

Physics, B.S. - Astrophysics Two-Year Plan

First Year Fall Semester (15 Units)

- PHYS 314 - Introduction to Physics III Units: 4
- PHYS 325 - Introduction To Mathematical Physics Units: 3
- Upper Division Phys/Astr Elective (e.g., PHYS 494 - Physics Seminar) Units: 1
- Upper Division Phys/Astr Elective (e.g., ASTR 305 – Frontiers in Astronomy) Units: 3
- Upper Division GE Area C: Arts & Humanities Units: 3
- University Elective Units: 1

First Year Spring Semester (15 Units)

- ASTR 331 - Astronomical Imaging Units: 2**
- PHYS 320 - Analytical Mechanics (recommended) Units 3
- PHYS 340 - Light and Optics Units: 3
- PHYS 381 - Computer Applications for Scientists Units: 2
- Upper Division Phys/Astr Elective (e.g., ASTR 350 - Cosmology) Units: 3
- University Elective Units: 2

Second Year Fall Semester (15 Units)

- PHYS 450 - Statistical Physics Units: 2
- PHYS 460 - Quantum Mechanics Units: 3
- Upper Division GE Area D: Social Sciences Units: 3
- University Elective Units: 7

Second Year Spring Semester (15 Units)

- ASTR 380 – Astrophysics: Stars Units: 3**
- PHYS 430 - Electricity and Magnetism Units: 3
- PHYS 491 - Capstone Preparatory Seminar Units: 1
- ASTR Capstone (ASTR 492 or ASTR 497) Units: 2
- University Elective Units: 6

** Courses are offered in alternate years. Students should take either ASTR 331 or ASTR 380 as available in their first Spring semester and the other in their second.

Plan Assumptions

This two-year plan assumes students have completed:

- Math sequence of Calculus I-III, equivalent to SSU courses:
 - MATH 161 - Differential and Integral Calculus I GE Area B4 Units: 4
 - MATH 211 - Differential and Integral Calculus II Units: 4
 - MATH 261 - Multivariable Calculus Units: 4
 - MATH 241 - Linear Algebra with Applications in Differential Equations Units: 4
- Physics sequence of Calculus-based Physics, equivalent to SSU courses:
 - PHYS 114 - Introduction to Physics I GE Area B1 Units: 4
 - PHYS 116 - Introductory Laboratory Experience Units: 1
 - PHYS 214 - Introduction to Physics II Units: 4
 - PHYS 216 - Introductory Laboratory Units: 1
- First Course in Astronomy, equivalent to SSU course:
 - ASTR 100 – Descriptive Astronomy
- First Course in General Chemistry, equivalent to SSU course:
 - CHEM 115A - General Chemistry
- Lower Division GE Pattern meeting*:
 - Lower Division GE Area A1: Oral Communication Units: 3
 - Lower Division GE Area A2: Written Communication Units: 3
 - Lower Division GE Area A3: Critical Thinking Units: 3
 - Lower Division GE Area B1: from Physics above
 - Lower Division GE Area B2 Units: 3
 - Lower Division GE Area B3: from Physics above
 - Lower Division GE Area B4: from Calculus above
 - GE Area C1: Arts Units: 3
 - GE Area C2: Humanities Units: 3
 - GE Area C1: Arts or GE Area C2: Humanities Units: 3
 - GE Area D: Social Sciences Units: 3
 - GE Area D: Social Sciences Units: 3
 - GE Area F: Ethnic Studies Units: 3
 - * Any of these that are unmet may be completed as the University Electives identified in the two-year plan above