

## MASTER'S DEGREE PROGRAM IN MICRO and NANOTECHNOLOGY

### Compulsory Courses (Non-thesis option):

Code	Course Name	TPC	ECTS
MNT 501	Fundamentals of Nanotechnology	303	7.5
ME 502	Advanced Numerical Methods for Engineers	303	7.5
MNT 503	Nanoscale Synthesis and Characterization	303	7.5
MNT 592	Project	000	15.0

T: Theoric; P: Practice; C: Credit

### Elective Courses (Thesis-Nonthesis Option):

Code	Course Name	TPC	ECTS
MNT 504	Surface Science and Engineering	303	7.5
MNT 505	Solid State Physics	303	7.5
MNT 506	Small Scale-Energy Harvesting	303	7.5
MNT 507	Smart Materials and Structures	303	7.5
MNT 508	Structure and Analysis of Materials/Nanomaterials	303	7.5
MNT 509	Biomaterials	303	7.5
MNT 510	Nanoscale Characterization	303	7.5
MNT 511	Thermodynamics of Solids	303	7.5
MNT 512	Phase transformations and Kinetics	303	7.5
MNT 513	Structure-Property Relationships in Materials	303	7.5
MNT 514	Advanced Ceramics	303	7.5
MNT 515	Structural Ceramics	303	7.5
MNT 516	Thermal Properties of Materials	303	7.5
MNT 517	Inorganic Powder Processing	303	7.5
MNT 518	Nanomaterials in Biotechnology	303	7.5
MNT 519	Malzemelerin Mekanik Davranışları Mechanical Behavior of Materials	303	7.5
MNT 520	Materials Selection	303	7.5
MNT 521	Failure Analysis of Materials and Structures	303	7.5
MNT 522	Introduction to Biophotonics	303	7.5
MNT 523	Tribology	303	7.5
MNT 524	Lab-on-a-Chip and Biomedical Devices	303	7.5
MNT 525	Microtechnologies in Sensors and Actuators	303	7.5
MNT 526	Optical Properties of Semiconductors	303	7.5
MSE 421	Diffusion in Solids	223	5.0
MSE 427	Electronic, Optical and Magnetic Materials and Devices	303	5.0
ME 481	Introduction to Microelectromechanical Systems	303	5.0
ME 570	Microscale Fluid Mechanics	303	7.5
ME 670	Advanced Microfluidics and Applications	303	10.0

MECE 508	Introduction to Optics	303	7.5
MECE 512	Lazer Machining	303	7.5
MECE 522	Contemporary Techniques for Small Mechatronic Parts	303	7.5
MECE 531	Elastic-Plastic Stress Analysis	303	7.5
MECE 543	Computer Integrated Manufacturing Systems	303	7.5

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MSE: Materials Science and Engineering; ME: Mechanical Engineering; MECE: Mechatronics Engineering