

## CHEMICAL ENGINEERING PROGRAM ENGINEERING ELECTIVE REQUIREMENT

September 2020

Engineering elective courses must be engineering courses at the 200 or higher level and cannot include seminar courses that require little effort. 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	EECS 314	4	Electrical circuits, systems, & apps.
			EECS 370	4	Intro to computer organization
BME 419	4	Quantitative Physiology	Engr 255	1-3	Introductory multidisciplinary engr. project
ChE 405 /Engr 405	3	Problem solving and troubleshooting in the workplace	Engr 256	1-2	Peer mentorship in engr. design
			Engr 350	3	Int'l lab experience for engr.
ChE 407	2	Process safety risk management	Engr 355	1-4	Intermediate multidisciplinary engr. project
ChE 412	3	Polymeric Materials	Engr 371/Math 371	3	Numerical methods for engineers and scientists
ChE 431	3	Engineering statistics and problem solving	Engr 455	2-5	Advanced multidisciplinary engr. project
ChE 490	1-4	Advanced directed study, research, special problems			
ChE 496/497/696	2-3	Various special topics courses	IOE 201	2	Economic decision making
ChE 517/Mfg 517	3	Biopharmaceutical Engineering	IOE 202	2	Operations Modeling
			IOE 265	3	Probability and statistics for engr.
ChE 519	3	Pharmaceutical Engineering	IOE 422	3	Entrepreneurship
ChE 538	3	Statistical and irreversible thermodynamics	IOE 425	2	Lean manufacturing and Services
ChE 597	2	Regulatory issues for scientists, engineers, and managers	MSE 242	4	Physics of materials
			MSE 350	4	Structures of materials
CEE 265	3	Sustainable engr. principles	MSE 410/BME 410	3	Design and applications of biomaterials
CEE 365	4	Environmental engr. principles	MSE 412/ChE 412	3	Polymeric materials
CEE 373	3	Statistical methods for data analysis and uncertainty modeling			
CEE 482	3	Environmental microbiology	ME 211	4	Introduction to solid mechanics
CEE 567/ESENG 567	3	Energy infrastructure systems	ME 240	4	Dynamics and vibrations
			ME 250	4	Design and manufacturing I (CAD)
CEE 586	3-4	Industrial Ecology	ME 433	3	Advanced energy solutions
			ME 589	3	Sustainable design of technology systems
EECS 203	4	Discrete Mathematics	NERS 211	4	Intro to nuclear engineering and radiological sciences
EECS 215	4	Intro to electronic circuits			
EECS 280	4	Programming and introductory data structures			

