

**B.S. DEGREE in PHYSICS+**  
**with Mechanical Engineering Emphasis - Option B**  
**Iowa State University**

Semester 1	Freshman Year	Semester 2	
Critical Thinking and Comm. - Engl 150	3	<b>Intro to Class. Physics II – Phys 242</b>	5
Introductory Seminar - Phys 199	R	<b>Calculus III - Math 265</b>	4
<b>Intro to Classical Physics I – Phys 241</b>	5	Social Science Choice	3
<b>Calculus II – Math 166</b>	4	<b>General Chemistry I Chem 177+177L<sup>2</sup></b>	<u>5</u>
Humanities Choice	3		17
Library Instruction – Lib 160	<u>1</u>		
	16		

Semester 1	Sophomore Year	Semester 2	
WOVE Composition - Engl 250	3	<b>Mech. Eng. Problem Solving with Computer Applications - ME160</b>	<b>3</b>
<b>Intro to Modern Physics I - Phys 321</b>	3	<b>Classical Mechanics - Phys 361</b>	3
<b>Intro Lab in Mod Phys I - Phys 321L</b>	1	<b>Introduction to Partial Differential Equations - Math 385</b>	3
<b>Elementary Differential Equations and Laplace Transforms – Math 267</b>	4	<b>Engineering Statics - E M 274</b>	<b>3</b>
Foreign Language (or Elective)	4(3)	Social Science Choice	3
Humanities choice	<u>3</u>	Foreign Language (or Elective)	<u>4(3)</u>
	18(17)		19(18)

Semester 1	Junior Year	Semester 2	
<b>Engineering Graphics and Introductory Design - ME 170</b>	3	<b>Engineering Thermodynamics I - M E 231</b>	3
<b>Electricity and Magnet. I - Phys 364</b>	3	<b>Engineering Dynamics - E M 345</b>	3
Engineering Statistics - Stat 305	3	<b>Mechanics of Materials - E M 324</b>	3
<b>Matrix/Lin. Algebra – Math 207/317</b>	3(4)	Seminar – Phys 389	R
English Proficiency Requirement - Engl 302, 305, 309 or 314	<u>3</u>	Social Science Choice	3
	15(16)	Humanities choice	<u>3</u>
			15

Semester 1	Senior Year	Semester 2	
<b>Quantum Mechanics – Phys 480</b>	3	Intermediate Laboratory – Phys 311 <sup>1</sup>	2
<b>Engineering Thermodynamics II - M E 332</b>	3	<b>Heat Transfer - M E 436</b>	4
<b>Fluid Flow - M E 335</b>	4	Humanities Choice	3
Electives	<u>6</u>	Electives	<u>6</u>
	16		15

<sup>1</sup> Students must earn a minimum of two laboratory credits from Phys 310, 311, 311T, 450L, 470L, Astro 344L or 450L.

<sup>2</sup> Chem 177 + Chem 177L can be used as Natural Science Electives

Students in all ISU majors must complete a three-credit course in U.S. diversity and a three-credit course in international perspectives. Check (<http://www.iastate.edu/~registrar/courses/div-list.html>) for a list of approved courses. Discuss with your adviser how the two courses that you select can be applied to your graduation plan.

LAS majors require a minimum of 120 credits, including a minimum of 45 credits at the 300/400 level. You must also complete the LAS foreign language requirement.