

## Mechanical Engineering Concentration Model Program (Fall 2021 New Core)

### First Year

Fall (16)	<input type="checkbox"/>	5 Chemistry 101	General Chemistry (F,S) - Core K&U 1	<b>★ ENGR 20X</b> - 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 of the Summer Program in Germany.
	<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) - Core K&U 2	
	<input type="checkbox"/>	3 <i>Core Foundations</i>	<i>Community and Commitments</i>	
Spring (17)	<input type="checkbox"/>	3 Engineering 205	Material Science (S)	
	<input type="checkbox"/>	4 Mathematics 172	Calculus II (F,S)	
	<input type="checkbox"/>	4 Physics 133	Introductory Physics, Mechanics and Gravity (S) - Core K&U 3	
	<input type="checkbox"/>	3 <i>Core Foundations</i>	<i>Foundations of Christianity I</i>	
	<input type="checkbox"/>	3 <i>Core Comp and Skills</i>	<i>Foundational Writing</i>	

\* Possibly insert Summer Program in Germany

### Second Year

Fall (17)	<input type="checkbox"/>	4 Engineering 20X ★	
	<input type="checkbox"/>	3 Mathematics 270/271	Multivariable Calculus - Math 270 (3 SH Fall only), Math 271 (4 SH 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>Core Foundations</i>	<i>Foundations of Christianity II</i>
	<input type="checkbox"/>	1 <i>Core Comp and Skills</i>	<i>Health and Movement</i>
	<input type="checkbox"/>	0 Engineering 295	Internship Workshop
Spring (17)	<input type="checkbox"/>	1 Engineering 184	Sustainability Challenges (F) (Required for students seeking Sustainability Designation)
	<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>ECON 151/221/232/233</i>	<i>Core K&amp;U 4</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 (17)	<input type="checkbox"/>	4 Engineering 305	Mechanics of Materials (F)
	<input type="checkbox"/>	4 Engineering 319	Intro. To Thermal/Fluid Sciences (F)
	<input type="checkbox"/>	4 Elective: <i>Basic Science</i> or <i>Advanced Math</i>	
	<input type="checkbox"/>	3 <i>Core Knowledge and Understanding (see Core Options sheet)</i>	
	<input type="checkbox"/>	2 <i>Interdisciplinary 102</i>	<i>Oral Rhetoric for Engineers - Core K&amp;U 5</i>
Spring (16)	<input type="checkbox"/>	4 Engineering 322	Machine Design with Finite Element Analysis (S)
	<input type="checkbox"/>	4 Engineering 328	Intermediate Thermal/Fluid Sciences & Design (S)
	<input type="checkbox"/>	3 Engineering 334	Dynamics of Machinery (S)
	<input type="checkbox"/>	1 Engineering 382	Engineering Instrumentation Laboratory (S)
	<input type="checkbox"/>	3 <i>Core Knowledge and Understanding (see Core Options sheet)</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 (16)	<input type="checkbox"/>	4 Engineering 333	Thermal Systems Designs (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 <i>green, red, orange, blue</i> and <i>purple</i> categories. Classes shaded in light brown are optional.
	<input type="checkbox"/>	2 Engineering 339	Senior Project (F) - core Contemp. Challenges	
	<input type="checkbox"/>	4 Engineering Elective	ENGR 314, 315, or 342	
	<input type="checkbox"/>	4 Elective: <i>Basic Science, Advanced Math, Engineering, or Technical</i>		
	<input type="checkbox"/>	2 Business 357	Business Aspects for Engineers (F)	
Spring (14)	<input type="checkbox"/>	4 Engineering 324	Materials & Processes in Manufacturing (S)	
	<input type="checkbox"/>	4 Engineering 340	Senior Design Project (S)	
	<input type="checkbox"/>	3 <i>Engineering Elective</i>	<i>Typically ENGR 350</i>	
	<input type="checkbox"/>	0 Engineering 394	Engineering Seminar (does not require registration in advance)	
	<input type="checkbox"/>	3 <i>Core Knowledge and Understanding (see Core Options sheet)</i>		

### 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 Oct 2021