CHEMICAL ENGINEERING PROGRAM
ENGINEERING ELECTIVE REQUIREMENT

February 2022

Engineering elective courses must be engineering courses at the 200 or higher level and cannot include seminar courses that require little effort. ChE 290 counts as a general elective. Engineering research credits at the 400 level or higher may be used to satisfy this requirement. Up to 8 credits of ChE 490 or ChE 695 may be taken for a grade. Beyond that, ChE 490 or 695 credits must be taken pass/fail. Below is a **sampling** of popular engineering electives among the many ChE engineering courses that fulfill this requirement.

POPULAR COURSES THAT FULFILL THE ENGINEERING ELECTIVE REQUIREMENT

Also see "Concentrations within the BSEChE Program" handout for more ideas

BME 410	3	Design and applications of biomaterials
BME 419	4	Quantitative Physiology
ChE 407	2	Process safety risk management
ChE 412	3	Polymeric Materials
ChE 431	3	Engineering statistics and problem solving
ChE 490	1-4	Advanced directed study, research, special problems
ChE 496/497/696	2-3	Various special topics courses
ChE 517/ Mfg 517	3	Biopharmaceutical Engineering
ChE 519	3	Pharmaceutical Engineering
ChE 538	3	Statistical and irreversible thermodynamics
ChE 597	2	Regulatory issues for scientists, engineers, and managers
CEE 265	3	Sustainable engr. principles
CEE 365	4	Environmental engr. principles
CEE 373	3	Statistical methods for data analysis and uncertainty modeling
CEE 482	3	Environmental microbiology
CEE 567/ ESENG 567	3	Energy infrastructure systems
CEE 586	3-4	Industrial Ecology
EECS 203	4	Discrete Mathematics
EECS 215	4	Intro to electronic circuits
EECS 280	4	Programming and introductory data structures
EECS 314	4	Electrical circuits, systems, & apps.
EECS 370	4	Intro to computer organization
Engr 255	1-3	Introductory multidisciplinary engr. project
Engr 256	1-2	Peer mentorship in engr. design
Engr 350	3	Int'l lab experience for engrs.
Engr 355	1-4	Intermediate multidisciplinary engr. project
Engr 371/ Math 371	3	Numerical methods for engineers and scientists
Engr 455	2-5	Advanced multidisciplinary engr. project
IOE 201	2	Economic decision making
IOE 202	2	Operations Modeling
IOE 265	3	Probability and statistics for engr.
IOE 422	3	Entrepreneurship
IOE 425	2	Lean manufacturing and Services
MSE 242	4	Physics of materials
MSE 350	4	Structures of materials
MSE 410/ BME 410	3	Design and applications of biomaterials
MSE 412/ ChE 412	3	Polymeric materials
ME 211	4	Introduction to solid mechanics
ME 240	4	Dynamics and vibrations
ME 250	4	Design and manufacturing I (CAD)
ME 433	3	Advanced energy solutions
ME 589	3	Sustainable design of technology systems
NERS 211	4	Intro to nuclear engineering and radiological sciences