

Chemical Engineering Concentration Model Program (Starting Fall 2022)

First Year	Fall (15)	<input type="checkbox"/> 5 Chemistry 101 or 103 General Chemistry I (F,S) <input type="checkbox"/> 3 Engineering 101 Intro to Engineering Design (F) <input type="checkbox"/> 1 Engineering 181 Graphical Communication Lab (F) <input type="checkbox"/> 4 Mathematics 171 Calculus I (F,S) <input type="checkbox"/> 2 <i>Core Foundations</i> <i>CORE 100: Community and Commitments</i>	<p>★ 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</p> <p>* Course offered as part of the Summer Program in Germany</p>
	Spring (16)	<input type="checkbox"/> 5 Chemistry 102 General Chemistry II (S) <input type="checkbox"/> 4 Mathematics 172 Calculus II (F,S) <input type="checkbox"/> 4 Physics 133 + 133L Introductory Physics, Mechanics and Gravity (S) <input type="checkbox"/> 3 <i>Core Foundations</i> <i>Foundations of Christianity I</i>	
* Possibly insert Summer Program in Germany			
Second Year	Fall (16)	<input type="checkbox"/> 4 Engineering 209 Introduction to Conservation Laws and Fluid Mechanics (F,S) <input type="checkbox"/> 4 Mathematics 271 Multivariable Calculus (F,S) <input type="checkbox"/> 4 Physics 235 + 235L Introductory Physics: Electricity and Magnetism (F) <input type="checkbox"/> 2 Computer Sci 104 + 104L Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH) <input type="checkbox"/> 2 <i>Core Foundations</i> <i>Foundations of Christianity II</i> <input type="checkbox"/> 0 Engineering 295 Internship Workshop <input type="checkbox"/> 2 Interdisciplinary 184 Intro to Sustainability Challenges (F,S) (ES tag, required for Sustainability Designation)	
	Spring (18)	<input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Mathematics 231 Differential Equations with Linear Algebra (F,S) <input type="checkbox"/> 4 <i>Core Comp and Skills</i> <i>Foundational Writing</i> <input type="checkbox"/> 2 <i>Statistics 241</i> <i>Engineering Statistics (S)</i> <input type="checkbox"/> 0 Engineering 294 Engineering Seminar (does not require registration in advance)	
* Possibly insert Summer Program in Germany			
Third Year	Fall (18)	<input type="checkbox"/> 4 Engineering 303 + 303L Chemical Engineering Principles & Thermodynamics (F) <input type="checkbox"/> 4 Chemistry 241 +241L Organic Chemistry I (F) OR Chemistry 240 +240L Fundamentals of Organic Chemistry (F) <input type="checkbox"/> 4 Chemistry 351 + 351L Physical Chemistry I (F) <input type="checkbox"/> 2 <i>Economics (2 SH min)</i> <i>ECON 191 (2) or 233 (4, ES tag) - ECON 221, 222, or 232 can be added or substituted</i> <input type="checkbox"/> 2 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i> <i>Oral Rhetoric for Engineers (F,S)</i>	
	Spring (18)	<input type="checkbox"/> 4 Engineering 312 Chemical Engineering Thermodynamics (S) <input type="checkbox"/> 4 Engineering 330 Fluid Flow & Heat Transfer (S) <input type="checkbox"/> 4 Chemistry 242 + 242L Organic Chemistry II (S) OR Chemistry 324L plus (Chemistry 320 OR 321) Biochemistry & Lab <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement</i> <input type="checkbox"/> 1 Engineering 384 Sustainability Analysis (S) (Required for students seeking Sustainability Designation)	
Internship Experience (ENGR 385 Optional)			
Fourth Year	Fall (17)	<input type="checkbox"/> 4 Engineering 331 Kinetics/Reactor Design (F) <input type="checkbox"/> 4 Engineering 335 Mass Transfer & Staging Operations (F) <input type="checkbox"/> 2 Engineering 339 Senior Design Project (F) <input type="checkbox"/> 4 <i>Elective: Advanced Science</i> <input type="checkbox"/> 2 Business 357 Business Aspects for Engineers (F) <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement</i>	<p><i>Pink listings (core humanities courses) may be taken in any semester. ECON must be taken prior to BUS 357.</i></p> <p>See University Catalog or Elective Options sheet for courses allowed for the orange and green categories. Classes shaded in light brown are optional.</p>
	Spring (16)	<input type="checkbox"/> 2 Engineering 337 Chemical Engineering Laboratory (S) <input type="checkbox"/> 4 Engineering 340 Senior Design Project (S) <input type="checkbox"/> 4 Engineering 342 + 342L Process Control (S) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 2 <i>Core Knowledge and Understanding (see Core Options sheet)</i> <input type="checkbox"/> 0 Engineering 394 Engineering Seminar (does not require registration in advance)	

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 Feb 2023