

**PHYSICS MAJOR, B.S. DEGREE**  
*SPECIALIZATION: ASTROPHYSICS (PY34)*  
 Total Units: 109

**Lower Division (52 units)**

**UNITS YET TO COMPLETE**

Physics 4A-B-C-D-E or 2A-B-C-D <sup>1</sup> .....	20 or 16 _____
Physics 2CL and 2DL .....	4 _____
Chemistry 6A or a programming course <sup>2</sup> .....	4 or 8 _____
Math 18 <sup>3</sup> and 20A-B-C-D-E .....	24 _____

**Upper Division (57 units)**

1. Physics 100A-B, 105A, 110A, 120, 130A-B, 140A, and an additional laboratory course from the lab group: 122, 124, 133, 164 ..... 37 \_\_\_\_\_
2. Two courses from either the theoretical or experimental pre-grad-school sequence below ..... 8 \_\_\_\_\_
  - Theoretical pre-grad-school sequence: Physics 100C, 105B, 110B, 130C, 140B
  - Experimental pre-grad-school sequence: Physics 100C, 110B, 124, 130C, 140B
3. It is recommended that students take three courses from the astrophysics sequence, but any three courses selected from the list below are acceptable ..... 12 \_\_\_\_\_
  - Physics** 160, 161, 162, 163, 164, 223, 224, 226, 227, 228; **ECE** 120, **MAE** 180A  
 astrophysics sequence

**MAJOR REGULATIONS**

- LIMIT OF USE** ..... A course that is listed in several areas cannot count towards more than one area and can satisfy only ONE of the major requirements.
- DOUBLE MAJORS** ..... A student with a double major must fulfill the separate requirements of each major, and the equivalent of at least ten upper-division courses (forty units) must be unique to each major. Courses taken in fulfillment of lower-division requirements may overlap to any degree.
- GRADE REQUIREMENTS** ..... A grade point average of 2.0 or higher in the upper-division major is required for graduation. Students must receive a grade of C– or better in all courses to be applied to the major. In exceptional cases, students with a grade point average of 2.5 or higher in the upper-division major may petition to have one grade of D accepted; approval is not guaranteed.
- P/NP GRADING OPTION** ..... Not allowed for any courses applied to the major (exceptions are courses completed via AP/IB and a single 4-unit Physics 199).
- PREREQUISITES** ..... Check the General Catalog for the prerequisites to all listed courses.
- RESIDENCE REQUIREMENTS** ..... At least nine upper-division courses in the major while in residence at UC San Diego.
- SUBSTITUTIONS** ..... Permissible only by approved petition.

<sup>1</sup> The Physics 4 series is recommended, but the Physics 2 sequence is acceptable, in which case both Chemistry 6A and a programming course are required.  
<sup>2</sup> Programming course options: CENG 15; CSE 5A, 7, 8A, 11, 12, 86; MAE 8; NANO 15  
<sup>3</sup> The Linear Algebra course previously numbered Math 20F is acceptable.