## B.S. in Mechanical Engineering and B.A. in German – Plan of Study

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
<th>Summer/ J-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td><strong>ENGR 150 Intro to Engineering</strong></td>
<td><strong>THEO 101 The Christian Theological Tradition</strong></td>
</tr>
<tr>
<td><strong>ENGR 111</strong></td>
<td><strong>MATH 114 Calculus II</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ENGR 171 Engineering Graphics and Design</strong></td>
<td><strong>CISC 130 Introduction to Programming and Problem Solving in the Sciences (LAB)</strong></td>
<td><strong>HIST 1XX</strong></td>
</tr>
<tr>
<td><strong>ENGL 121 Critical Thinking: Literature &amp; Writing</strong></td>
<td><strong>THEO 101 The Christian Theological Tradition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 111</strong></td>
<td><strong>THEO 101 The Christian Theological Tradition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ENGR 220 Statics</strong></td>
<td><strong>ENGR 221 Mechanics of Materials (LAB)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>MATH 200 Multi-Variable Calculus</strong></td>
<td><strong>ENGL 20X Texts in Conversation</strong></td>
<td><strong>Social Science</strong></td>
</tr>
<tr>
<td><strong>PHYS 212 Classical Physics II</strong></td>
<td><strong>CHEM 109 General Chemistry for Engineers (LAB)</strong></td>
<td><strong>PHIL 115 Philosophy of the Human Person (Sum)</strong></td>
</tr>
<tr>
<td><strong>GERM 211</strong></td>
<td><strong>GERM 112</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ENGR 255 Fabrication Lab</strong>**</td>
<td><strong>MATH 210 Introduction to Differential Equations and Systems</strong></td>
<td><strong>ENGR 320 Machine Design &amp; Synthesis (LAB)</strong></td>
</tr>
<tr>
<td><strong>ENGR 371 Manufacturing Processes and Statistical Control</strong></td>
<td><strong>ENGR 322 Dynamics (LAB)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 300</strong></td>
<td><strong>GERM (1) 3xx or GERM 4xx</strong></td>
<td><strong>PHIL 214 Introductory Ethics</strong></td>
</tr>
<tr>
<td><strong>ENGR 381 Thermodynamics (LAB)</strong></td>
<td><strong>ENGR 350 Introduction to Electronics (LAB)</strong></td>
<td><strong>THEO 2XX or 3XX</strong></td>
</tr>
<tr>
<td><strong>GERM 384 Heat Transfer (LAB)</strong></td>
<td><strong>ENGR 358 Control Systems and Automation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 361 Engineering Materials (LAB)</strong></td>
<td><strong>ENGR 383 Fluid Mechanics (LAB)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 481 Engineering Design Clinic I</strong></td>
<td><strong>ENGR 481 Engineering Design Clinic II</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ENGR 384 Heat Transfer (LAB)</strong></td>
<td><strong>ENGR 410 Control Systems and Automation</strong></td>
<td><strong>THEO 4XX</strong></td>
</tr>
<tr>
<td><strong>GERM 384 Heat Transfer (LAB)</strong></td>
<td><strong>ENGR 383 Fluid Mechanics (LAB)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 361 Engineering Materials (LAB)</strong></td>
<td><strong>ENGR 410 Control Systems and Automation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 480 Engineering Design Clinic I</strong></td>
<td><strong>ENGR 481 Engineering Design Clinic II</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 384 Heat Transfer (LAB)</strong></td>
<td><strong>ENGR 383 Fluid Mechanics (LAB)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 361 Engineering Materials (LAB)</strong></td>
<td><strong>ENGR 410 Control Systems and Automation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 480 Engineering Design Clinic I</strong></td>
<td><strong>ENGR 481 Engineering Design Clinic II</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GERM 384 Heat Transfer (LAB)</strong></td>
<td><strong>ENGR 383 Fluid Mechanics (LAB)</strong></td>
<td></td>
</tr>
</tbody>
</table>

* May place out of one or more semesters if proficient at 3rd Level
** May satisfy human diversity requirement
*** Allied with German – may be satisfied by another course; program director approval necessary
**** Lab skills must be retained for ENGR 320. Recommended to be taken in semester immediately preceding ENGR 320 or (with instructor permission) in first half of semester concurrent with ENGR 320. May be taken in earlier semesters if student maintains proficiency with lab shop skills for ENGR 320.

[<> denotes that the two courses can be interchanged](#)
B.S. in Mechanical Engineering and B.A. in German – Plan of Study

Complete Course Listing:

**Engineering Courses:**
ENGR 150 – Introduction to Engineering (1 credit)
ENGR 155 – Fabrication Lab (0 credits)
ENGR 171 – Engineering Graphics and Design (4 credits)
ENGR 220 – Statics (4 credits)
ENGR 221 – Mechanics of Materials (4 credits)
ENGR 220 – Statics (4 credits)
ENGR 320 – Machine Design and Synthesis (4 credits)
ENGR 322 – Dynamics (4 credits)
ENGR 350 – Introduction to Electronics (4 credits)
ENGR 361 – Engineering Materials (4 credits)
ENGR 371 – Manufacturing Processes and Statistical Control (4 credits)
ENGR 381 – Thermodynamics (4 credits)
ENGR 384 – Heat Transfer (4 credits)
ENGR 383 – Fluid Mechanics (4 credits)
ENGR 410 – Control Systems and Automation (4 credits)
ENGR 480 – Engineering Design Clinic I (4 credits)
ENGR 481 – Engineering Design Clinic II (4 credits)
4 Credits of Engineering Electives

61 Engineering Credits

**Allied Requirements:**
MATH 113 – Calculus I (4 credits)
MATH 114 – Calculus II (4 credits)
MATH 200 – Multi-Variable Calculus (4 credits)
MATH 210 – Introduction to Differential Equations & Systems (4 credits)
PHYS 211 – Classical Physics I (4 credits)
PHYS 212 – Classical Physics II (4 credits)
CHEM 109 – General Chemistry for Engineers (4 credits)
CISC 130 – Introduction to Programming and Problem Solving in the Sciences (4 credits)
32 allied requirement credits

**German Courses:**
GERM 111 – Beginning German 1 (WTL) (4 credits)
GERM 112 – Beginning German 2 (WTL) (4 credits)
GERM 211 – Intermediate German 1 (WTL) (4 credits)
GERM 212 – Intermediate German 2 (WTL) (4 credits)
GERM 300 – Introduction to German Studies (WID) (4 credits)
GERM 311 – Conversation and Composition (may be WI) (4 credits)
GERM 315 – Influential Ideas in Non-Fictional German (4 credits)
GERM 320 – Contemporary Germany and Current Events (4 credits)
GERM 341 – Highlights of German Literature I (may be WI) (4 credits)
GERM 342 – Highlights of German Literature II (may be WI) (4 credits)
GERM 345 – Austria: The Golden Age (4 credits)
GERM 350 – Genre Studies in German Literature (may be taken multiple times) (4 credits)
GERM 401 – German Poetry (4 credits)
GERM 410 – German Opera (4 credits)
GERM 440 – Introduction to Business German and German Business (4 credits)
GERM 475, 476 – Experiential Learning (2 credits)
GERM 477, 478 – Experiential Learning (4 credits)
GERM 483, 484 – Seminar (2 credits)
GERM 485, 486 – Seminar (4 credits)
GERM 487, 488 – Topics (2 credits)
GERM 489, 490 – Topics (4 credits)
GERM 269, 389, 491 – Research (2 or 4 credits)
GERM 243, 393, 495 – Individual Study (2 or 4 credits)
32 GERMAN credits

**Allied Requirements:**
HIST – European History
4 allied requirements credits

**Core Curriculum**
Two courses in English (8 credits)
Three courses in Theology** (12 credits)
Two courses in Philosophy (8 credits)
One Fine Arts course** (4 credits)
Social Science Course (4 credits)
**One of these courses must satisfy the human diversity requirement
36 core curriculum credits

Total Credit Count: 165 credits