Electrical & Computer Engineering Concentration Model Program (Starting Fall 2020 or before)

First Year

Fall (17)

	SH	Course	Title
☐	5	Chemistry 101	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

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	SH	Course	Title
☐	3	*Interdisciplinary 150*	*Developing the Christian Mind*

Spring (15)

	SH	Course	Title
☐	3	Engineering 205	Material Science (S)
☐	4	Mathematics 172	Calculus II (F,S)
☐	4	Physics 133	Introductory Physics, Mechanics and Gravity (S)
☐	3	*History Core*	*See Core Curriculum section of catalog for options*
☐	1	*Health and Fitness*	*See Core Curriculum section of catalog for options*

> ★ **ENGR 20x** - These courses are required but can be taken in any order:
> - ENGR 202* - Statics and Dynamics
> - ENGR 204 - Intro to Circuit Analysis and Electronics with Lab
> - ENGR 209 - Intro to Conservation Laws & Fluid Mechanics
>
> * Course offered as part og the Summer Program in Germany.

Second Year

* Possibly insert Summer Program in Germany

Fall (16)

	SH	Course	Title
☐	4	Engineering 20x * ★	
☐	3	Mathematics 270/271	Multivariable Calculus - Math 270 (F only), Math 271 (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 SH)
☐	3	*Religion 121 or 131*	*Biblical Literature/Christian Theology*
☐	0	Engineering 295	Internship Workshop
	1	Engineering 184	Sustainability Challenges (F) (Required for students seeking Sustainability Designation)

Spring (17)

	SH	Course	Title
☐	4	Engineering 20x ★	
☐	4	Engineering 20x ★	
☐	4	Mathematics 231	Differential Equations with Linear Algebra (F,S)
☐	3	*Economics 151 or 221*	*Principles of Economics/or Microeconomics (ECON 232 or 233 may be substituted)*
☐	2	Statistics 241	Engineering Statistics (S)
☐	0	Engineering 294	Seminar

Third Year

* Possibly insert Summer Program in Germany

Fall (17)

	SH	Course	Title
☐	4	Engineering 311	Electronic Devices and Circuits (F)
☐	4	Engineering 307	Electrical Signals and Systems (F)
☐	4	Computer Science 112	Intro to Data Structures with C++ (F,S)
☐	3	*The Arts*	*See Core Curriculum section of catalog for options*
☐	2	*Interdisciplinary 102*	*Oral Rhetoric for Engineers (F,S)*

Spring (16)

	SH	Course	Title
☐	4	Engineering 304 + 304L	Fundamentals of Digital Systems (S)
☐	4	Engineering 332 + 332L	Analog Circuits and Systems Design (S)
☐	4	Elective: Basic Science, Advanced Math, Engineering, or Technical	
☐	1	*Health and Fitness*	*See Core Curriculum section of catalog for options*
☐	3	*Philosophy 153*	*Fundamental Questions in Philosophy*

> *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.*
>
> See Elective Options sheet for courses allowed for green, red, orange, blue and purple categories. Classes shaded in light brown are optional.

Fourth Year

Fall (17)

	SH	Course	Title
☐	4	Engineering 325	Computer Architecture and Digital Systems Design (F)
☐	2	Engineering 339	Senior Design Project (F)
☐	4	*Literature*	*See Core Curriculum section of catalog for options*
☐	4	Engineering Elective	
☐	2	Business 357	Business Aspects for Engineers (F)
	1	Engineering 384	Sustainability Analysis (Required for students seeking Sustainability Designation)

Spring (15)

	SH	Course	Title
☐	4	Engineering 302	Engineering Electromagnetics (S)
☐	4	Engineering 340	Senior Design Project (S)
☐	4	Elective: Basic Science or Advanced Math	
☐	2	Engineering Elective	2 SH minimum
☐	1	*Health and Fitness*	*See Core Curriculum section of catalog for options*
☐	0	Engineering 394	Engineering Seminar

Other Requirements

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

Calvin Engineering

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