

Chemical Engineering Concentration Model Program (Fall 2021 New Core)

First Year	Fall (16)	<input type="checkbox"/> 5 Chemistry 101 <input type="checkbox"/> 3 Engineering 101 <input type="checkbox"/> 1 Engineering 181 <input type="checkbox"/> 4 Mathematics 171 <input type="checkbox"/> 3 <i>Core Foundations</i>	General Chemistry I (F&S) - Core K&U 1 Intro to Engineering Design (F) Graphical Communication Lab (F) Calculus I (F,S) - Core K&U 2 <i>Community and Commitments</i>	★ ENGR 20X - Students must take two out of three of the following courses: ENGR 202* - Statics and Dynamics ENGR 204 - Intro to Circuit Analysis and Electronics with Lab ENGR 205 - Material Science * Course offered as part of the Summer Program in
	Spring (16)	<input type="checkbox"/> 5 Chemistry 102 <input type="checkbox"/> 4 Mathematics 172 <input type="checkbox"/> 4 Physics 133 <input type="checkbox"/> 3 <i>Core Comp and Skills</i>	General Chemistry II (S) Calculus II (F,S) Introductory Physics, Mechanics and Gravity (S) - Core K&U 3 <i>Foundational Writing</i>	
* Possibly insert Summer Program in Germany				
Second Year	Fall (16)	<input type="checkbox"/> 4 Engineering 209 <input type="checkbox"/> 3 Mathematics 270/271 <input type="checkbox"/> 4 Physics 235 <input type="checkbox"/> 2 Computer Science 104 <input type="checkbox"/> 3 <i>Core Foundations</i> <input type="checkbox"/> 0 Engineering 295 <input type="checkbox"/> 1 Engineering 184	Introduction to Conservation Laws and Fluid Mechanics Multivariable Calculus - Math 270 (F only), Math 271 (F,S) Introductory Physics: Electricity and Magnetism (F) Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH) <i>Foundations of Christianity I</i> Internship Workshop Sustainability Challenges (F) (Required for students seeking Sustainability Designation)	
	Spring (17)	<input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Mathematics 231 <input type="checkbox"/> 3 <i>Core Foundations</i> <input type="checkbox"/> 2 <i>Statistics 241</i> <input type="checkbox"/> 0 Engineering 294	Differential Equations with Linear Algebra (F,S) <i>Foundations of Christianity II</i> <i>Engineering Statistics (S)</i> Engineering Seminar (does not require registration in advance)	
* Possibly insert Summer Program in Germany				
Third Year	Fall (17)	<input type="checkbox"/> 3 Engineering 303 <input type="checkbox"/> 5 Chemistry 241 OR 240 <input type="checkbox"/> 4 Chemistry 351 <input type="checkbox"/> 3 <i>ECON 151/221/232/233</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i>	Chem. Engr. Principles & Thermodynamics (F) Organic Chemistry I or Fund. of Organic Chemistry (F) Physical Chemistry I (F) <i>Core K&U 4</i> <i>Oral Rhetoric for Engineers (F,S) - Core K&U 5</i>	
	Spring (17)	<input type="checkbox"/> 4 Engineering 312 <input type="checkbox"/> 4 Engineering 330 <input type="checkbox"/> 5 Chemistry 242 OR Chemistry 324L plus (Chemistry 320 OR 321) Biochemistry & Lab <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <input type="checkbox"/> 3 <i>Core K&U 6</i>	Chemical Engineering Thermodynamics (S) Fluid Flow & Heat Transfer (S) Organic Chemistry II (S) Biochemistry & Lab <i>Health and Movement</i>	
Internship Experience (ENGR 385 Optional)				
Fourth Year	Fall (17)	<input type="checkbox"/> 4 Engineering 331 <input type="checkbox"/> 4 Engineering 335 <input type="checkbox"/> 2 Engineering 339 <input type="checkbox"/> 1 Engineering 351 <input type="checkbox"/> 4 <i>Elective: Advanced Science</i> <input type="checkbox"/> 2 Business 357	Kinetics/Reactor Design (F) Mass Transfer & Staging Operations (F) Senior Design Project (F) - Core Contemporary Challenges Process Safety (F) Business Aspects for Engineers (F)	<i>Pink listings (core humanities courses) may be taken in any semester. ECON should be taken prior to BUS 357.</i> See University Catalog or Elective Options sheet for courses allowed for the orange and green categories. Classes shaded in light brown are optional.
	Spring (17)	<input type="checkbox"/> 2 Engineering 337 <input type="checkbox"/> 4 Engineering 340 <input type="checkbox"/> 4 Engineering 342 <input type="checkbox"/> 3 <i>Core K&U 7</i> <input type="checkbox"/> 3 <i>Core K&U 8</i> <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <input type="checkbox"/> 0 Engineering 394 <input type="checkbox"/> 1 Engineering 384	Chemical Engineering Laboratory (S) Senior Design Project (S) Process Control (S) <i>Health and Movement</i> Engineering Seminar (does not require registration in advance) Sustainability Analysis (S) (Required for students seeking Sustainability Designation)	

Other Requirements

- 0-8 *Core Comp and Skills: World Languages I (3 years in HS with B or better)*
- 0-3 *Engaged Citizenship Commitment Tag: Diversity and Difference*
- 0-3 *Engaged Citizenship Commitment Tag: Environmental Sustainability*
- 0-3 *Engaged Citizenship Commitment Tag: Global Regions and Cultures*

Revised Mar 2021