Chemical Engineering Concentration Model Program

First Year

Fall (17)	☐ 5	Chemistry 103	General Chemistry (F&S)
	☐ 3	Engineering 101	Intro to Engineering Design (F)
	☐ 1	Engineering 181	Graphical Communication Lab (F)
	☐ 4	Mathematics 171	Calculus I (F,S)
	☐ 3	*English 101*	*Written Rhetoric*
	☐ 1	Interdisciplinary 149	First Year Seminar
INT	☐ 3	*Interdisciplinary 150*	*Developing the Christian Mind*
Spring (16)	☐ 4	Chemistry 104	General Chemistry (S)
	☐ 4	Mathematics 172	Calculus II (F,S)
	☐ 4	Physics 133	Introductory Physics, Mechanics and Gravity (S)
	☐ 3-4	*History Core*	*See Core Curriculum section of catalog for options*
	☐ 1	*Health and Fitness*	*(See catalog)*

★ENGR 20x -
Also, 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/requirement offered on the Summer Program in Germany.

Second Year

* Possibly insert Summer Program in Germany

Fall (16)	☐ 4	Engineering 209	Introduction to Conservation Laws and Fluid Mechanics
	☐ 3	Mathematics 270/271	Multivariable Calculus - Math 270 is (F only) Math 271 is (F,S)
	☐ 4	Physics 235	Introductory Physics: Electricity and Magnetism (F)
	☐ 2	Computer Science 104	Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 credit hours)
	☐ 3	*Religion 121 or 131*	Biblical Literature/Christian Theology
	☐ 0	Engineering 295	Internship Workshop
	1	Engineering 184	Sustainability Challenges (F) (Required for students seeking a Sustainability Designation)
INT	3	Free Elective (consider taking IDIS 103 *here in place of IDIS 102* or an Off-campus interim)	
Spring (17)	☐ 4	Engineering 20x ★	
	☐ 4	Engineering 20x ★	
	☐ 4	Mathematics 231	Differential Equations with Linear Algebra (F,S)
	☐ 3	*Economics 221 or 151*	*Principles of Economics/Principles of Microeconomics (ECON 232 or 233 may be subsituted)*
	☐ 2	Statistics 241	Engineering Statistics (S)
	☐ 0	Engineering 294	Seminar

Third Year

* Possibly insert Summer Program in Germany

Fall (17)	☐ 3	Engineering 303	Chem. Engr. Principles & Thermodynamics (F)
	☐ 5	Chemistry 261 OR 253	Organic Chemistry I (F)
	☐ 4	Chemistry 317	Physical Chemistry I (F)
	☐ 3	*The Arts*	*See Core Curriculum section of catalog for options*
	☐ 2	*Interdisciplinary 102*	*Oral Rhetoric for Engineers (F,S)*
INT	☐ 3	*Interim of your choice. Ideal slot for meeting the Cross-Cultural Engagement requirement **	
Spring(17)	☐ 4	Engineering 312	Chemical Engineering Thermodynamics (S)
	☐ 4	Engineering 330	Fluid Flow & Heat Transfer (S)
	☐ 5	Chemistry 262	Organic Chemistry II (S)
	OR	Chemistry 383 plus (Chemistry 303 OR 323)	Biochemistry & Lab
	☐ 1	*Health and Fitness*	*(See catalog) (or during interim)*
	☐ 3	*Philosophy 153*	*Fundamental Questions in Philosophy*

Fourth Year

Fall (16)	☐ 4	Engineering 331	Kinetics/Reactor Design
	☐ 4	Engineering 335	Mass Transfer & Staging Operations (F)
	☐ 2	Engineering 339	Senior Design Project (F)
	☐ 4	Elective: Advanced Science	
	☐ 2	Business 357	Business Aspects for Engineers (F)
INT	☐ 3	Engineering Special Topics Elective	
Spring (14)	☐ 2	Engineering 337	Chemical Engineering Laboratory (S)
	☐ 4	Engineering 340	Senior Design Project (S)
	☐ 4	Engineering 342	Process Control (S)
	☐ 3	*Literature*	*See Core Curriculum section of catalog for options*
	☐ 1	*Health and Fitness*	*(See catalog) (or during interim)*
	☐ 0	Engineering 394	Engineering Seminar
	3	Free Elective	
	1	Engineering 384	Sustainability Analysis (S) (Required for students seeking Sustainaibility Designation)

Pink listings (core courses) may be swapped as long as all are completed. Note: Engr339 has core courses as prereqs.

See Elective Options sheet for elective courses highlighted in green, red, orange, blue and purple. Classes shaded in light brown are optional.
ChE Students may take either of the following course sequences:
Chem 261, Chem 262
OR Chem 253, Chem 383, (Chem 303 or 323)

Other Requirements

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

Calvin Engineering

Revised October 2019