# Mechanical Engineering Concentration Model Program

## First Year

<table>
<thead>
<tr>
<th>Fall (16)</th>
<th>Spring (15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Chemistry 103</td>
<td>General Chemistry (F)</td>
</tr>
<tr>
<td>3 Engineering 101</td>
<td>Intro to Engineering Design (F)</td>
</tr>
<tr>
<td>1 Engineering 181</td>
<td>Graphical Communication Lab (F)</td>
</tr>
<tr>
<td>4 Mathematics 171</td>
<td>Calculus I (F,S)</td>
</tr>
<tr>
<td>3 English 101</td>
<td>Written Rhetoric</td>
</tr>
<tr>
<td>1 Interdisciplinary 149</td>
<td>First Year Seminar</td>
</tr>
<tr>
<td><strong>3 Interdisciplinary 150</strong></td>
<td>Developing the Christian Mind</td>
</tr>
<tr>
<td>3 Engineering 205</td>
<td>Material Science (S)</td>
</tr>
<tr>
<td>4 Mathematics 172</td>
<td>Calculus II (F,S)</td>
</tr>
<tr>
<td>4 Physics 133</td>
<td>Introductory Physics, Mechanics and Gravity (S)</td>
</tr>
<tr>
<td>3-4 History Core</td>
<td>(See Catalog)</td>
</tr>
<tr>
<td>1 Health and Fitness</td>
<td>(See Catalog)</td>
</tr>
</tbody>
</table>

* Possibly insert Summer Program in Germany

## Second Year

<table>
<thead>
<tr>
<th>Fall (16)</th>
<th>Spring (17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Engineering 20x ★</td>
<td></td>
</tr>
<tr>
<td>3 Mathematics 270/271</td>
<td>Multivariable Calculus - Math 270 is (F only) Math 271 is (F,S)</td>
</tr>
<tr>
<td>4 Mathematics 235</td>
<td>Introductory Physics: Electricity and Magnetism (F)</td>
</tr>
<tr>
<td>2 Computer Science 104</td>
<td>Applied Computing (F) (CS 106 or 108 may be substituted but both are 4 credit hours)</td>
</tr>
<tr>
<td>3 Religion 121 or 131</td>
<td>Biblical Literature/Christian Theology</td>
</tr>
<tr>
<td>0 Engineering 295</td>
<td>Internship Workshop</td>
</tr>
<tr>
<td>1 Engineering 184</td>
<td>Sustainability Challenges (F) (Only required for students seeking a Sustainability Designation)</td>
</tr>
<tr>
<td><strong>3 Free Elective</strong> (or consider taking IDIS 103 here in place of IDIS 102 later or an Off-campus interim)</td>
<td></td>
</tr>
</tbody>
</table>

## Third Year

<table>
<thead>
<tr>
<th>Fall (17)</th>
<th>Spring (16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Engineering 202*</td>
<td>Statics and Dynamics</td>
</tr>
<tr>
<td>4 Engineering 204</td>
<td>Intro to Circuit Analysis and Electronics with Lab</td>
</tr>
<tr>
<td>4 Mathematics 231</td>
<td>Differential Equations with Linear Algebra (F,S)</td>
</tr>
<tr>
<td>3 Economics 221 or 151</td>
<td>Principles of Economics/Principles of Microeconomics</td>
</tr>
<tr>
<td>2 Statistics 241</td>
<td>Engineering Statistics (S)</td>
</tr>
<tr>
<td>0 Engineering 294</td>
<td>Seminar</td>
</tr>
<tr>
<td><strong>3 Interim of your choice. Ideal slot for meeting the Cross-Cultural Engagement requirement</strong></td>
<td></td>
</tr>
<tr>
<td>4 Engineering 322</td>
<td>Machine Design with Finite Element Analysis (S)</td>
</tr>
<tr>
<td>4 Engineering 328</td>
<td>Intermediate Thermal/Fluid Sciences &amp; Design (S)</td>
</tr>
<tr>
<td>4 Engineering 334</td>
<td>Dynamics of Machinery (S)</td>
</tr>
<tr>
<td>1 Engineering 382</td>
<td>Engineering Instrumentation Laboratory (S)</td>
</tr>
<tr>
<td>1 Health and Fitness</td>
<td>(See catalog) (or during interim)</td>
</tr>
<tr>
<td>3 Philosophy 153</td>
<td>Fundamental Questions in Philosophy</td>
</tr>
<tr>
<td>1 Engineering 384</td>
<td>Sustainability Analysis (S) (Required for students seeking Sustainability Designation)</td>
</tr>
<tr>
<td>4 Engineering 333</td>
<td>Thermal Systems Designs (F)</td>
</tr>
<tr>
<td>4 Engineering 339</td>
<td>Senior Project (F)</td>
</tr>
<tr>
<td>4 Literature</td>
<td>See Core Curriculum section catalog for options</td>
</tr>
<tr>
<td>4 Elective: Basic Science or Advanced Math</td>
<td></td>
</tr>
<tr>
<td>2 Business 357</td>
<td>Business Aspects for Engineers (F)</td>
</tr>
</tbody>
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## Fourth Year

<table>
<thead>
<tr>
<th>Fall (15)</th>
<th>Spring (13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Engineering 324</td>
<td>Materials &amp; Processes in Manufacturing (S)</td>
</tr>
<tr>
<td>4 Engineering 340</td>
<td>Senior Design Project (S)</td>
</tr>
<tr>
<td>4 Engineering 314, 315 or 342</td>
<td>(See Catalog)</td>
</tr>
<tr>
<td>1 Health and Fitness</td>
<td>(See catalog) (or during interim)</td>
</tr>
<tr>
<td>0 Engineering 394</td>
<td>Engineering Seminar</td>
</tr>
<tr>
<td><strong>3 Free Elective</strong></td>
<td></td>
</tr>
</tbody>
</table>

Other Requirements

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

Revised October 2018