2018-2019 SAMPLE PARADIGM for a B.S. in Chemical Engineering
Chemical Engineering Curricula

This sample paradigm shows a normal 4 year progression towards a degree in chemical engineering. Some of the courses should be taken in this order due to prerequisite structures, others may be switched.

FRESHMAN YEAR - Semester I

CH E 101	CH E Project	1 cr.
CHEM 113 & 113L	Principles of Chemistry I	4 crs.
ENG 111	English Composition I	3 crs.
Math 131	Calculus I	3 crs.
	General Education (2 courses)	6 crs.
CBU 101	Orientation	0 cr.
	Total	*17 crs.*

FRESHMAN YEAR - Semester II

CHEM 114 & 114L	Principles of Chemistry II	4 crs.
CH E 120	Introduction to Chemical Engineering	2 crs.
ENG 112	English Composition II	3 crs.
MATH 132	Calculus II	3 crs.
	General Education	3 crs.
	Total	*15 crs.*

SOPHOMORE YEAR - Semester I

CH E 201	CH E Project	1 cr.
CH E 305	Elementary Thermodynamics	3 crs.
CH E 328	Materials Science	3 crs.
CHEM 211 & 211L	Organic Chemistry I	4 crs.
MATH 231	Differential Equations	3 crs.
PHYS 150 & 150L	Physics I	4 crs.
	Total	*18 crs.*

SOPHOMORE YEAR - Semester II

CH E 232	Material & Energy Balances	4 crs.
CHEM 212 & 212L	Organic Chemistry II	4 crs.
MATH 232	Calculus III	3 crs.
PHYS 251 & 251L	Physics II	4 crs.
CE 201	Statics	3 crs.
	Total	*18 crs.*

JUNIOR YEAR - Semester I

CH E 323	Fluid Mechanics		3 crs.
CH E 325	Junior Lab I		1 cr.
CH E 327	Chem. Engr. Thermodynamics		3 crs.
CHEM 351 & 351L	Physical Chemistry I		4 crs.
CH E 314	Engineering Economy		3 crs.
	General Education		3 crs.
		Total	*17 crs.*

JUNIOR YEAR - Semester II

CH E 324	Heat Transfer		3 crs.
CH E 326	Junior Lab II		1 cr.
CHE 330	Mass Transfer & Separations		3 crs.
CHEM Electives	(300+ w/lab)		4 crs.
ECE 221 & 221L	Electric Circuits I		3 crs.
	General Education		3 crs.
		Total	*17 crs.*

SENIOR YEAR - Semester I

CH E 401	CH E Project		2 crs.
CH E 425	Process Design I		3 crs.
CH E 437	Modeling & Control		3 crs.
CH E 441	Senior Lab I		1 cr.
CH E 443	Reactor Design		3 crs.
	Program Option		3 crs.
		Total	*15 crs.*

SENIOR YEAR - Semester II

CH E 402	CH E Project		2 crs.
CH E 426	Process Design II		3 crs.
CH E 442	Senior Lab II		1 cr.
CH E 444	Polymers		3 crs.
	General Education		3 crs.
	Program Option		3 crs.
		Total	*15 crs.*

Total credits required for bachelor's degree completion: 132