

## Chemical Engineering Concentration Outline

( )=Pre-requisites, Co=Co-requisites

### Fall Semester

### Spring Semester

#### Freshman

ENGR120	Intro to Engineering & Design	2	ENGR180	Material Science (CHEM131)	4
ENGR125	Engineering Graphics	3	MATH192	Calculus II (MATH191 or MATH195)	4
MATH191	Calculus I (P5, or MATH167 or M	4	CHEM132	General Chemistry II (C- or better in CHEM131)	4
CHEM131	General Chemistry I (P3, MATH165, MATH166, MATH168, or MATH191, MATH195)	4	RELT100	God & Human Life	3
ENGL115	College Writing I	3	ENGR185	Engineering Statics (MATH191)	3
		16			18

#### Sophomore

ENGR225	Circuit Analysis (MATH191)	3	ENGR285	Engineering Dynamics (ENGR185, PHYS241, and MATH192)	3
PHYS241	Physics for Scientists I (MATH192, Co: PHYS271)	4	MATH286	Differential equations (MATH192)	3
MATH240	Calculus III (MATH192)	4	HLED135	Wellness	3
CHEM231	Organic Chemistry I (CHEM132)	4	COMM104	Communication Skills	3
PHYS271	Lab	1	REL	Religion	3
		16	ENGR275	Electronics I (ENGR225)	3
					18

#### Junior

CPTR151	Computer Science I	3	ENGR310	Linear Systems Analysis (MATH215, MATH286, CPTR151)	3
CHEM330	Quantitative Chemical Analysis (CHEM132)	3	ENGR355	ChemE Lab (CHEM200)	4
CHEM431	Physical Chem I (Choose one: Se	3	<b>ENGR382</b>	<b>Seperation Processes</b> ( ENGR 32X, ENGR 330 or CHEM 430)	3
<b>ENGR323</b>	<b>Chemical Reaction Engineering</b>	3	ENGR360	Fluid Dynamics (ENGR285, ENGR330, MATH286)	3
*	(Chem 132 and MATH 286)				
HIST110	Worldviews, Cultures, and Gi	3	ENGL215	College Writing II (ENGL 115 or ENGL 117)	3
		15			16

#### Senior

ENGR491	Review of Engineering Design	1	Elective	ENGR Elective	3
ENGR450	Engineering Economy (MATH145 or MATH191)	2	ENGR492	Senior Design Project (ENGR385 or ENGR390)	3

ENGR410	Feedback Control Systems (ENGR275 ENGR285 ENGR310)	4	ENGR440	Heat & Mass Transfer (ENGR360, MATH286)	3
* ENGR480*	Process Design (ENGR464)	3	GEN ED	Arts/Humanities	3
REL	Religion (RELB,RELG,RELT)	3	GEN ED	Social Sciences	3
GEN ED	Arts/humanities	<u>3</u>	REL	Religion	<u>3</u>
		16			18

\* Offered every other year\*

***Suggested 4-year course outline per Bulletin 2020-2021***      **Total Credits for Graduation**      **133**