Chemical Engineering

Elective Focus Areas (EFA)

The inclusion of Elective Focus Areas (EFAs) in the Chemical Engineering curriculum provides you with the opportunity to gain depth of knowledge in your chosen career path in addition to the strong fundamental grounding in the scientific, engineering, and chemical engineering principles provided by the common curriculum.

As described below, you may choose a pre-approved EFA in the following topics:

- Biochemical Engineering
- Business
- Chemical Process Engineering
- Engineering and Physical Sciences
- Entrepreneurship
- Environmental Engineering
- Polymers
- Pre-Medicine

You must select an Elective Focus Area in the third semester (first semester of sophomore standing). You must meet with your faculty advisor to develop and submit an EFA application form and a plan of study worksheet prior to enrolling in the first EFA course. When completing the semester-by-semester plan, it is important to note that some of the elective courses are not offered every year. To aid in planning, the recurring schedule of CBE electives is published on the CBE web page. **All students who have not completed the EFA paperwork by the end of the Sophomore year (first semester of Junior standing) will be automatically placed in the Chemical Process Engineering EFA.** Changes to the EFA track can be made by completing the EFA application process.

Alternatively, you may choose to develop your own EFA consistent with your career goals subject to approval by the Chemical Engineering Curriculum Committee. The Chemical Engineering Program has developed the following guidelines for the EFAs after careful consideration of the required elements for a chemical engineering degree (including the advanced chemistry requirement and the other program requirements specified by the American Institute of Chemical Engineers):

Guidelines for Elective Focus Areas in the Chemical Engineering Program

General Education Component (GEC) courses	15 s.h.
Statistics elective	3 s.h.
Engineering elective	2 or 3 s.h.
Advanced Chemical Science Electives	9 or 10 s.h.
Free electives	11 or 12 s.h.
Total Semester Hours	42 s.h.

Advanced Chemistry Elective Course Sequences

Students completing *Analytical* or *Physical* sequences qualify for a minor in Chemistry. Students completing the *Biochemical* sequence can obtain a minor in chemistry with one additional advanced chemistry course. The minor is obtained by indicating the request on the *Application for Degree* during the second to last semester.

Analytical	004:111	Analytical Chemistry I	3 s.h.
	004:112	Analytical Chemistry II	3 s.h.
	004:143	Analytical Measurements	3 s.h.
Physical	004:131	Physical Chemistry I	3 s.h.
	004:132	Physical Chemistry II	3 s.h.
	004:144	Physical Measurements	3 s.h.
Biochemical	099:120	Biochemistry and Molecular Biology I	3 s.h.
	099:130	Biochemistry and Molecular Biology II	3 s.h.
	099:140	Experimental Biochemistry	4 s.h.

Possible Statistics Electives

022S:008	Statistics for Business	3 s.h.
022S:030	Statistical Methods and Computing	3 s.h.
022S:039	Probability and Statistics for Engineering & Physical Science	3 s.h.
022S:101	Biostatistics	3 s.h.
022S:120	Probability and Statistics	3 s.h.
022S:130	Introduction to Mathematical Statistics I	3 s.h.