

B.S. DEGREE in PHYSICS+
Specialized Curriculum in Physics
Iowa State University - 2016

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

| Semester 1 | Sophomore Year | Semester 2 | |
|--|----------------|--|-----------|
| WOVE Composition - Engl 250 | 3 | Intro to Modern Physics II – Phys 322 | 3 |
| Intro to Modern Physics I – Phys 321 | 3 | Intro Lab in Mod Phys II – Phys 322L | 1 |
| Intro Lab in Mod Phys I - Phys 321L | 1 | Classical Mechanics - Phys 361 | 3 |
| Elementary Differential Equations and Laplace Transforms – Math 267 | 4 | Introduction to Partial Differential Equations - Math 385 | 3 |
| Humanities choice | 3 | Social Science Choice | 3 |
| | | Humanities Choice | 3 |
| | <u>14</u> | | <u>16</u> |

| Semester 1 | Junior Year | Semester 2 | |
|---|-------------|--|---------------|
| Intermediate Mechanics - Phys 362 | 3 | Thermal Physics – Phys 304 | 3 |
| Electricity and Magnet. I - Phys 364 | 3 | Electricity and Magnet. II – Phys 365 | 3 |
| English Proficiency Requirement - Engl 302, 305, 309 or 314 | 3 | Seminar – Phys 389 | R |
| Matrix/Lin. Algebra – Math 207/317 | 3(4) | Social Science Choice | 3 |
| Foreign Language (or Elective) | <u>4(3)</u> | Elective | 3 |
| | 16 | Foreign Language (or Elective) | <u>4(3)</u> |
| | | | <u>16(15)</u> |

| Semester 1 | Senior Year | Semester 2 | |
|-------------------------------------|-------------|---|-----------|
| Electronics - Phys 310 | 4 | Intermediate Laboratory – Phys 311 ¹ | 2 |
| Quantum Mechanics – Phys 480 | 3 | Modern Optics – Phys 496 ² | 3 |
| Elective | 3 | Applied Quantum Mechanics – Phys 481 ² | 3 |
| Astro 344L ¹ | <u>3</u> | Humanities Choice | 3 |
| | 13 | Elective | 3 |
| | | | <u>14</u> |

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

² Recommended but not required. Students must earn 3 credits from Phys 421, 432, 461, 481, 496, 511, 526, 528, 531, 534, 541 or Astro 342, 346, 405

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.