

Chemical Engineering Concentration Model Program - 2023-24 Graduates

First Year	Fall (17)	<input type="checkbox"/> 5 Chemistry 101 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"/> 3 <i>English 101</i> <i>Written Rhetoric</i> <input type="checkbox"/> 1 Interdisciplinary 149 First Year Seminar	<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 (17)	<input type="checkbox"/> 3 <i>Interdisciplinary 150</i> <i>Developing the Christian Mind</i> <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 Introductory Physics, Mechanics and Gravity (S) <input type="checkbox"/> 3 <i>History Core</i> <i>See Core Curriculum section of catalog for options</i> <input type="checkbox"/> 1 <i>Health and Fitness</i> <i>See Core Curriculum section of catalog for options</i>	

* Possibly insert Summer Program in Germany

Second Year	Fall (16)	<input type="checkbox"/> 4 Engineering 209 Introduction to Conservation Laws and Fluid Mechanics <input type="checkbox"/> 3 Mathematics 270/271 Multivariable Calculus - Math 270 (F only), Math 271 (F,S) <input type="checkbox"/> 4 Physics 235 Introductory Physics: Electricity and Magnetism (F) <input type="checkbox"/> 2 Computer Science 104 Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH) <input type="checkbox"/> 3 <i>Religion 121 or 131</i> <i>Biblical Literature/Christian Theology</i> <input type="checkbox"/> 0 Engineering 295 Internship Workshop <input type="checkbox"/> 1 Engineering 184 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 Differential Equations with Linear Algebra (F,S) <input type="checkbox"/> 3 <i>Economics 221 or 151</i> <i>Principles of Economics/Principles of Microeconomics</i> (ECON 232 or 233 may be substituted) <input type="checkbox"/> 2 <i>Statistics 241</i> <i>Engineering Statistics (S)</i> <input type="checkbox"/> 0 Engineering 294 Seminar

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Third Year	Fall (17)	<input type="checkbox"/> 3 Engineering 303 Chem. Engr. Principles & Thermodynamics (F) <input type="checkbox"/> 5 Chemistry 241 OR 240 Organic Chemistry I or Fund. of Organic Chemistry (F) <input type="checkbox"/> 4 Chemistry 351 Physical Chemistry I (F) <input type="checkbox"/> 3 <i>The Arts</i> <i>See Core Curriculum section of catalog for options</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i> <i>Oral Rhetoric for Engineers (F,S)</i>
	Spring (17)	<input type="checkbox"/> 4 Engineering 312 Chemical Engineering Thermodynamics (S) <input type="checkbox"/> 4 Engineering 330 Fluid Flow & Heat Transfer (S) <input type="checkbox"/> 5 Chemistry 242 Organic Chemistry II (S) OR Chemistry 324L plus (Chemistry 320 OR 321) Biochemistry & Lab <input type="checkbox"/> 1 <i>Health and Fitness</i> <i>See Core Curriculum section of catalog for options</i> <input type="checkbox"/> 3 <i>Philosophy 153</i> <i>Fundamental Questions in Philosophy</i>

Fourth Year	Fall (17)	<input type="checkbox"/> 4 Engineering 331 Kinetics/Reactor Design <input type="checkbox"/> 4 Engineering 335 Mass Transfer & Staging Operations (F) <input type="checkbox"/> 2 Engineering 339 Senior Design Project (F) <input type="checkbox"/> 1 Engineering 351 Process Safety (F) <input type="checkbox"/> 4 <i>Elective: Advanced Science</i> <input type="checkbox"/> 2 Business 357 Business Aspects for Engineers (F)	<p><i>Pink listings (core humanities courses) may be taken in any semester. ECON should be taken prior to BUS 357. PHIL 153 and REL 121/131 should be taken prior to ENGR 340.</i></p> <p>See Elective Options sheet for courses allowed for the orange and green categories.</p> <p>Classes shaded in light brown are optional.</p>
	Spring (14)	<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 Process Control (S) <input type="checkbox"/> 3 <i>Literature</i> <i>See Core Curriculum section of catalog for options</i> <input type="checkbox"/> 1 <i>Health and Fitness</i> <i>See Core Curriculum section of catalog for options</i> <input type="checkbox"/> 0 Engineering 394 Engineering Seminar <input type="checkbox"/> 3 Free Elective <input type="checkbox"/> 1 Engineering 384 Sustainability Analysis (S) (Required for students seeking Sustainability Designation)	

Other Requirements

- 0-8 *Foreign Language (2 years of high school or one year of college)*

