### Electrical & Computer Engineering Concentration Model Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 202*</td>
<td>3</td>
<td>Statics and Dynamics</td>
</tr>
<tr>
<td>ENGR 204</td>
<td>4</td>
<td>Intro to Circuit Analysis and Electronics with Lab</td>
</tr>
<tr>
<td>ENGR 209</td>
<td>4</td>
<td>Intro to Conservation Laws &amp; Fluid Mechanics</td>
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</tbody>
</table>

*Course offered on the Summer Program in Germany.

### First Year

#### Fall (17)

- **5** Chemistry 103  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

#### Spring (15)

- **3** Interdisciplinary 150  Developing the Christian Mind
- **3** Engineering 205  Material Science (S)
- **4** Mathematics 172  Calculus II (F,S)
- **4** Physics 133  Introductory Physics, Mechanics and Gravity (S)
- **3-4** History Core  See Core Curriculum section of catalog for options
- **1** Health and Fitness  

### Second Year

#### Fall (16)

- **4** Engineering 20x*  
- **3** Mathematics 270/271  Multivariable Calculus - Math 270 is (F only) Math 271 is (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 credit hours)
- **3** Religion 121 or 131  Biblical Literature/Christian Theology
- **0** Engineering 295  Internship Workshop

#### Spring (17)

- **1** Engineering 184  Sustainability Challenges (F) (Required for students seeking a Sustainability Designation)
- **3** Free Elective (consider taking IDIS 103 here in place of IDIS 102 or an Off-campus interim)

### Third Year

#### Fall (17)

- **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)

- **4** Engineering 304  Fundamentals of Digital Systems (S)
- **4** Engineering 332  Analog Circuits and Systems Design (S)
- **4** Elective: Basic Science or Math or Engineering Elective or Tech. Elective
- **1** Health and Fitness  
- **3** Philosophy 153  Fundamental Questions in Philosophy
- **1** Engineering 384  Sustainability Analysis (S) (Required for students seeking a Sustainability Designation)

### Fourth Year

#### Fall (15)

- **4** Engineering 325  Computer Architecture and Digital Systems Design (F)
- **2** Engineering 339  Senior Design Project (F)
- **3** Literature  See Core Curriculum section of catalog for options
- **4** Engineering Elective (Minimum of 3 credits -- see catalog for restrictions)

#### Spring (16)

- **3** Engineering Special Topics Elective
- **4** Engineering 302  Engineering Electromagnetics (S)
- **4** Engineering 340  Senior Design Project (S)
- **4** Elective: Basic Science or Advanced Math
- **1** Health and Fitness  
- **3** Free Elective
- **0** Engineering 394  Engineering Seminar

### Other Requirements

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

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