

Electrical & Computer Engineering Concentration Model Program (Starting Fall 2021)

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| First Year | Fall (16) | <input type="checkbox"/> 5 Chemistry 101 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"/> 3 <i>Core Foundations</i> <i>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 & 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 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

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| Second Year | Fall (17) | <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: Personal Fitness</i> <input type="checkbox"/> 0 Engineering 295 Internship Workshop <input type="checkbox"/> 1 Engineering 184 Sustainability Challenges (F) (Required for students seeking Sustainability Designation) |
| | Spring (17) | <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 Knowledge and Understanding (see Core Options sheet)</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

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| Third Year | Fall (18) | <input type="checkbox"/> 4 Engineering 311 + 311L Electronic Devices and Circuits (F) <input type="checkbox"/> 4 Engineering 307 Electrical Signals and Systems (F) <input type="checkbox"/> 4 Computer Science 112 Intro to Data Structures with C++ (F,S) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 2 <i>Interdisciplinary 102</i> <i>Oral Rhetoric for Engineers (F,S)</i> <input type="checkbox"/> 1 Engineering 384 Sustainability Analysis (S) (Required for students seeking Sustainability Designation) |
| | Spring (17) | <input type="checkbox"/> 4 Engineering 304 Fundamentals of Digital Systems (S) <input type="checkbox"/> 4 Engineering 332 Analog Circuits and Systems Design (S) <input type="checkbox"/> 4 Elective: <i>Basic Science</i> , <i>Advanced Math</i> , <i>Engineering</i> , or <i>Technical</i> <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> <input type="checkbox"/> 1 <i>Core Comp and Skills</i> <i>Health and Movement: Leisure, Sport, and Skill</i> |

Internship Experience (ENGR 385 Optional)

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| Fourth Year | Fall (16) | <input type="checkbox"/> 4 Engineering 325 + 325L Computer Architecture and Digital Systems Design (F) <input type="checkbox"/> 2 Engineering 339 Senior Design Project (F) - Core Contemp. Challenges <input type="checkbox"/> 4 <i>Engineering Elective</i> <input type="checkbox"/> 2 Business 357 Business Aspects for Engineers (F) <input type="checkbox"/> 4 <i>Core Knowledge and Understanding (see Core Options sheet) - tagged</i> | <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 Elective Options sheet for courses allowed for <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 Engineering 302 Engineering Electromagnetics (S) <input type="checkbox"/> 4 Engineering 340 Senior Design Project (S) <input type="checkbox"/> 4 Elective: <i>Basic Science</i> or <i>Advanced Math</i> (2 SH minimum) <input type="checkbox"/> 2 <i>Engineering Elective</i> <i>Typically ENGR 350 (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 Oct 2023

