ASTRONOMY, ASSOCIATE IN SCIENCE DEGREE

Banner Code: 1_AS_ASTR
Financial Aid Eligible

Upon completion of the requirements for the Associate in Science Degree in Astronomy, students will be prepared to transfer to CSU/UC and obtain a baccalaureate degree in the following majors: astronomy, astrophysics, or physics. This degree is also a stepping stone toward research internships, entry-level opportunities within the field, e.g., observatory and planetarium operations, and provides a solid foundation for pursuing an advanced degree.

The department strongly recommends that all declared Astronomy majors complete the following courses prior to transfer: CS A131 Python Programming I, MATH A185 Calculus 2 / MATH A185H Calculus 2 Honors, MATH A280 Calculus 3/MATH A280H Calculus 3 Honors, and MATH A285 Introduction to Linear Algebra and Differential Equations/MATH A285H Introduction to Linear Algebra and Differential Equations Honors.

Program Outcomes

1. Describe the constituents of the Universe and the relevant physical processes underlying their behavior.
2. Become familiar with the methods of observational astronomy and the analysis of data.
3. Develop the necessary knowledge and skills to analyze evidence and evaluate claims as related to astronomy.
4. Students who complete the degree will be prepared for admission to California State University/University of California schools in astronomy/astrophysics.

Review Graduation Requirements (https://catalog.cccd.edu/orange-coast/graduation-requirements/associate-degree/) and General Education (https://catalog.cccd.edu/orange-coast/general-education-patterns/).

Course	Title	Units
Required Courses		
ASTR A100/A100H	Introduction to Astronomy	3
ASTR A100L/A100M	Introduction to Astronomy Laboratory	1
ASTR A200	Introduction to Astrophysics	4
Astronomy Electives		
Select one of the following:		3
ASTR A101	Planetary Astronomy	
ASTR A102	Stellar Astronomy	
ASTR A103	Cosmology	
ASTR A104	Galactic Astronomy	
Math Required Courses		*5-8*
MATH A180/ A180H	Calculus 1	
and		
MATH A185/ A185H	Calculus 2	
or		
MATH A182H	Calculus 1 and 2 Honors	
Physics Required Courses		*8*
PHYS A185/ A185H	Calculus Based Physics: Mechanics	
and		
PHYS A280	Calculus Based Physics: Electricity/ Magnetism	
or PHYS A285	Calculus Based Physics: Modern	
Total Units		**24-27**

Requirement	Units
Program Major Units	24-27
AS General Education Option 1, 2, or 3	Varies
Transferable electives as needed to satisfy unit requirement	Varies
Total Minimum Degree Units	60

Program Sequence

These sequences at Orange Coast College are general course curriculum maps for students to finish all major and general education requirements for two-year completion of degrees, and/or fulfillment of transfer requirements. The course sequence may include course prerequisites and other placement requirements. **Students are advised to meet with an Orange Coast College Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

Course	Title	Units
Year 1		
Semester 1		
ASTR A100 or ASTR A100H	Introduction to Astronomy or Introduction to Astronomy Honors	3
ASTR A100L or ASTR A100M	Introduction to Astronomy Laboratory or Introduction to Astronomy Laboratory Honors	1
MATH A180 or MATH A180H	Calculus 1 or Calculus 1 Honors	4
OCC AS GE AREA A1 - CHOOSE ONE		3
OCC AS GE AREA C1- CHOOSE ONE		3
	Units	**14**
Semester 2		
Astronomy Restricted Electives - CHOOSE ONE		3
ASTR A101 or ASTR A102 or ASTR A103 or ASTR A104	Planetary Astronomy or Stellar Astronomy or Cosmology or Galactic Astronomy	
MATH A185 or MATH A185H	Calculus 2 or Calculus 2 Honors	4
OCC AS GE AREA C2 - CHOOSE ONE		3
OCC AS GE AREA D - CHOOSE ONE		3
ELECTIVES (DEGREE APPLICABLE)		3
	Units	**16**

Course	Title	Units
Year 2		
Semester 1		
PHYS A185 or PHYS A185H	Calculus Based Physics: Mechanics or Calculus-Based Physics: Mechanics Honors	4
ELECTIVES (DEGREE APPLICABLE)		11
	Units	**15**
Semester 2		
PHYS A280 or PHYS A285	Calculus Based Physics: Electricity/ Magnetism or Calculus Based Physics: Modern	4
ASTR A200	Introduction to Astrophysics	4
ELECTIVES (DEGREE APPLICABLE) [1]		7
	Units	**15**
	Total Units	**60**

[1] VARIES TO REACH MIN. 60 DEGREE APPLICABLE UNITS