### Sample 5-year BS/MSE Mechanical Engineering Program

Note that these courses are one sample curriculum out of several possibilities. Actual coursework is determined by the student in consultation with the advisor. (updated 7/7/2014)

#### WHITING SCHOOL OF ENGINEERING – POLICY ON BACHELOR’S / MASTER’S DOUBLE COUNTING OF COURSES

(see [http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/](http://engineering.jhu.edu/graduate-studies/academic-policies-procedures-graduate/) for information)

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# FRESHMAN YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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<tbody>
<tr>
<td>110.108 Calculus I</td>
<td>110.109 Calculus II</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>530.101 Freshman Exp in ME I</td>
<td>530.102 Freshman Exp in ME II</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>530.103 Intro to Mechanics I</td>
<td>530.104 Intro to Mechanics II</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>530.105 MechE Freshman Lab I</td>
<td>530.106 MechE Freshman Lab II</td>
</tr>
<tr>
<td>1</td>
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</tr>
<tr>
<td>510.101 Intro to Materials Chemistry</td>
<td>H/S (2) Elective</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>H/S (1) Writing Elective</td>
<td>H/S (3) Elective</td>
</tr>
<tr>
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Total credits: 15

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# SOPHOMORE YEAR

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<tbody>
<tr>
<td>4</td>
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</tr>
<tr>
<td>530.201 Statics and Mechanics</td>
<td>560.202 Dynamics</td>
</tr>
<tr>
<td>3+1</td>
<td>3+1</td>
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<tr>
<td>530.231 Thermodynamics</td>
<td>530.215 Mechanics Based Design</td>
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<tr>
<td>3+1</td>
<td>3+1</td>
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<tr>
<td>171.102 General Physics II</td>
<td>530.241 Electronics and Instrumentation</td>
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<tr>
<td>4</td>
<td>3+1</td>
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<tr>
<td>173.112 General Physics II Lab</td>
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Total credits: 17

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# JUNIOR YEAR

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<th>FALL</th>
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<tbody>
<tr>
<td>530.327 Intro. Fluid Mechanics</td>
<td>530.334 Heat Transfer</td>
</tr>
<tr>
<td>3+1</td>
<td>3+1</td>
</tr>
<tr>
<td>530.352 Materials Selection</td>
<td>530.343 D. &amp; A. Dynamic Systems</td>
</tr>
<tr>
<td>3+1</td>
<td>3+1</td>
</tr>
<tr>
<td>H/S (4) Elective</td>
<td>M. E. Elective (1) ⤷</td>
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<tr>
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<tr>
<td>530.414 CAD</td>
<td>Technical Elective (1) ⤷</td>
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<tr>
<td>3</td>
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</tr>
<tr>
<td>xxx.xxx or .4xx H/S (5) Elective</td>
<td>Statistics elective</td>
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<tr>
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Total credits: 17

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# SENIOR YEAR

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<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>530.403 Eng. Design Project I</td>
<td>530.404 Eng. Design Project II</td>
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<tr>
<td>4</td>
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<tr>
<td>530.454 Manufacturing Engineering</td>
<td>M. E. Elective (2) ⤷</td>
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<tr>
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<tr>
<td>Eng. Business and Mgmt. options**</td>
<td>Technical Elective (2) ⤷</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>M. E. Elective (3) ⤷</td>
<td>Technical Elective (3) ⤷</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>xxx.xxx or .4xx H/S (6 or 7 ⤷) Elective</td>
<td>Statistics elective</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credits: 17

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### 5th YEAR – MASTER’S DEGREE

**FALL**

- Either four Graduate Courses or combination of grad courses and .300/.400-level courses not counted toward the MSE degree. Up to a total of 4 courses can be upper-level undergrad level, including the 2 double-counted courses below, if counted.

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**SPRING**

- Graduate Course
- Graduate Course
- Graduate Course
- Graduate Course

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* - Students are encouraged to take 110.302 Differential Equations (4) and 110.201 Linear Algebra (4) instead of the combined 550.291 L.A./D.E. course (4) if they can work the additional four credits into their schedule. An advantage of taking the courses separately is that 110.302 Differential Equations can be counted as a Technical Elective and could help count toward the Mathematics minor.

** - Students must take either 660.461 Engineering Business and Management or 660.105 Introduction to Business and Management and 660.341 Business Process and Quality Management.

▲ - 530.343 Design and Analysis of Dynamic Systems requires concurrent enrollment in or prior completion of 560.202 Dynamics with a minimum C- grade.

✉ - Any two of these courses can be double-counted toward the MSE degree only if they are .400-level or higher and are approved by the master’s faculty advisor.