

## Materials Science Minor – Updated June 2015

This minor is intended for students who have chosen to take a minimum of 16 credits of materials science coursework in any appropriate department.

Required:

1) ME 280 or MSC 202 Introduction to Materials Science

Prerequisites below or with permission of instructor:

MTH 163	Differential Equations I
MTH 164	Multidimensional Calculus (same as ME 164)
PHY 123	Waves & Modern Physics
ME 226	Intro to Solid Mechanics
PHY 122	Electricity & Magnetism

2) Choose three of the following courses

\* may **only include one** of the following courses:

PHY227 (MSC230), CHM455 (MSC455), ME460 (MSC 405)

\* **must include at least one** course at the 400 (graduate) level

CHE 225	Chemical Engineering Thermodynamics
CHE 286	Polymer Science & Engineering
EES 204W	Earth Materials
EES 208	Structural Geology
ME 242	Solids and Materials Laboratory
PHY 251 (MSC 420)	Introduction to Condensed Matter Physics
PHY 227 (MSC 230)	Thermodynamics & Statistical Mechanics
BME 420 (MSC 421)	Biomedical Nanotech
BME 442 (MSC 442)	Microbiomechanics
BME 451 (MSC 451)	Biomedical Ultrasound
BME 462 (MSC 462)	Cell & Tissue Engineering
CHE 413 (MSC 413)	Engineering of Soft Matter
CHE 454 (MSC 454)	Interfacial Engineering
CHE 458 (MSC 458)	Electrochem&Engg & Fuel Cell
CHE 460 (MSC 460)	Solar Cells
CHE 469 (MSC 469)	Biotechnology&Bioengineering
CHE 482 (MSC 482)	Proc Microelec Device
CHE 485 (MSC 485)	Thermodynamics & Stat Mech
CHE 492 (MSC 472)	Biointerfaces
CHM 404 (MSC 404)	Biophysical Chemistry II
CHM 416 (MSC 416)	X-ray Crystallography
CHM 423 (MSC 463)	NMR spectroscopy
CHM 455 (MSC 455)	Thermodynamics and Stat mechanics
CHM 456 (MSC 456)	Chemical Bonds: From Molecules to Materials
ECE 423 (MSC 423)	Semiconductor Devices

ECE 436 (MSC 437)	Nanophot/Nanomech Devices
ECE 435 (MSC 473)	Intro to Opto-Electronics
ECE 520 (MSC 520)	Spin Based Electronics
ME 222 (MSC 424)	Into Robst Dsgn Qual Eng
ME 232 (MSC 432)	Optomechanics
ME 460 (MSC 405)	Thrmodynms of Nanomicosol
ME 462 (MSC 407)	Solids & Materials lab
ME 466 (MSC 466)	Corrosion
OPT 421 (MSC 470)	Optical Properties of Materials
OPT 465 (MSC 465)	Principles of Lasers
OPT 507 (MSC 507)	SEM Practicum
PHY 418 (MSC 418)	Statistical Mechanics
PHY 420 (MSC 420)	Introduction to Condensed Matter Physics