Plan of Study for the Mechanical Engineering SB Concentration
Effective for Students Declaring the Concentration after July 1, 2015

DATE: _______________ NAME: __________________________
CLASS: _______________ EMAIL: __________________________

This Plan of Study Form is for a (Circle One): DECLARATION REVISION

The S.B. Program in Mechanical Engineering must contain at least 20 half courses: 4 half-courses in mathematics, 4 half-courses in basic sciences, and 12 half-courses in engineering topics. Plans of Study will not be considered final until this form has been signed. The signature of this form ensures that the proposed plan meets the ABET distribution requirements.

<table>
<thead>
<tr>
<th>REQUIRED COURSES</th>
<th>Math</th>
<th>Science</th>
<th>Engr. Topics</th>
<th>Semester (Fall/Spring Year)</th>
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<tbody>
<tr>
<td><strong>Mathematics Required</strong></td>
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<tr>
<td>Math 1a – Intro to Calculus 1</td>
<td>1.00</td>
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<td>Math 1b – Intro to Calculus 2</td>
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<tr>
<td>AM 21a – Mathematical Methods in the Sciences 1</td>
<td>1.00</td>
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<td>(or Math 21a or 23a)</td>
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<tr>
<td>AM 21b – Mathematical Methods in the Sciences 2</td>
<td>1.00</td>
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<td>(or Math 21b or 23b)</td>
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<tr>
<td><strong>Probability &amp; Statistics</strong> (if you started in Math 1b or later)</td>
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<tr>
<td>CIRCLE ONE</td>
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<tr>
<td>AM 101 - Statistical Inference for Scientists &amp; Engineers</td>
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<td>ES 150 – Intro to Probability with Engineering Applications</td>
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<td>Statistics 110 - Introduction to Probability</td>
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<tr>
<td><strong>Applied Mathematics</strong> (if you started in AM/Math 21a or later)</td>
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<td>See list on page 3</td>
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<td><strong>Physics</strong></td>
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<td>AP 50a – Physics as a Foundation for Sci &amp; Eng 1</td>
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<td>(or PS 12a, Physics 15a or 16)</td>
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<tr>
<td>AP 50b - Physics as a Foundation for Sci &amp; Eng 2</td>
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<td>(or PS 12b or Physics 15b)</td>
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<td><strong>Chemistry/Life Science</strong> See list on page 3</td>
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<td>2.</td>
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<td><strong>Computer Science</strong> CIRCLE ONE</td>
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<tr>
<td>CS 50 – Intro to Computer Science 1</td>
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<td>CS 51 – Intro to Computer Science 2</td>
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<tr>
<td>CS 61 – System Programming &amp; Machine Organization</td>
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Mechanical Engineering SB
Rev. Jun 2015
1/3
### REQUIRED COURSES
(Circle course and % for course you are taking or plan to take in each category.)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Math</th>
<th>Science</th>
<th>Engr. Topics</th>
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#### Sophomore Forum

#### Electronics CIRCLE ONE
- ES 52 – The Joy of Electronics – Part 1
- or ES 153 – Laboratory Electronics
- ES 154 - Electronic Devices and Circuits
- CS 141 – Computing Hardware

#### Mechanical Engineering Core
- ES 51 - Computer Aided Machine Design
- ES 120 - Intro to the Mechanics of Solids
- ES 123 – Intro to Fluid Mechanics & Transport Processes
- ES 125 – Mechanical Systems
- ES 181 – Engineering Thermodynamics
- ES 183 – Intro to Heat Transfer
- ES 190 – Intro to Materials Science & Engineering

#### Engineering Elective See list on page 3
- 1.

#### Engineering Design
- ES 96 – Engineering Problem Solving & Design Project*
- or ES 227 – Medical Device Design*
- ES 100hf – Engineering Design Projects

#### TOTALS
- /4
- /4
- /12

*ES 96 or ES 227 must be taken in the junior year, prior to taking ES 100hf

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Student signature

________________________________________ Date: ______________

Assistant/Director of Undergraduate Studies Signature

________________________________________ Date: ______________

This plan does/does not meet the ABET distribution requirements

________________________________________ Date: ______________

Assistant Dean for Education/Student Affairs Office
Applied Mathematics
- AM 104 – Series Expansions & Complex Analysis
- AM 105 – Ordinary & Partial Differential Equations
- AM 106 – Applied Algebra
- AM 107 – Graph Theory & Combinatorics
- AM 120 - Applicable Linear Algebra
- AM 147 – Nonlinear Dynamical Systems

Chemistry
- LS 1a - Intro to the Life Sciences: Chemistry, Molecular Biology, & Cell Biology
  or LPS A – Foundational Chemistry & Biology
- PS 1 - Chemical Bonding, Energy, & Reactivity: An Intro to the Physical Sciences
  or PS 11 - Foundations & Frontiers of Modern Chem: A Molecular & Global Perspective
- PS 10 - Chemistry: A Microscopic Perspective on Molecules, Materials, & Life

Engineering Electives (Incomplete List)
For courses that are co-listed in another department, students must enroll in the Engineering Sciences offering
Only if taken during Freshman or Sophomore years
- ES 6 – Environmental Science & Technology
- ES 50 – Introduction to Electrical Engineering
- ES 53 – Quantitative Physiology as a Basis for Bioengineering
- AP 195 – Intro to Solid State Physics
- BE 110 - Physiological Systems Analysis
- CS 51 – Intro to Computer Science 2
- CS 61 – System Programming & Machine Organization
- CS 141 – Computing Hardware
- ES 52 – The Joy of Electronics – Part 1
- ES 111 – Intro to Scientific Computing
- ES 115 – Mathematical Modeling
- ES 121 – Intro to Optimization: Models & Methods
- ES 128 - Computational Solid and Structural Mechanics
- ES 135 – Physics & Chemistry: In the Context of Energy & Climate at the Global & Molecular Level
- ES 151 – Applied Electromagnetism
- ES 153 – Laboratory Electronics
- ES 156 - Signals and Systems
- ES 159 – Introduction to Robotics
- ES 162 - Hydrology and Environmental Geomechanics
- ES 165 - Water Engineering
- ES 173 - Introduction to Electronic and Photonic Devices
- ES 175 – Photovoltaic Devices
- ES 176 - Introduction to MicroElectroMechanical System
- ES 177 – Microfabrication Laboratory
- ES 231 – Energy Technology