

Astroimaging & Observatory Operations



Certificate Program

The First Astroimaging & Observatory Operations Certificate Program in California!

At the heart of astronomy research are observatory operations and astroimaging techniques. Observatories around the world are in need of technicians who can perform those duties. Yet there are not many institutions that can provide the necessary training for such technicians.

The College of San Mateo Astronomy Department, with its roll-off-roof observatory, containing a wide selection of refracting and reflecting telescopes and various imaging instrumentation, provides the training for students who would like to pursue such a career. The students' training is enriched by access to CSM's 40-foot domed state-of-the-art planetarium and dedicated faculty and staff who are active in astronomical research.

Career Opportunities

Bay Area colleges and universities, as well as professional observatories, are in need of qualified technicians that can operate telescopes and various imaging devices to collect astrophysical data and advance the field of astronomy. For example, a graduate of this program is well prepared to operate the telescopes at Stanford University or San Francisco State University. There is a high demand for such technicians and there are very few institutions that can train the students in this field.

Certificate Units

27–31 units required

Professors

Mohsen Janatpour

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More Information

See the reverse side of this flyer for more certificate details or visit collegeofsanmateo.edu/astronomy to learn more about CSM's astronomy program.

Classes fill quickly. Register now!

College of San Mateo



M27 Dumbbell Nebula in Vulpecula. Combination of 10, five-minute exposures thru our 20-inch telescope, by Dean Drumheller.

Earn a Certificate of Achievement

The Astroimaging and Observatory Operations Certificate (AOC) program is designed such that, upon completion, students are qualified to operate any observatory and apply various imaging techniques to gather and analyze astrophysical data. With minimal modification, transfer students can apply units earned from this program toward a BS degree in astronomy or astrophysics at any four-year institution that offers such a degree.

Required Courses

Astronomy requirements:

ASTR 100	Introduction to Astronomy	3 units
ASTR 101	Astronomy Laboratory	1 unit
ASTR 103	Observational Astronomy Lab.	1 unit
ASTR 125	Stars and Galaxies	3 units
ASTR 200	Introduction to Astrophysics	3 units
ASTR 203	Astroimaging Techniques	4 units
ASTR 204	Application of Astroimaging Techniques	4 units

Physics requirements:

PHYS 210	General Physics I	or
PHYS 250	Physics with Calculus I	4 units
PHYS 220	General Physics II	or
PHYS 270	Physics with Calculus III	4 units
MATH 130	Analytic Trigonometry	4 units

Mathematics requirements:

MATH 130 is sufficient for students who plan to take PHYS 210 and 220.
 Students who plan to take PHYS 250 and 270 will also need MATH 222, 251, 252, and 253.)

CSM's State-of-the-Art Observatory

The CSM Observatory features a 20" Ion-milled Ritchey-Chretien reflector, as well as 5- and 8-inch refractor telescopes, all equipped with the latest scientific grade SBIG CCD cameras and related software. These and other observatory telescopes, provide the opportunity for students to learn advanced astroimaging techniques, incorporating data collection and analysis, telescope maintenance, and other observatory operations.



CSM's 20-inch RC telescope. Photo by Dean Drumheller.