

BEFORE ENROLLING IN DEGREE APPLICABLE COURSES, IT IS RECOMMENDED THAT YOU COMPLETE ENGL 001A AND READ 053.

## ASTRONOMY (ASTRO)

**DIVISION:** Natural Sciences  
**DEPARTMENT:** Astronomy  
**DEPT CHAIR:** Dr. Clint Poe  
**PHONE:** 408-855-5262

The courses in Astronomy are offered as part of the general education program at Mission College. The astronomy courses includes a laboratory and complies with general education transfer requirements. The courses are an excellent way for the liberal arts student to gain an appreciation of scientific knowledge and methods.

### Student Learning Outcomes:

Students will be able to apply the scientific method to observations to understand how the universe is structured.

### A.S. Degree:

- Physical Science

### Schedule Matrix:

| COURSE    | FALL | SPRING | SUMMER |
|-----------|------|--------|--------|
| ASTRO 001 | D,E  | D,E    | E      |
| ASTRO 002 | D,E  | D,E    |        |

D= DAY CLASSES; E= EVENING CLASSES

### Physical Science - A.S. Degree

To earn an A.S. Degree in Physical Science, a minimum of 18 units of course work, distributed among the following courses must be completed:

| Select 18 units from the following:                                  | Units       |
|----------------------------------------------------------------------|-------------|
| Astro 001 ..... Astronomy.....                                       | 3.0         |
| Astro 002 ..... Astronomy Lab.....                                   | 1.0         |
| CHEM 001AB ..... General Chemistry.....                              | 5.0 each    |
| CHEM 002 ..... Introductory Chemistry.....                           | 4.0         |
| CHEM 005 ..... Quantitative Analysis.....                            | 4.0         |
| CHEM 030AB ..... Fundamentals of Chemistry.....                      | 3.0 each    |
| PHYS 002AB ..... General Physics.....                                | 5.0 each    |
| Phys 004A ..... Engineering Physics - Mechanics.....                 | 5.0         |
| Phys 004B ..... Engineering Physics - Electricity and Magnetism..... | 5.0         |
| Phys 004C ..... Engineering Physics - Light and Heat.....            | 5.0         |
| Phys 004D ..... Atomic Physics.....                                  | 2.0         |
| Phys 010 ..... Introduction to Physics.....                          | 4.0         |
| <b>Total Program A.S. Degree Requirements:</b> .....                 | <b>18.0</b> |

## ASTRONOMY (ASTRO)

### 001 • ASTRONOMY

**3.0 units**

*Total Lecture: 54.4 hours*

*Advisory: MATH 903*

*Acceptable for credit: University of California, California State University*

This course is a descriptive astronomy lecture only course covering the entire panorama of the universe, including early human observations, the origin and structure of the solar system, and the properties, origin and evolution of stars, galaxies and cosmology. *Grade Only.*

### 002 • ASTRONOMY LABORATORY

**1.0 unit**

*Total Lab: 54.4 hours*

*Advisory: MATH 903*

*Prerequisite/Corequisite: ASTRO 001*

*Acceptable for credit: University of California, California State University*

This course offers practical experience in astronomical projects using lab equipment and computers, reinforcing the concepts introduced in descriptive astronomy lectures. The emphasis is on collecting and manipulating astronomical data to infer the nature of the universe. *Materials Fee: \$5.00. Grade Only.*

### 003 • ASTRONOMY

**4.0 units**

*Total Lecture: 54.4 hours, Total Lab: 54.4 hours*

*Advisory: MATH 903*

*Acceptable for credit: University of California, California State University*

This course covers the entire panorama of the universe from the observations of the night sky to the origin and structure of the planets, stars, galaxies and the universe. The lab portion of the course includes practical experience with the methods of astronomy using computers and other equipment. This course may also be offered via distance learning. *Grade Only.*

## BIOLOGICAL SCIENCES (BIOSC)

**DIVISION:** Natural Sciences  
**DEPARTMENT:** Biological Sciences  
**DEPT CHAIR:** Thais Winsome  
**PHONE:** 408-855-5217  
**COUNSELING:** 408-855-5030

The Biological Sciences Department provides students with a comprehensive foundation in the life sciences, promotes environmental awareness and careful stewardship of earth's resources, and fosters scientific literacy to enable our students to function well in a world increasingly influenced by science and technology. We offer degree and transfer programs in the biological sciences, provide prerequisite courses for degree programs in allied health, and courses that satisfy General Education requirements for students planning to transfer to colleges and universities. Our emphasis is upon delivering high-quality instruction in an inclusive, positive learning environment that facilitates success for all students.

Students who complete the A.S. degree in Biological Sciences will be able to:

- Communicate effectively using the language, concepts and models of biology.
- Use the scientific method to define and solve problems independently and collaboratively.
- Use a wide variety of laboratory and field techniques with accuracy, precision and safety.
- Demonstrate proficient library, mathematical and computer skills in data gathering and analysis.
- Apply scientific concepts to environmental and societal issues.
- Explain basic evolutionary principles and their relationship to adaptation and biodiversity.

### Career Options Include:

- |            |                    |                         |
|------------|--------------------|-------------------------|
| • Nursing  | • Dentistry        | • Ecology               |
| • Medicine | • Physical Therapy | • Resource Conservation |
| • Pharmacy | • Research         | • Science Education     |

Some career options may require more than two years of college study. Classes beyond the Associate Degree level may be required to fulfill requirements for some degree programs. Students planning to transfer to a degree program should consult the lower-division requirements of the transfer program of the university to which they plan to apply to ensure that they meet all requirements before transfer.

### Program Highlights

Biological Sciences at Mission College specializes in small class size and personal attention. Our modern lab facilities provide students with a safe, comfortable learning environment. Highlights of our program include:

- **Transferable courses**  
All majors and non-majors courses (with the exception of directed studies courses) are fully transferable to UC and CSU.
- **Convenient class times**  
We offer day, evening, and weekend sections of our most popular courses. We also offer online sections of many of our courses.
- **Health Sciences**  
We offer all prerequisite biology for entrance into the RN and LVN nursing programs. We have an evening program for pre-nursing prerequisites tailored to the working student.
- **Biology Majors Program**  
The Division of Natural Sciences now offers all lower-division prerequisite courses in Biology, Chemistry and Physics for those seeking to transfer to a 4-year institution.
- **General Education**  
Non-majors courses cover topics that are of current interest and relevant to students' lives.
- **Study abroad.**  
Our popular Tropical Ecology course (BIOSC 030) offers students the opportunity to study the ecology and culture of Costa Rica.

A.S. Degree: Biological Sciences

### Schedule Matrix:

| COURSE     | FALL | SPRING | SUMMER |
|------------|------|--------|--------|
| BIOSC 001A |      |        |        |
| BIOSC 001B | D    |        |        |