

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 Selected Electives (no MSNE)		Technical Selected Electives (MSNE or engineering selected electives)		Math & Science Selected Electives (no MSNE or engineering selected electives)	
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	COMPUTATIONAL STR MECH & FEM	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 385	FUNDAMENTALS OF NEUROSCIENCE
CHBE 390	KINETICS & REACTOR DESIGN	MSNE 538	COMPUTATIONAL NANOSCIENCE	CAAM 336	DIFF EQUATIONS SCI & ENG
CHBE 401	TRANSPORT PHENOMENA I	MSNE 545	THIN FILMS	CAAM 378	INTRO TO O.R. AND OPTIMIZATION
ELEC 241	FUND ELECTRICAL ENGINEERING I	MSNE 555	BIO-MIMETIC STRATEGIES	CAAM 415	THEORETICAL NEUROSCIENCE I: BIOPHYSICAL MODELING
ELEC 243	ELECTRONIC MEASUREMENT SYSTEMS	MSNE 560	COLLOIDAL & INTERFACIAL PHENOM	CAAM/MATH 435	DYNAMICAL SYSTEMS
ELEC 261	ELECTRONIC MATERIALS & QUANTUM DEVICES	MSNE 569	CORROSION SCIENCE & ENGINEERING	CAAM 453	NUMERICAL ANALYSIS I
ELEC 361	QUANTUM MECHANICS FOR ENGINEER	MSNE 580	MICROSCOPY METHODS	CAAM 501	ANALYSIS I
ELEC 462	OPTOELECTRONIC DEVICES	MSNE 581	MICRO & NANO HEAT TRANSPORT	CAAM 519	COMPUTATIONAL SCIENCE I
ENGI/CEVE 302	SUSTAINABLE DESIGN	MSNE 593	POLYMER PHYSICS	CHEM 211/213	ORGANIC CHEMISTRY I/ORGANIC CHEM DISCUSSION
ENGI 303	ENGINEERING ECONOMICS	MSNE 594	PROPERTIES OF POLYMERS	CHEM 212 /214	ORGANIC CHEMISTRY II/ORGANIC CHEM DISCUSSION II
MECH 211	ENGINEERING MECHANICS	MSNE 650	NANOMATERIALS & NANOMECHANICS	CHEM 311	PHYSICAL CHEMISTRY I
MECH 403	COMPUTER AIDED DESIGN	← Technical Selected Electives also includes the engineering selected electives		CHEM 312	PHYSICAL CHEMISTRY II
MECH 417	FINITE ELEMENT ANALYSIS			CHEM 330	ANALYTICAL CHEMISTRY
MECH 481	HEAT TRANSFER			CHEM 360	INORGANIC CHEMISTRY
<p>Note: Several of these courses have prerequisites which will need to be satisfied. 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. No AP credits are allowed for selected electives.</p>				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, LIGHT, AND HEAT
				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