

**B.S. DEGREE in PHYSICS+**  
**with Electrical Engineering Emphasis - Option A**  
**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
<b>Introductory Seminar - Phys 199</b>	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	Natural Science, e.g. General Chemistry I - Chem 177+177L	5
Arts&Humanities + IP perspective*	3		17
Library Instruction – Lib 160	1		
	<u>16</u>		

Semester 1	Sophomore Year	Semester 2	
WOVE Composition - Engl 250	3	<b>Electric Circuits - E E 201</b>	4
<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	Social Science Choice	3
Foreign Language (or Elective)	4(3)	Foreign Language (or Elective)	4(3)
Arts&Humanities choice	3		17(16)
	<u>18(17)</u>		

Semester 1	Junior Year	Semester 2	
<b>Signals and Systems I - E E 224</b>	4	<b>Thermal Physics – Phys 304</b>	3
<b>Electricity and Magnet. I - Phys 364</b>	3	<b>Digital Logic - CPR E 281</b>	4
<b>Electronic Circuits and Systems - E E 230</b>	4	<b>Electricity and Magnet. II - Phys 365</b>	3
<b>Matrix/Lin. Algebra – Math 207/317</b>	3(4)	Social Science Choice	3
English Proficiency Requirement - Engl 302, 305, 309 or 314	3	Humanities choice	3
	<u>17(18)</u>		16

Semester 1	Senior Year	Semester 2	
<b>E E 330: Integrated Electronics</b>	4	Automatic Control Systems - E E 475**	2
Signals and Systems II - E E 324 **	4	<b>Digital VLSI Design - E E 465</b>	4
<b>Quantum Mechanics – Phys 480</b>	3	Humanities Choice	3
Natural Science Choice	3	Electives	6
Elective	3		15
	<u>17</u>		

\* Students should choose a course that satisfy both Arts& Humanities and International Prospective requirements

\*\* Elective courses that are complementary to this program

Students in all ISU majors must complete a three-credit course in U.S. diversity, a three-credit course in international perspectives, 9 credits in Social Science , 8 credits in Natural Science and 12 credits in Arts and Humanities courses.

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.