PHYS 7411
Computational Physics
Spring 2015

Instructor: Prof. Mark M. Wilde, Phone number: (225) 578-4323

Time and Location: Monday and Wednesday 8:00am-9:20am, Room: Nicholson 262.

Office Hours: Monday 9:30am-11:30am or by appointment, Room: Nicholson 447

Required Textbook: *Computational Physics with Python*, Mark Newman

Recommended Textbooks: *Computational Physics*, Landau, Paez, and Bordeianu.
An Introduction to Computational Physics, Pang.

Prerequisites: PHYS 7211 Mathematical methods of theoretical physics

Material: The use of computers in understanding physics has experienced tremendous growth over many years now, and it is an essential component in new physics discoveries. This course introduces solving physics problems with computers. We do not assume any previous programming experience and will use the popular programming language Python in order to focus on the content of computational physics programs and to make use of powerful numerical libraries that come packaged with Python. Students will develop their own computer programs to solve problems in a variety of areas of physics.

Grading: There will be homework assignments throughout the semester and a final presentation. The final course grade has the following scale: A 90-100, B 75-90, C 60-74, etc.

Presentation: The final presentation will be a useful way for students to complete an in-depth computational physics programming project.