

**APPROVED TECHNICAL ELECTIVES****MSE COURSES**

MSE 49700	Ethics in Engineering Practice (Support are elective)
MSE 49700	Industrial Ecol & Life Cycle Analysis
MSE 49900	Independent Research (3 credits max. per semester, 6 credits max. overall)
MSE 50200	Defects in Solids
MSE 50500	Modeling and Simulation of Materials Processing ( <i>MSE 340</i> )
MSE 50800	Phase Transformations in Solids
MSE 51000	Microstructural Characterization Techniques
MSE 51200	Powder Processing
MSE 52200	Rate Phenomena in Process Metallurgy ( <i>MSE 260/340</i> )
MSE 52300	Physical Ceramics
MSE 52500	Structure, Property Relationships of Engineering Polymers
MSE 53100	Quantitative Analysis of Microstructure
MSE 53600	Solidification Processing ( <i>MSE 260/340</i> )
MSE 54000	High Temperature Alloys ( <i>offered infrequently</i> )
MSE 54700	Introduction to Surface Science
MSE 54800	Deposition Processing of Thin Films and Coatings
MSE 55000	Properties of Solids
MSE 55500	Deformation Mechanisms in Crystal Solids ( <i>MSE 382</i> )
MSE 55600	Fracture of Materials ( <i>MSE 382</i> )
MSE 55700	Deformation Processing
MSE 55900	Phase Equilibria in Multicomponent Systems ( <i>MSE 260</i> )
MSE 56000	Production of Inorganic Materials ( <i>MSE 260</i> )
MSE 56700	Polymer Synthesis
MSE 57500	Transport Phenomena in Solids
MSE 57600	Corrosion
MSE 59700A	Archeology & Materials Science
MSE 59700B	Manufacturing of Composite Materials
MSE 59700C	Exper. Charact. Advanced Composite Materials
MSE 59700F	Dynamic Behavior of Materials (w/AAE 590F)
MSE 59700G	Modeling and Simulation of Materials
MSE 59700M	Introduction to Materials Science & Rechargeable Batteries
MSE 59700I	Introduction to Computational Materials Science
MSE 59700GM	Biomaterials
MSE 59700N	Physical Properties of Crystals
MSE 59700S	Steel: Proc & Prop for Applications in Automobiles
MSE 59700Z	Soft Materials
MSE 49700	Rheology

## **APPROVED COURSES IN OTHER DEPARTMENTS**

A&AE 55200	Nondestructive Evaluation of Structures & Materials
A&AE 55300	Elasticity in Aerospace Engineering
A&AE 55400	Fatigue of Structures & Materials
A&AE 55500	Mechanics of Composite Materials ( <i>AAE 553</i> )
A&AE 55900	Mechanics of Friction and Wear ( <i>AAE 204 and MA 303 or equiv</i> )
BME 59600	Biomaterials
CHE 44200	Chemistry & Engineering of High Polymers
CHE 54300	Polymerization Reaction Engineering and Reactor Analysis ( <i>CHE 348</i> )
CHE 54400	Structure & Physical Behavior of Polymer Systems ( <i>CHM 262 &amp; 370</i> )
EE 30500	Semiconductor Devices
EE 55700	Integrated Circuit Fab Lab
IPPH 56200	Introduction to Pharmaceutical Manufacturing Processes
ME 41300	Noise Control
ME 47300	Engineer Design Modern Materials
ME 50700	Laser Processing
ME 55400	Patents, Licensing and Tech Entrepreneurship ( <i>1 credit hour course</i> )
ME 55500	Composites & Polymer Processing
ME 55900	Micromechanics of Materials
ME 597Z00	Environmental Sustainability Design & Manufacturing
NUCL 47000	Fuel Cell Engineering (also as NUCL 49700)
PHYS 54500	Solid State Physics
PHYS 54700	Physics of Semiconductor Devices
PHYS 59700	Propulsion Design ,Build , Test
PHYS 59700	Phys Chemistry & Nanomaterials
PHYS 59700	Phys & Material Science of Semiconductor Nanostructures