

## Program Description

Astronomy is perhaps the oldest science that investigates the fundamental physical and chemical laws that govern our solar system, universe and all of nature.

The astronomy courses are designed to meet the general education and major transfer requirements for the physical sciences.

Traditional teaching may be supplemented with computer and Internet-based instruction. Laboratory activities provide “hands-on” experimentation and discovery into the natural, physical and chemical characteristics of the earth and our universe. Computer-based data acquisition and analysis may assist in some lab instruction.

## Staff

Please dial (661) 722-6300, then the 4 digit extension.

### Division:

|   |        |
|---|--------|
| Christos Valiotis, Dean                 | x.6415 |
| Suzanne Olson, Administrative Assistant | x.6415 |
| Vacant, Clerical Assistant III          | x.6415 |
| Dr. Alexandra Schroer, Department Chair | x.6922 |
| David Bermea, Lab Technician            | x.6274 |

### STEM

|                                  |        |
|----------------------------------|--------|
| Christos Valiotis, STEM Director | x.6415 |
| Jamie Jones, STEM Coordinator    | x.6992 |
| Denilson Freitas, Lab Technician | x.6157 |

### Faculty:

|                   |        |
|-------------------|--------|
| Dr. Mark McGovern | x.6006 |
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## Career Options

Astrobiology

Astronomer

(Careers may require education beyond the two-year college level.)

Astrophysicist

## Certificate Program

Certificate not applicable.

## Associate Degree

An associate degree with a major in Astronomy is not available. Astronomy courses can be included in the 18 units necessary for an associate degree with a major in Liberal Arts and Sciences.

(See Graduation/Associate Degree Requirements.)

## Transfer

Students planning to continue studies at a four-year college or university after AVC should visit the Transfer Resource Center and consult with a counselor as soon as possible. Additional information on official transfer articulation agreements from AVC to many CSU/UC campuses can be found at [www.assist.org](http://www.assist.org)

## Prerequisite Completion

All prerequisite courses must be completed with a satisfactory grade in order to enroll in the next course. According to Title 5, Section 55200(d), a satisfactory grade is a grade of “A,” “B,” “C” or “P”. Classes in which the Pass/No Pass option is available are indicated with an asterisk (\*) before the course title. See “Pass/No Pass Option” in the catalog for full explanation.

## Astronomy Courses

### ASTR 101 \*ASTRONOMY

3 units

3 hours weekly

*Prerequisite:* Completion of Intermediate Algebra or higher or placement by multiple measures.

This course is designed as an introduction to the study of planetary, stellar, galactic, and cosmological systems. Emphasis is placed on astronomical observations and the use of physical laws and principles to investigate the properties and dynamics of these systems. Topics include understanding celestial motion as a function of the motion of the Earth and the Moon, the development of modern astronomy, telescopes and imaging technology, the properties of light and atoms, the formation of spectra, stellar structure and evolution, galactic structure and evolution, cosmology, comparative planetology, and search for extraterrestrial life. (CSU, UC, AVC)

### ASTR 101L \*ASTRONOMY LABORATORY

1 unit

3 hours weekly

*Prerequisite:* Completion of Intermediate Algebra or higher or placement by multiple measures and completion of or concurrent enrollment in ASTR 101.

Laboratory applications of principles discussed in ASTR 101. Classroom activities and topics include the use of star charts, cause of the seasons, telescope observations of the Moon, planets, and stars; the laws of optics as related to telescopes, how light is analyzed to deduce the physical properties of stars and galaxies, Kepler's laws of planetary motion, constructing Hertzsprung-Russell diagrams to organize stellar data, cosmic distances, and the Hubble Law as it relates to the age and size of the Universe. (CSU, UC, AVC)