

## Civil & Environmental Engineering Concentration Model Program (Starting Fall 2022)

First Year	Fall (15)	<input type="checkbox"/> 5 Chemistry 101 or 103      General Chemistry (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"/> 2 <i>Core Foundations</i> <i>CORE 100: Community and Commitments</i>	<p>★ 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 &amp; Fluid Mechanics                      * Course offered as part of the Summer Program in Germany</p>
	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 + 133L      Introductory Physics, Mechanics and Gravity (S) <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 (16)	<input type="checkbox"/> 4 Engineering 20X ★ <input type="checkbox"/> 4 Mathematics 271      Multivariable Calculus (F,S) <input type="checkbox"/> 4 Physics 235 + 235L      Introductory Physics: Electricity and Magnetism (F) <input type="checkbox"/> 2 Computer Sci 104 + 104L      Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 SH) <input type="checkbox"/> 2 <i>Core Foundations</i> <i>Foundations of Christianity II</i> <input type="checkbox"/> 0 Engineering 295      Internship Workshop <input type="checkbox"/> 2 Interdisciplinary 184      Intro to Sustainability Challenges (F,S) (ES tag, required for Sustainability Designation)	
	Spring (18)	<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"/> 2 <i>Core Knowledge and Understanding (see Core Options sheet)</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i> <i>Oral Rhetoric for Engineers</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 306      Environmental Engineering (F) - ES tag <input type="checkbox"/> 4 Engineering 320      Hydraulic Engineering (F) <input type="checkbox"/> 2 <i>Economics (2 SH min)</i> <i>ECON 191 (2) or 233 (4, ES tag) - ECON 221, 222, or 232 can be added or substituted</i> <input type="checkbox"/> 2 <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>	
	Spring (16)	<input type="checkbox"/> 4 Engineering 308      Environmental Engineering Design (S) <input type="checkbox"/> 4 Engineering 321      Hydraulic Engineering Design (S) <input type="checkbox"/> 4 Engineering 326      Structural Analysis (S) <input type="checkbox"/> 4 <i>Engineering Elective</i> <input type="checkbox"/> 1 Engineering 384      Sustainability Analysis (S) (Required for students seeking Sustainability Designation)	
* Possibly insert Summer Program in Germany			
Fourth Year	Fall (17)	Internship Experience (ENGR 385 Optional) <input type="checkbox"/> 4 Engineering 327      Structural Design (F) <input type="checkbox"/> 4 Elective: <i>Basic Science</i> , <i>Adv. Math</i> , <i>Engr</i> , or <i>Technical</i> <input type="checkbox"/> 2 Engineering 339      Senior Design Project (F) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - D&amp;D or GR&amp;C tag</i> <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement</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.</i></p> <p>See University Catalog or Elective Options sheet for courses allowed for the <i>green</i>, <i>red</i>, <i>orange</i>, <i>blue</i> and <i>purple</i> categories. Classes shaded in light brown are optional.</p>
	Spring (14)	<input type="checkbox"/> 4 Elective: <i>Basic Science</i> or <i>Advanced Math</i> (2 SH minimum) <input type="checkbox"/> 4 Engineering 340      Senior Design Project (S) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - D&amp;D or GR&amp;C tag</i> <input type="checkbox"/> 2 <i>Engineering Elective (2 SH minimum)</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*

Revised Feb 2023