

Student ID: _____	Catalog: 2017-2018 Catalog
Student Name: _____	Program: Astronomy and Astrophysics, B.S.
Adviser Name: _____	Minimum Credits Required: _____

Astronomy and Astrophysics, B.S.

Major Code: 7192	Degree Awarded: Bachelor of Science
Delivery Mode(s): Classroom	Age Restriction: No
Admission Status: Undergraduate	Location(s): Main Campus - Melbourne

The undergraduate space sciences program for the astronomy and astrophysics major is designed for students interested in pursuing a broad range of space-related careers, either upon completion of the bachelor's degree program or after completing graduate studies. Emphasis in the curriculum for the astronomy and astrophysics majors is on achieving a broad yet rigorous education in the basic physical, mathematical and engineering sciences as a foundation for successful entry into any of the many subfields of modern space science activity.

This program is designed to meet the needs of students intending to pursue graduate education and a career in the astronomical sciences.

Degree Requirements

Candidates for the Bachelor of Science in Astronomy and Astrophysics must complete the course requirements listed in the following sample curriculum. Because basic physics and introductory space sciences courses form a critically important foundation for all advanced coursework in the space sciences program, the minimum grade for satisfying the prerequisite requirements for a space sciences major is a grade of C for each of the following courses:

- PHY 1001 Physics 1
- PHY 2002 Physics 2
- PHY 2003 Modern Physics
- PHY 2091 Physics Laboratory 1
- PHY 2092 Physics Laboratory 2
- SPS 1020 Introduction to Space Sciences

Freshman Year

Fall (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
CHM 1101 General Chemistry 1			
COM 1101 Composition and Rhetoric			
FYE 1000 University Experience			
MTH 1001 Calculus 1 * or MTH 1010 Mathematical Analysis 1			
PHY 1050 Physics and Space Science Seminar			
SPS 1020 Introduction to Space Sciences *			

Spring (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
CHM 1102 General Chemistry 2			
COM 1102 Writing About Literature			
MTH 1002 Calculus 2 or MTH 1020 Mathematical Analysis 2			
PHY 1001 Physics 1			
PHY 2091 Physics Laboratory 1			

Sophomore Year

Fall (15 credit hours)

Course Name	Term Taken	Grade	Gen Ed
HUM 2051 Civilization 1: Ancient Through Medieval			
MTH 2001 Calculus 3			
PHY 2002 Physics 2			
PHY 2092 Physics Laboratory 2			
Restricted Elective (CSE 15xx) Credit Hours: 3			

Spring (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
COM 2223 Scientific and Technical Communication			
MTH 2201 Differential Equations/Linear Algebra			
PHY 2003 Modern Physics			
SPS 2010 Observational Astronomy			
Humanities Core Course Credit Hours: 3			

Junior Year**Fall (17 credit hours)**

Course Name	Term Taken	Grade	Gen Ed
PHY 3011 Physical Mechanics			
PHY 3060 Thermodynamics, Kinetic Theory and Statistical Mechanics			
SPS 3020 Methods and Instrumentation			
Restricted Elective (MTH 3000-level or higher) Credit Hours: 3 Free Elective Credit Hours: 3			

Spring (16 credit hours)

Course Name	Term Taken	Grade	Gen Ed
MTH 3210 Introduction to Partial Differential Equations and Applications			
PHY 3035 Quantum Mechanics			
PHY 3440 Electromagnetic Theory			
SPS 3030 Orbital Mechanics			
Humanities Elective Credit Hours: 3			

Senior Year**Fall (17 credit hours)**

Course Name	Term Taken	Grade	Gen Ed
MAE 3161 Fluid Mechanics or OCE 3030 Fluid Mechanics			
PHY 4020 Optics			
PHY 4021 Experiments in Optics			
SPS 4010 Astrophysics 1: Introduction to Stellar Structure and Evolution			
SPS 4050 Advanced Research Techniques and Data Analysis			
SPS 4200 Senior Seminar 1 (Q)			
Technical Elective or Undergraduate Research Credit Hours: 3			

Spring (15 credit hours)

Course Name	Term Taken	Grade	Gen Ed
SPS 4020 Astrophysics 2: Galactic Structure and Cosmology			
SPS 4025 Introduction to Space Plasma Physics or SPS 4035 Comparative Planetology			
SPS 4110 Senior Laboratory			
SPS 4210 Senior Seminar 2 (Q)			
Social Science Elective Credit Hours: 3 Technical Elective or Undergraduate Research Credit Hours: 3			

Total Credits Required: 128

**Students should register for SPS 1020 Introduction to Space Sciences. If a student places into MTH 1002 Calculus 2 or MTH 1020 Mathematical Analysis 2, the student is encouraged to take PHY 1001 Physics 1 in the first semester and SPS 1020 Introduction to Space Sciences later in the program.*

***Students are encouraged to choose PHY 3152 Electronic Measurement Techniques, PHY 4030 Introduction to Subatomic Physics, PHY 4033 Introduction to Solid State Physics, SPS 3010 Geophysics, SPS 4030 Physics of the Atmosphere, SPS 4035 Comparative Planetology or SPS 4039 Astrobiology.*

****Courses taught on an alternate-year basis.*

Humanities Core Courses

Not all humanities core courses are offered online or every term; check the current schedule of classes for humanities core options.

Course Name	Term Taken	Grade	Gen Ed
HUM 2052 Civilization 2: Renaissance Through Modern			
HUM 2142 World Art History 2: Early Modern to Post-Colonial			
HUM 2212 British and American Literature 1			
HUM 2213 British and American Literature 2			
HUM 2331 American History: Pre-Columbian to Civil War Era			
HUM 2332 American History: From Reconstruction to the Present			
HUM 3333 American Military History			

Notes: