	Biomedical Optical Systems	8
BME521	Biomaterials, Nanostructures and Nanotechnology	8
BME531	Development and Designing of Medical Systems	8
BME533	Biomedical Instrumentation and Measurement	8
BME534	Embedded System Design	8
BME536	Microprocessor Biomedical Devices	8
BME542	Health Economics and Management	8
BME545	Statistical Data Analysis	8
BME548	Clinical Engineering	8
BME551	Neurobiology	8
BME552	Tissue Engineering	8
BME557	Biomechanics	8
BME575	Medical Imaging Systems	8
BME561	Artificial Intelligence	8
BME562	Bio Robotic	8
BME581	Special Topics in Biomedical Engineering	8
BME582	Special Topics in Biomedical Engineering	8

Total ECTS Required for Graduation **120**

