

## **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.