

Master of Science in Professional Physics

This new state-supported program was recommended by the Academic Senate on May 7, 2015 and concurred by the President on May 14, 2015.

Program Description

This is a terminal physics master's degree intended for students pursuing industrial professional careers.

Prerequisites

A bachelor's degree with a major in physics; or

A bachelor's degree with at least 24 units of upper division physics. Students deficient in upper division undergraduate preparation must take courses to remove these deficiencies without credit toward the degree at the discretion of the graduate advisor.

Requirements

Take all of the following:

- PHYS 510 Graduate Mechanics (3)
Prerequisite: PHYS 310.
- PHYS 522 Statistical Physics (3)
Prerequisites: PHYS 310, 320, 350.
- PHYS 540A Graduate Electrodynamics I (3)
Prerequisite: PHYS 340B.
- PHYS 550A Quantum Mechanics I (3)
Prerequisite: PHYS 450.
- PHYS 560A Mathematical Methods of Physics (3)
Prerequisites: MATH 370A,B or equivalent.
- One elective from 500-level PHYS courses (3)

Take three of the following:

- NSCI 501 Project Management for Scientists (3)
- NSCI 502 Leadership and Management for Scientists (3)
- NSCI 503 Accounting and Finance for Scientists (3)
- NSCI 504 Introduction to Regulatory Science (3)
- NSCI 505 Professional Ethics (3)
- PHYS 692 Internship (3)

Take 4 units of the following:

- PHYS 699 Professional Project (4)

Prerequisite: Advancement to candidacy for the MS in Professional Physics.

Culminating Experience:

The program culminates with a professional project. The professional project is a significant undertaking that aims to apply fundamental physics methods and business-professional skills to situations relevant to the industry environment. Students are to demonstrate professional attributes expected in industry and to communicate the findings to a diverse audience. The project plan must be prepared by the student before advancing to candidacy. The project plan includes a specific set of advanced skills to be demonstrated and a specific timeline for the activities that must be completed. Students will engage the equivalent of 4-units of work on the professional project. The project report must demonstrate core competencies developed through the curriculum and reflect how the student integrates this knowledge into a project in industry. The completed project will include a written project report and oral defense.

Advancement to Candidacy

- 1) Attainment of classified status as a student in a graduate program at CSULB;
Fulfillment of the Graduation Writing Assessment Requirement (GWAR);
Approval of the program of study by the Graduate Advisor, the Department Chair, and the Associate Dean in the College of Natural Sciences and Mathematics;
- 2) Completion with a minimum GPA of 3.0 of at least six units of courses required on the student's program of study;

A cumulative, graduate, grade-point average of at least 3.0 calculated on all upper-division and graduate-level coursework attempted by the student at CSULB after completion of a baccalaureate degree.

EFFECTIVE: Fall 2016

Campus Code: PHYSMS03PB

College: 65

Career: GR

CIP Code: 40.0899

CSU Code: 19022

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