

**College of Engineering**  
**Bachelor of Science in Engineering Science and Mechanics**  
**Engineering Physics Option**  
**For students graduating in Calendar Year 2011**

Name: \_\_\_\_\_

Advisor: \_\_\_\_\_

**Freshman Year**

Fall Semester		Spring Semester	
CHEM 1035 General Chemistry or CHEM 1074 General Chemistry for Engineers	3	ENGE 1114 Exploration of Engineering Design	2
CHEM 1045 General Chemistry Lab. or CHEM 1084 General Chemistry Lab. for Engineers	1	ENGL 1106 Freshman English	3
ENGE 1024 Engineering Exploration	2	MATH 1206 Calculus	3
ENGL 1105 Freshmen English	3	MATH 1224 Vector Geometry	2
MATH 1205 Calculus	3	PHYS 2305 Foundations of Physics I and Lab	4
MATH 1114 Linear Algebra	2	Area 2/3 & 7 Liberal Education*	3
Area 2/3 Liberal Education*	3		
<b>TOTAL HOURS</b>	<b>17</b>	<b>TOTAL HOURS</b>	<b>17</b>

**Sophomore Year**

Fall Semester		Spring Semester	
ESM 2014 Prof. Development Seminar	1	ESM 2074 Computational Methods	3
ESM 2104 Statics	3	ESM 2204 Mechanics of Deformable Bodies	3
ISE 2014 Engineering Economy	2	ESM 2304 Dynamics	3
MATH 2224 Multivariable Calculus	3	MATH 2214 Intro. Diff. Equations	3
PHYS 2306 Foundations of Physics I and Lab	4	MSE 2034 Elements Materials Engr.	3
Area 2/3 Liberal Education*	3	Area 2/3 Liberal Education*	3
Area 6 Liberal Education	1		
<b>TOTAL HOURS</b>	<b>17</b>	<b>TOTAL HOURS</b>	<b>18</b>

**Junior Year**

Fall Semester		Spring Semester	
ESM 3015 Fluid Mechanics I	3	ESM 3016 Fluid Mechanics II	3
ESM 3054 Mechanical Behavior of Materials	2	ESM 3034 Fluid Mechanics Laboratory £	1
ESM 3064 Mech. Behavior of Matls. Lab £	1	ESM 3124 Intermediate Dynamics	3
ECE 3054 Electrical Theory	3	ESM 3154 Solid Mechanics or ESM 4234 Mech. Biol. Matls. & Struct.**	3
MATH 4574 Vector & Complex Analysis	3	PHYS 3324 Modern Physics	4
ME 3134 Thermodynamics	3	ESM 3114 Problem Definition and Problem Scoping in Design	1
MATH 4564 Operational Methods	3		
<b>TOTAL HOURS</b>	<b>18</b>	<b>TOTAL HOURS</b>	<b>15</b>

**Senior Year**

Fall Semester		Spring Semester	
ESM 4015 Creative Design & Proj. I	3	ESM 4016 Creative Design & Proj. II £	3
ESM 4074 Vibration and Control	3	ESM 4734 Intro Finite Elements	3
ESM 4014 Applied Fluid Mechanics or ESM 4304 Hemodynamics**	3	PHYS 3704 Thermal Physics	3
STAT 4604 Statistical Methods for Engineers	3	ESM 4004 Inst. & Exp. Mechanics	3
PHYS 3405 Intermediate Elec. & Mag.	3		
PHYS 4455 Introduction to Quantum Mech.	3		
<b>TOTAL HOURS</b>	<b>18</b>	<b>TOTAL HOURS</b>	<b>12</b>

\* A total of 6 hours of Area 2 and 6 hours of Area 3 courses must be completed. Only selected courses can simultaneously satisfy both Area 2/3 & 7 requirements. Use extra care when selecting this course.

\*\* This is an alternate course not typically offered during the indicated semester. Use extra care when planning.

£ Fulfills Visual Expression, Writing, and Speaking requirement

*Foreign Language Requirement:* Students who did not complete 2 units of foreign language in high school must earn 6 credit hours of a college level foreign language, such credits to be in addition to those normally required for graduation.

*Eligibility for continued enrollment:* Upon having completed 72 hours (including transfer, advanced placement, advanced standing, and credit by examination), "satisfactory progress" toward a B.S. degree will include the following minimum criteria: (1) all courses in the freshman year, including a minimum grade of C- or better in ENGE 1024 and ENGE 1114; (2) credit for MATH 2214, 2224; ESM 2014, 2104, 2204, 2304, 2074; and PHYS 2305, 2306; and (3) a 2.5 GPA.

*Statement on Hidden Prerequisites:* There are no hidden prerequisites for any course on this checksheet.

*An in major (all ESM classes) and overall GPA of 2.0 is required for graduation.*

**A TOTAL OF 132 SEMESTER HOURS ARE REQUIRED FOR GRADUATION.**