PHYS 4343 : Computational Methods for Engineering

An introduction to using computers to study and model physical systems, particularly those problems which are difficult or impossible to solve analytically. The focus is on concrete problems arising in the Engineering industry and Physics fields, using programming languages (e.g. Python, Matlab, C++). Students are expected to design, implement, and verify their own code, as well as incorporate standard code libraries. Topics may include numerical integration, differential equations, linear systems, molecular dynamics, finite-element methods, working with large datasets, graphics and 3d visualization.

Credits 3

Course ID

009380

Requisites

PHYS/ENGR 4343 Prerequisites: PHYS 3337, ENGR/PHYS 3343, or instructor permission.

Semester Offered

Offered as needed