

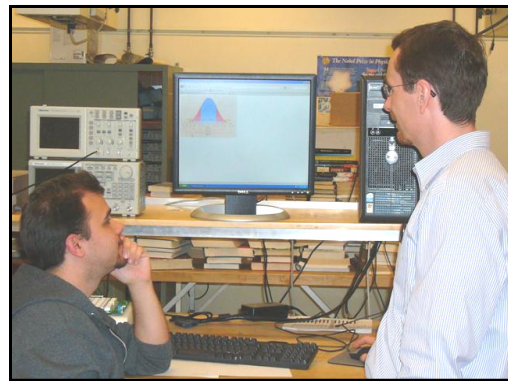
**Why earn a Certificate in Scientific Computing & Simulation?**

Simulation, modeling, and computing today encompass a broad range of applications, from the problems of production engineering to the simulation of new chemical compounds and materials, the subatomic world of high energy to the cosmic realm of galaxies, intricate details of financial engineering to the abstract problems of mathematics and computer science, in short any question capable of precise formulation.

Employers and graduate programs increasingly look for computer-based skills of formulating and solving science and engineering problems, making these skills essential for employment or admission to graduate programs. Students that earn this certificate will acquire a good grounding in such skills, and will thereby be better prepared for today's industrial and academic careers.

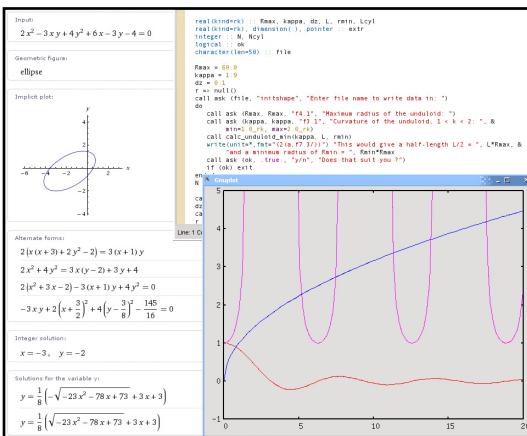
**A Great Complement to the following Majors:**

- Physics
- Computer Science
- Mathematics & Statistics
- Chemistry
- Geology
- Electrical and Electronic Engineering
- Mechanical Engineering
- Civil Engineering
- Biological Sciences



**Admission Requirements:**

Candidates for Certificate must be currently enrolled in Sacramento State working towards a science or engineering degree. At this time, the Certificate program is not available to Open University or Continuing Education students.



**Curriculum:**

Students must complete 14 units of coursework as described below with a minimum GPA of 2.50.

**Background courses (8 units)**

Two courses from the general physic sequence: (PHYS 5A / 5B or two of PHYS 11A / 11B / 11C).

Mathematics majors may satisfy this requirement with completion of MATH 105A and 105B.

**Computing & Simulation courses (6 units)**

- PHYS 162 Scientific Computing: Basic Methods
- PHYS 163 Scientific Computing: Modeling, Simulation, and Visualization