

# Materials Science and NanoEngineering Department

## Approved Electives for the BSMSNE program

All these electives are 200 level or higher.

Courses not listed are not approved.



Engineering Electives (no MSNE)		Technical Electives (MSNE or Engineering)		Science & Math Electives (no MSNE or other Engineering)	
BIOE 370	BIOMATERIALS	MSNE 365	NANOMATERIALS FOR ENERGY	ASTR 201	STARS GALAXIES & THE UNIVERSE
CEVE 310	PRINCIPLES OF ENVI ENGINEERING	MSNE 409	PHYSICAL METALLURGY	ASTR 202	EXPLORATN OF THE SOLAR SYSTEM
CEVE/MECH 311	MECHANICS OF SOLIDS	MSNE 433	COMPUTATIONAL MATERIALS MODELING	BIOC 201	INTRODUCTORY BIOLOGY
CEVE 427	MATRIX METHODS IN STRUCTURAL MECH	MSNE 505	MSNE 505 MICRO/NANO-STRUCTURE EVOLUTION	BIOC 301	BIOCHEMISTRY I
CEVE 434	FATE/TRANSPORT OF CONTAMINANTS	MSNE 523	DESIGN OF COMPOSITE MATERIALS	BIOC 313	INTRODUCTORY SYNTHETIC BIOLOGY
CHBE 390	KINETICS & REACTOR DESIGN	MSNE 538	COMPUTATIONAL NANOSCIENCE	BIOC 385	FUNDAMENTALS OF NEUROSCIENCE
CHBE 401	TRANSPORT PHENOMENA I	MSNE 545	THIN FILMS	CAAM 336	DIFF EQUATIONS SCI & ENG
ELEC 241	FUND ELECTRICAL ENGINEERING I	MSNE 555	BIO-MIMETIC STRATEGIES	CAAM 378	INTRO TO O.R. AND OPTIMIZATION
ELEC 243	ELECTRONIC MEASUREMENT SYSTEMS	MSNE 560	COLLOIDAL & INTERFACIAL PHENOM	CAAM 415	THEORETICAL NEUROSCIENCE I: BIOPHYSICAL MODELING
ELEC 261	ELECTRONIC MATERIALS & QUANTUM DEVICES	MSNE 569	CORROSION SCIENCE & ENGINEERING	CAAM/MAT	DYNAMICAL SYSTEMS
ELEC 361	QUANTUM MECHANICS FOR ENGINEER	MSNE 580	MICROSCOPY METHODS	CAAM 453	NUMERICAL ANALYSIS I
ELEC 462	OPTOELECTRONIC DEVICES	MSNE 581	MICRO & NANO HEAT TRANSPORT	CAAM 501	ANALYSIS I
ENGI/CEVE 302	SUSTAINABLE DESIGN	MSNE 593	POLYMER PHYSICS	CAAM 519	COMPUTATIONAL SCIENCE I
ENGI 303	ENGINEERING ECONOMICS	MSNE 594	PROPERTIES OF POLYMERS	CHEM 211	ORGANIC CHEMISTRY I
MECH 211	ENGINEERING MECHANICS	MSNE 650	NANOMATERIALS & NANOMECHANICS	CHEM 212	ORGANIC CHEMISTRY II
MECH 403	COMPUTER AIDED DESIGN	← Plus all approved Engineering Electives		CHEM 311	PHYSICAL CHEMISTRY I
MECH 417	FINITE ELEMENT ANALYSIS			CHEM 312	PHYSICAL CHEMISTRY II
MECH 481	HEAT TRANSFER			CHEM 330	ANALYTICAL CHEMISTRY
<p><b>Note: Several of these courses have prerequisites which will need to be satisfied.</b>                      Several of these courses require permission of Instructor, in which case students should discuss appropriate pre-requisites with the instructor and make sure those are satisfied.</p>				CHEM 360	INORGANIC CHEMISTRY
		ESCI 307	ENERGY AND THE ENVIRONMENT		
		ESCI 321	EARTH SYSTEM EVOLUTION/CYCLES		
		MATH 302	ELEMENTS OF ANALYSIS		
		MATH 354	HONORS LINEAR ALGEBRA		
		MATH 355	LINEAR ALGEBRA		
		PHYS 201	WAVES AND OPTICS		
		PHYS 202	MODERN PHYSICS		
		PHYS 301	INTERMEDIATE MECHANICS		
		PHYS 302	INTERMEDIATE ELECTRODYNAMICS		
		PHYS 355	INTRO TO BIOLOGICAL PHYSICS		
		STAT 280	ELEMENTARY APPLIED STATISTICS		
		STAT 305	INTRO TO STAT FOR BIOSCIENCES		