Pre-approved Technical Electives and Advanced Chemistry Courses

Those courses marked with * can be used as advanced chemistry elective.

Chemical Engineering

CHE 410* Advanced Materials
CHE 420* Colloid Technology
CHE 430* Introduction to Polymer Science & Technology
CHE 460* Biochemical Engineering
CHE 461 Combustion and Fuel Processing
CHE 497 Independent Study
CHE 498 Special Topics in Chemical Engineering
CHE 499 Undergraduate Thesis
CHE 510 Introduction to Transport Phenomena
CHE 540 Advanced Chemical Eng. Thermodynamics
CHE 561 Advanced Chemical Engineering Kinetics
CHE 580 Chemical Engineering Analysis

Bioengineering

BEN 401 Applications of Bioengineering
BEN 402 Biomaterials and the Cellular Interface
BEN 403 Instrumentation in Bioengineering

Biochemistry, Microbiology and Molecular Biology

BMB 300 General Microbiology
BMB 322* Biochemistry

Chemistry

CHY 423* Introductory Polymer Chemistry
CHY 431* Structure and Mechanism in Biological Chem.
CHY 443* Instrumental Analysis
CHY 450* Introduction to Molecular Modeling
CHY 461* Advanced Inorganic Chemistry I
CHY 475* Physical Chemistry III
CHY 477 Nanoscience
CHY 483* Introductory Wood Chemistry

Civil Engineering

CIE 331 Fundamentals of Environmental Engineering
CIE 430 Water Treatment
CIE 431 Pollutant Fate and Transport
CIE 434 Wastewater Process Design
CIE 439 Solid Waste and Air Pollution
CIE 455 Hydrology
CIE 456 Groundwater Hydrology and Hydraulics
CIE 480 Wind Energy Engineering
CIE 533* Environmental Aquatic Chemistry
CIE 534 Environmental Microbiology
CIE 537 Water Pollution

Computer Science

COS 220 Introduction to C++ Programming

Electrical and Computer Engineering

ECE 323 Electric Power Conversion
ECE 414 Feedback Control Systems
ECE 427 Electric Power Systems
ECE 457 Nanoscience
ECE 464 Microelectronics Science and Engineering
ECE 465 Introduction to Sensors
ECE 467 Solar Cells and Their Application
ECE 498 Selected Topics in Elec. Eng. & Comp. Eng.

Electrical Engineering Technology

EET 321 Electro-Mechanical Energy Conversion
EET 460 Renewable Energy and Electricity Production

Food Science and Nutrition

FSN 330 Introduction to Food Science
FSN 482 Food Chemistry

Interdisciplinary Studies

INT 489 Advanced Topics in Interdisciplinary Studies – Renewable Energy

Mathematics

MAT 400 Topics in Mathematics – Fractals & Wavelets
MAT 451 Dynamical Systems
MAT 452 Complex Analysis
MAT 453 Partial Differential Equations I
MAT 454 Partial Differential Equations II
MAT 487 Numerical Analysis
STS 434 Introduction to Statistics
STS 435 Introduction to Mathematics Statistics
STS 436 Nonparametric Statistics
STS 437 Statistical Methods in Research

Mechanical Engineering

MEE 320 Materials Engineering and Science
MEE 433 Solar Thermal Engineering
MEE 475 Fuel Cell Science and Technology
MEE 480 Wind Energy Engineering
MEE 484 Power Plant Design and Engineering
MEE 486 Refrigeration and Air Cond. Sys. Design
MEE 555 Smart Materials
MEE 556 Introduction to Tissue Engineering

Mechanical Engineering Technology

MET 391 Heating, Ventilating and Air Conditioning
MET 427 Energy Management
MET 440 Lean Six Sigma
MET 475 Fuel Cell Science and Technology

Physics

PHY 447 Molecular Biophysics

Pulp and Paper Technology

PPA 264 Introduction to the Pulp and Paper Industry (Sophomores only)
PPA 466 Paper Technology