# PHYSICS, ASSOCIATE IN ARTS DEGREE

**Banner Code:** 2_AA_PHYS
**Financial Aid Eligible**

The Associate in Arts Degree in Physics prepares students for further study in physics or related physical science disciplines. It also provides a background in physics that includes skills appropriate for entry-level employment in science-related industries or laboratories. Coursework includes instruction in all of the main areas of classical physics (mechanics, waves, sound, thermodynamics, electromagnetism, and optics), exposure to some of the more modern concepts of physics (including special relativity, atomic and nuclear physics), and prepares students to think critically and apply reasoning skills to analyze real world situations.

## Program Level Learning Outcomes

Upon completion of this program, students will be able to:

1. Explain the basic principles and concepts of physics.
2. Use these basic principles and concepts to solve problems in the various areas of physics.
3. Explain the importance of physics both historically and as an active, unfinished area of work in which many people today are actively engaged.
4. Describe the methods of physicists.

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

| Course | Title | Units |
|---|---|---|
| **Required Courses** | | |
| PHYS G185 | Calculus Based Physics: Mechanics | 4 |
| PHYS G280 | Calculus Based Physics: Electricity/ Magnetism | 4 |
| PHYS G285 | Calculus Based Physics: Modern | 4 |
| MATH G180 | Calculus 1 | 4 |
| MATH G185 | Calculus 2 | 4 |
| **Major Total** | | **20** |
| **GE Pattern (Local, CSU GE-Breadth, or IGETC)** | | **18-39** |
| **Total Units** | | **60** |

## Recommended Program Sequence

These sequences are general course maps for students to finish all major and general education requirements for two-year completion of degrees, completion of short-term certificates, and/or fulfillment of transfer requirements. However, this may not be an appropriate path for all students. The two-year sequence is based on English and Math placement and meeting other course prerequisites. **Students are advised to meet with a GWC Counselor to review course selections and sequences to ensure that completion of this program will meet a student's transfer and career goals.**

### Year 1:

| Course | Title | Units |
|---|---|---|
| **Semester 1** | | |
| MATH G180 | Calculus 1 | 4 |
| ENGL G100 | Freshman Composition ^ | 4 |
| Area E: Lifelong Understanding and Self-Development or any additional course from Area A-D | | 3 |
| Elective coursework for a total of 3 units | | 3 |
| *Units* | | *14* |

| Course | Title | Units |
|---|---|---|
| **Semester 2** | | |
| PHYS G185 | Calculus Based Physics: Mechanics | 4 |
| MATH G185 | Calculus 2 | 4 |
| Area C: Arts & Humanities course | | 3 |
| Elective coursework for a total of 3 units | | 3 |
| *Units* | | *14* |

### Year 2:

| Course | Title | Units |
|---|---|---|
| **Semester 3** | | |
| PHYS G285 | Calculus Based Physics: Modern | 4 |
| Area D: Social & Behavioral Sciences course | | 3 |
| Elective coursework for a total of 9 units | | 9 |
| *Units* | | *16* |

| Course | Title | Units |
|---|---|---|
| **Semester 4** | | |
| PHYS G280 | Calculus Based Physics: Electricity/ Magnetism | 4 |
| Elective coursework to reach a minimum of 60 units | | 7 |
| Ethnic Studies Competency | | 3 |
| *Units* | | *14* |
| **Total Degree Units** | | **60** |

^ Program sequence may not be recommended for students who self-place into ENGL G100S. Students should see a Counselor for appropriate advisement.