

# Civil & Environmental Engineering Concentration Model Program (Fall 2021 New Core)

<b>First Year</b>	<b>Fall (16)</b> <input type="checkbox"/> 5 Chemistry 101      General Chemistry (F&S) - Core K&U 1 <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>	<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
	<b>Spring(15)</b> <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		
<b>Second Year</b>	<b>Fall (17)</b> <input type="checkbox"/> 4 Engineering 20X ★ <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>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 <input type="checkbox"/> 1 Engineering 184      Sustainability Challenges (F) (Required for students seeking Sustainability Designation)	
	<b>Spring (17)</b> <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		
<b>Third Year</b>	<b>Fall (17)</b> <input type="checkbox"/> 4 Engineering 305      Mechanics of Materials (F) <input type="checkbox"/> 4 Engineering 320      Hydraulic Engineering (F) <input type="checkbox"/> 4 Engineering 306      Environmental Engineering (F) <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>	Pink listings (core humanities courses) may be taken in any semester. ECON should be taken prior to BUS 357.  See University Catalog or Elective Options sheet for courses allowed for the green, red, orange, blue and purple categories. Classes shaded in light brown are optional.
	<b>Spring (16)</b> <input type="checkbox"/> 4 Engineering 326      Structural Analysis (S) <input type="checkbox"/> 8 Two of      { Engineering 321 - Hydraulic Engineering Design (S)** Engineering 308 - Environmental Engineering Design (S)** Engineering Elective <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)	
<b>Fourth Year</b>	Internship Experience (ENGR 385 Optional)	
	<b>Fall (15)</b> <input type="checkbox"/> 8 Two of      { Engineering Elective Engineering 327 - Structural Design (F)** Elective: <i>Basic Science, Adv. Math, Engr, or Technical</i> <input type="checkbox"/> 2 Engineering 339      Senior Design Project (F) - Core Cont Challenges <input type="checkbox"/> 3 <i>Core Knowledge and Understanding (see Core Options sheet)</i> <input type="checkbox"/> 2 Business 357      Business Aspects for Engineers (F)	<b>**All students must take at least two from ENGR 308, 321, or 327 for a total of:</b> - three engineering electives - one basic sci/advanced math elective - one bas sci/adv math/engr/tech elective
<b>Spring (15)</b> <input type="checkbox"/> 4 Elective: <i>Basic Science</i> or <i>Advanced Math</i> <input type="checkbox"/> 4 Engineering 340      Senior Design Project (S) <input type="checkbox"/> 4 One of      { Elective: <i>Basic Science, Adv. Math, Engr, or Technical</i> Engineering Elective <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)		

## 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*