PHYSICS 650, Section 75 – Spring 2016

Research Methods in Physics & Astronomy

Section 75: 5:30 – 6:45 pm, Tue & Thu (NS 30)
Instructor: Dr. Swagato Banerjee
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Tentative Office Hours: T 4:30 - 5:30 pm Th 4:30 – 5:30 pm, or by appointment

Office hours this semester will be held in NS 210

Course:

• This is a one-semester course on research methods in physics and astronomy. This course will focus on the basic concepts on modeling, simulation, numerical and computational techniques, advanced handling of statistics, data mining and machine learning methods as applied in the study of physics and astronomy.
• The material covered during this course will assume familiarity in handling a computer at least at a very beginner’s level.
• During this course we shall gain experience in programming in C++ and python.
• This is a three credit-hour Pass/Fail course. There are two 75-minute sessions each week. You are expected to attend all classes and engage the material while you are there. Merely being in the classroom is not enough to learn the material.
• The lecture notes should provide pointers to the materials covered during the course. If you are unable to follow such materials, please inform me, so that I keep the course in tune with your background. Early feedback is essential.

Important Dates:

• Tuesday, January 12 – Final date for adding or dropping a course
• Monday, January 18 – No class/office hour – Martin Luther King Holiday
• Monday, March 7 – Final date for withdrawing from a course
• Sunday, March 13 – Daylight Saving time starts [clocks spring forth 1 hour]
• Monday & Wednesday, Mar 14 & 16 – No class/office hour – Spring break
• Tuesday, April 19 – Last Day of Class
• Friday, April 22 (noon) – Last Day to submit all assignments/projects.
• Tuesday April 26 & Thursday April 28 – Final Seminar for all students.
Classroom Policies:

• **Check your university e-mail account daily.** It is the way that I will communicate with you outside of class.
• **Please refrain from using cell phones during the class.**

Grading:

Your Pass/Fail grade will be based upon classroom participation and an oral seminar illustrating successful completion of the computing projects assigned. The assignments are designed for you to learn how to solve the types of real life physics problems. There is no time limit for how long you will have to work on a given assignment, but learning to pace yourself will help complete the projects. **It is imperative that you figure out how to demonstrate that your projects actually work during the oral presentation at the end of the semester.**

Policy on Instructional Modifications: Students with disabilities, who need reasonable modifications to complete assignments successfully and otherwise satisfy course criteria, are encouraged to meet with the instructor as early as possible to plan specific accommodations. Students will be asked to supply a letter from the Disability Resource Center to assist in planning modifications.

Title IX/Celery Act Notification

Sexual misconduct (sexual harassment, sexual assault, and sexual/dating/domestic violence) and sex discrimination are violations of University policies. Anyone experiencing sexual misconduct and/or sex discrimination has the right to obtain confidential support from the PEACC Program 852-2663, Counseling Center 852-6585 and Campus Health Services 852-6479. Reporting your experience or incident to any other University employee (including, but not limited to, professors and instructors) is an official, non-confidential report to the University. To file an official report, please contact the Dean of Student’s Office 852-5787 and/or the University of Louisville Police Department 852-6111. For more information regarding your rights as a victim of sexual misconduct, see the Sexual Misconduct Resource Guide (http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure).