

Certificate in Computational Physics

Computation is an integral part of modern science and the certificate in computational physics is designed to educate students in computer simulation of physical systems. Computational physics prepares students to build computational models, design algorithms for numerical solutions, analyze the calculated data and perform computer experiments, (that are otherwise unfeasible), by using high-performance computers. A certificate in computational physics proves that students are skilled in modeling physical system and delivering solutions through computer programming.

The certificate can be pursued by all physics, engineering and general science majors.

Requirements

Students may earn an undergraduate certificate in computational physics by completing 12 credit hours of course work offered by the Department of Physics and Astronomy.

A certificate consists of at least 12 credits; at least 12 credits must be taken in MU course work. Students must meet the minimum GPA requirements for a certificate, which in no case can be lower than 2.0. In addition, a student cannot receive a grade lower than a C- in any course applied towards a certificate in the College. For more information, please see Requirements for an Optional Certificate (<https://catalog.missouri.edu/collegeofartsandscience/#requirementsforanoptionalcertificate>).

Select four courses from the list below:

PHYSCS 3850	Introduction to Computational Physics	3
PHYSCS 4500	Computational Biological Physics	3
PHYSCS 4680	Introduction to Density-Functional Theory	3
PHYSCS 4720	Nonlinear Dynamics	3
PHYSCS 4740	Quantum Computation and Quantum Information	3
PHYSCS 4850	Computational Methods in Physics	3

1. Minimum prerequisites for these courses are PHYSCS 2760 University Physics II or PHYSCS 3150 Introduction to Modern Physics.