

Course Structure Diagram with Course Credits

1 st Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
PHY101	-	General Physics I	3	2	4	5
CHM101	-	General Chemistry I	3	2	4	5
MTH101	-	Calculus I	4	0	4	5
ENG101	-	Foreign Language I	3	0	3	3
ECC103	-	Technical Drawing I	3	0	3	5
MSN101	-	Introduction to Materials Science and Nanotechnology Engineering	2	0	2	3
CAM100	-	Campus Orientation	2	0	0	2
CHC100	-	Cyprus History and Culture	2	0	2	2
Total						30

1 st Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
PHY102	PHY101	General Physics II	3	2	4	6
CHM112	CHM101	General Chemistry II	3	0	3	5
MTH102	MTH101	Calculus II	4	0	4	6
ENG102	ENG101	Foreign Language II	3	0	3	3
ECC101	-	Introduction to Computers and Programming	3	1	3	3
CHM122	CHM101	Organic Chemistry	3	1	3	5
CAR100	-	Career Planning	2	0	0	2
Total						30

2 nd Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN201	CHM101	Material Science I	3	0	3	5
MSN203	MSN101/ CHM112	Foundations of Nanotechnology	3	0	3	5
CHM201	CHM112	Inorganic Chemistry	3	0	3	5

MSN205	CHM112/ MTH102	Physical Chemistry and Thermodynamics	3	0	3	5
ENG201	ENG102	Oral Communication Skills	3	0	3	3
MTH201	MTH102	Differential Equations	4	0	4	5
YIT101	-	Turkish for Foreign Students I	2	0	2	2
TUR101	-	Turkish Language I	2	0	2	2
Total						30

2 nd Year Spring Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN202	MSN201	Material Science II	3	0	3	5
MSN204	MSN201	Mechanics of Nanomaterials	3	0	3	5
MSN206	-	Materials for Biological and Medical Applications	3	0	3	5
MSN208	CHM101/ PHY101	Nanomaterials	3	1	3	6
PHY201	MTH201/ PHY102	Introduction to Quantum Physics	3	0	3	6
MSN200	-	Summer Practice I	0	0	0	7,5
YIT102	YIT101	Turkish for Foreign Students II	2	0	2	2
TUR102	TUR101	Turkish Language II	2	0	2	2
Total						36,5

3 rd Year Fall Semester						
Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN301	MSN202	Synthesis and Fabrication of Nanoengineering Systems	4	0	4	6
MSN303	CHM112	Introduction to Solid State Chemistry	3	0	3	5
MSN305	CHM112	Phase Transformations and Kinetics	3	0	3	6
MSN307	MSN201	Crystallography of Materials	3	0	3	6
MSN309	-	Research Skills in Science	3	0	3	5
AIT101	-	Principles of Atatürk and the History of Turkish Revolution I	2	0	2	2

AIT103	-	Principles of Atatürk and the History of Turkish Revolution I	2	0	2	2
Total						30

3rd Year Spring Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN302	MSN202	Materials Selection in Engineering Design	3	0	3	5
MSN304	-	Nanoengineering System Design	3	0	3	6
MSN306	-	Instrumental Methods for Material Science and Nanoengineering	3	2	4	6
MSN308	-	Composite Materials	3	0	3	5
TOSD-1	-	Nontechnical Electives	3	0	3	5
MSN300	-	Summer Practice II	0	0	0	7,5
AIT102	AIT101	Principles of Atatürk and the History of Turkish Revolution II	2	0	2	2
AIT104	AIT103	Principles of Atatürk and the History of Turkish Revolution II	2	0	2	2
Total						36,5

4th Year Fall Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN401	-	Characterization of Nanoengineering Systems	3	1	3	6
MSN403	MSN202	Experimental Methods in Material Science	3	1	3	7
BSD-1	-	Elective Courses	3	0	3	4
BSD-2	-	Elective Courses	3	0	3	4
BSD-3	-	Elective Courses	3	0	3	4
TOSD-2	-	Nontechnical Electives	3	0	3	5
Total						30

4th Year Spring Semester

Course Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
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MSN400	-	Graduation Project	2	4	4	13
BSD-4	-	Elective Courses	3	0	3	4
BSD-5	-	Elective Courses	3	0	3	4
BSD-6	-	Elective Courses	3	0	3	4
TOSD-3	-	Nontechnical Electives	3	0	3	5
Total						30

Elective Courses						
Code	Pre.	Course Name	Theory	Application/ Laboratory	Local Credits	ECTS
MSN451	-	Surface science	3	0	3	4
MSN452	-	Polymeric Engineering Materials	3	0	3	4
MSN453	-	Introduction to Biomaterials	3	0	3	4
MSN454	-	Materials Science of Energy Technologies	3	0	3	4
MSN455	-	Fundamentals of Solar Cells	3	0	3	4
MSN456	-	Materials Science of Thin Films	3	0	3	4
MSN457	-	Micro and Nano Structural Materials and Devices	3	0	3	4
MSN458	-	Advanced Technology Materials	3	0	3	4
MSN459	-	Electrical, Dielectric, and Magnetic Properties of Engineering Materials	3	0	3	4
ME453	-	Material Engineering	3	0	3	4
ECC433	-	Heat Treatment	3	0	3	4
EE432	-	Mechatronics	3	0	3	4
ECC419	-	Image Processing	3	0	3	4
BME448	-	Micro and Nano Technologies in Biomedical Engineering	3	0	3	4
ECC427	-	Management for Engineering	3	0	3	4
ECC426	-	Economics for Engineering	3	0	3	4

Non-Technical (Non Field-Related) Elective Courses						
Code	Pre.	Course Name	Theory	Application/Laboratory	Local Credits	ECTS

XXX000	-	Non-Technical Elective course can be selected from the General Elective Courses (courses with GEC codes) or Generated Common Elective (courses with GCE codes), which are offered by the Common Courses Coordination Unit (odk.neu.edu.tr). The list of these courses are updated every semester.	3	0	3	5
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