## Chemical Engineering Concentration Model Program

### First Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
</tr>
</thead>
</table>
| **Fall** (16) | 4. Chemistry 103: General Chemistry (F)  
2. Engineering 101: Intro to Engineering Design (F)  
2. Engineering 181: Graphical Communication Lab (F)  
3. English 101: Written Rhetoric  
1. Interdisciplinary 149: First Year Prelude  
3. Interdisciplinary 150: Developing the Christian Mind |
| **Spring** (17) | 4. Engineering 106: Engineering Chemistry and Materials Science (S)  
4. Mathematics 172: Calculus II (F,S)  
4. Physics 133: Introductory Physics, Mechanics and Gravity (F,S)  
4. History 151 or 152: History of the West and the World  
1. Health and Fitness: (PER 101-112) |

### Second Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
</tr>
</thead>
</table>
| **Fall** (16) | 4. Engineering 20x: Statics and Dynamics  
3. Mathematics 270/271: Multivariable Calculus (F)  
4. Physics 235: Introductory Physics: Electricity and Magnetism (F)  
2. Computer Science 104: Applied C++ (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) | 3. Free Elective (or consider taking IDIS 103 here in place of IDIS 102 later)  
4. Engineering 20x:  
4. Engineering 20x:  
4. Mathematics 231: Differential Equations with Linear Algebra (F,S)  
3. Economics 221 or 151: Principles of Economics/Principles of Microeconomics  
2. Mathematics 241: Engineering Statistics (S)  
0. Engineering 294: Seminar |

### Third Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
</tr>
</thead>
</table>
| **Fall** (17) | 3. Engineering 303: Chem. Engr. Principles & Thermodynamics (F)  
5. Chemistry 261 OR 253: Organic Chemistry I (F)  
4. Chemistry 317: Physical Chemistry I (F)  
3. The Arts: See Core Curriculum section of catalog for options  
2. IDIS 102: Oral Rhetoric for Engineers (F,S)  
1. Cross-Cultural Engagement *, † |
| **Spring** (17) | 4. Engineering 312: Chemical Engineering Thermodynamics (S)  
5. Chemistry 262: Organic Chemistry II (S)  
OR Chemistry 383 plus (Chemistry 303 OR 323): Biochemistry & Lab  
1. Health and Fitness: (PER 120-159) (or during interim)  
3. Philosophy 153: Fundamental Questions in Philosophy |

### Fourth Year

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Courses</th>
</tr>
</thead>
</table>
| **Fall** (16) | 4. Engineering 331: Kinetics/Reactor Design  
4. Engineering 335: Mass Transfer & Staging Operations (F)  
2. Engineering 339: Senior Design Project (F)  
4. Elective: Advanced Chemistry  
3. Engineering Special Topics Elective |
| **Spring** (17) | 2. Engineering 337: Chemical Engineering Laboratory (S)  
4. Engineering 340: Senior Design Project (S)  
4. Engineering 342: Process Control (S)  
3. Literature: See Core Curriculum section of catalog for options  
3. Free Elective  
1. Health and Fitness: (PER 160-189) (or during interim)  
0. Engineering 394: Engineering Seminar (For students admitted for fall 2009 or later) |

### Other Requirements

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

Revised April 2012 -2.0