



**ANKARA YILDIRIM BEYAZIT UNIVERSITY**  
**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES**  
**MATERIALS ENGINEERING DEPARTMENT**  
**COURSE LIST**

### 1st Semester

Course Code	Course Name	T+A+L	Compulsory / Elective	ECTS
MSE503	ADVANCES IN NANOCOMPOSITE TECHNOLOGY	3+0+0	Elective	8
MSE507	POLYMERS FOR ADVANCED TECHNOLOGIES	3+0+0	Elective	8
MSE517	SINTERING THEORY	3+0+0	Elective	8
MSE519	THIN FILM COATING TECHNOLOGIES	3+0+0	Elective	8
MSE523	PHASE DIAGRAMS IN ADVANCED MATERIALS	3+0+0	Elective	8
MSE529	FRACTURE MECHANICS	3+0+0	Elective	8
MSE535	ADVANCED THERMODYNAMICS OF MATERIALS	3+0+0	Elective	8
MSE537	ADVANCED MATERIALS CHARACTERIZATION TECHNIQUES	3+0+0	Elective	8
MSE539	BIOINSPIRED DESIGN AND PROCESSING OF MATERIALS	3+0+0	Elective	8
MSE547	FUNDAMENTALS OF ELECTROCHEMICAL SCIENCE	3+0+0	Elective	8
MSE551	QUANTUM BIOMIMETIC SENSORS	3+0+0	Elective	8

### 2nd Semester

Course Code	Course Name	T+A+L	Compulsory / Elective	ECTS
FBE900	RESEARCH METHODS AND ETHICS	3+0+0	Compulsory	8
FBE4000	STUDY FOR Ph.D QUALIFYING EXAM	0+0+0	Compulsory*	30
FBE5000	THESIS PROPOSAL STUDY	0+0+0	Compulsory*	30
MATH511	ADVANCED ENGINEERING MATHEMATICS I	3+0+0	Compulsory*	8
MSE800	SPECIAL STUDIES	8+0+0	Compulsory	8
MSE810	SEMINAR	0+2+0	Compulsory	10
MSE820	MASTER' S THESIS / PhD DISSERTATION	0+0+0	Compulsory	30
MSE506	COMPOSITE MATERIALS	3+0+0	Elective	8
MSE510	PROCESSING AND APPLICATION OF POROUS CERAMICS	3+0+0	Elective	8
MSE516	STEEL AND HARDENABILITY	3+0+0	Elective	8
MSE520	CHEMICAL METALLURGY	3+0+0	Elective	8
MSE530	ADVANCED CERAMIC PROCESSING	3+0+0	Elective	8
MSE534	ADVANCED MATERIALS SCIENCE AND ENGINEERING	3+0+0	Elective	8
MSE536	POLYMER MATERIALS AND RHEOLOGY	3+0+0	Elective	8
MSE542	METHODS OF APPLIED MATHEMATICS	3+0+0	Elective	8
MSE544	CORROSION AND CORROSION CONTROL	3+0+0	Elective	8
MSE546	ELECTRICAL CHARACTERIZATION TECHNIQUES FOR SEMICONDUCTORS	3+0+0	Elective	8
MSE548	DIFFUSION AND PHASE TRANSFORMATION IN METALS AND ALLOYS	3+0+0	Elective	8
MSE550	BIOSENSORS: PHYSICAL AND CHEMICAL PROPERTIES	3+0+0	Elective	8
MSE552	PHYSICAL FOUNDATION OF MATERIALS SCIENCE	3+0+0	Elective	8
MSE554	METAL ADDITIVE MANUFACTURING	3+0+0	Elective	8
MSE556	METAMATERIALS AND AUXETIC STRUCTURES	3+0+0	Elective	8
MSE596	SUPERCONDUCTING MATERIALS AND APPLICATIONS	3+0+0	Elective	8

\*These courses is only compulsory for PhD studetns.