NE TECHNICAL ELECTIVES

Nuclear Engineering Technical Electives
NE
439 Intro to Radioactive Waste Management
468 Introduction to Space Nuclear Power
476 Nuclear Chemical Engineering
485 Fusion Technology
499 Selected Topics

Chemical & Biological Engr Technical Electives
CBE
361 Biomolecular Engineering
427 Engineering Design for Global Health
461 Chemical Reactor Engineering
472 Biomaterials Engineering
476 Nuclear Chemical Engineering
477 Electrochemical Engineering
486 Introduction to Statistics and Design of Experiments
499 Selected Topics

Civil Engineering Technical Electives
CE
302 Mechanics of Materials
335 Environmental & Water Resource Engr.
431 Physical-Chemical Water Treatment
433 Environmental Microbiology
436 Biological Wastewater Treatment
438 Sustainable Engineering
440 Design of Hydraulic Systems
441 Hydrogeology
442 Hydrogeologic Engr & Hydrology

Electrical Engineering Technical Electives
ECE
300 Advanced Engineering Mathematics
314 Signals and Systems
321L Electronics I
345 Intro to Control Systems
360 Electromagnetic Fields and Waves
381 Intro to Electric Power Systems
384 Electromechanical Energy Conversion

Mechanical Engineering Technical Electives
ME
306 Dynamics
400 Numerical Methods in Mechanical Engr.
404 Computational Mechanics
455 Engineering Project Management

Biology Technical Electives
BIOL
201L Molecular & Cellular Biology
237L Human Anatomy & Physiology
239L Microbiology

Chemistry Technical Electives
CHEM
253 Quantitative Analysis
301 Organic Chemistry I
302 Organic Chemistry II
311 Physical Chemistry I
312 Physical Chemistry II
315 Intro to Physical Chemistry

Earth & Planetary Sciences Technical Electives
EPS
301 Mineralogy/Earth & Planetary Materials
333 Environmental Geology
352 Global Climate Change
365 Exploring the Solar System
405L Stable Isotope Geochemistry
410 Fundamentals of Geochemistry
415 Geochemistry of Natural Waters

Math Technical Electives
MATH
311 Vector Analysis
312 PDEs for Engineers
314 Linear Algebra with Applications
356 Symbolic Logic
375 Intro to Numerical Computing
441 Probability

STAT
345 Statistical Methodology

Physics Technical Electives
PHYS
301 Thermodynamics and Statistical Physics
302L Optics Lab
303 Analytical Mechanics I
304 Analytical Mechanics II
327 Geophysics
366 Mathematical Methods of Physics (4)
405 Electricity and Magnetism I
406 Electricity and Magnetism II
430 Introduction to Solid State Physics
450 Intro to Subatomic Physics
495 Theory of Special Relativity
Air Force Aerospace Studies
AFAS
300
400
401

Military Science and Leadership Technical Electives
MLSL
301 Adaptive Tactical leadership
303 Military History of The US
401 Developing Adaptive Leaders
402 Leadership in a Complex World

Naval Science
NVSC
300 Sea Power
303 Navigation
304 Naval Operations
331 Evolution of Warfare
401 Leadership and Management
407 Principles of Naval Leadership
431 Amphibious Warfare

The above courses are the ones that are most relevant to nuclear engineering that are readily available to undergraduates. For individual students wishing to specialize in a particular area, there may be additional courses that would be appropriate. However, the student must obtain prior approval from the NE advisor before taking any course not on this list.

For the highly qualified student, certain 500 level NE courses may be available in the senior year. To take these requires the consent of the NE advisor, the instructor of the course, the chairman of the department, and the dean of the college.

The chairperson may allow up to 3 hours of technical electives for students taking required ROTC courses in aerospace or naval science.