Experimental Data Analysis Lab

Schedule  Labs  Assignments

Summary

This course is an amalgam of topics one learns as they do research: programming, performing experiments, statistical/error analysis, and communication of ideas. It is not comprehensive and is fairly introductory but the goal here is to get all of you acquainted with the some basic tools needed for research and various tech related fields.

Course information

Lecture: Rm Wil 318 TU/TH 8:30-9:50

Lab Sections: Rm Wil 17 F 12-2 and 2-4

- Instructor: Elsa Johnson
- email: elsa@uoregon.edu
- Office: Wil 177
- Office hours: Tuesday, Wednesday 12-1

- GTF: Bishara Korkor
- email: bkorkor@uoregon.edu
- Office: Wil 417
- Office hours: Wednesday - 1-2; Thursday 2-3 rm Wil 417; Science library drop-in center Thursday 3-4

Text

Introduction to Error Analysis 2nd Ed. by John R. Taylor

Lecture

Lectures can be once or twice a week depending on the amount of material you need to know in order to do the lab and homework. There will probably be more lectures in the first half of this course so that you have the statistical tools to do data analysis for several of the labs. I will keep you updated on the schedule page as to which days to attend lecture. Tentatively, plan on keeping both Tuesday and Thursday mornings open for the entire term.

Grading for Labs, Homework and Tests

Your course grade will be based on 6 or 7 homework assignments, 2 tests and 4 labs. All grades will be listed in canvas. Here is the point break down:

Homework: 36% total. The homework is not equally weighted. Some assignments will be worth more than others. Check point totals on homework and canvas.

Except for programming problems, all homework will be submitted on paper to Bishara at the beginning of lab for the relevant due date. Email all programming homework problems to Bishara in a text file (with .py suffix). If your program doesn’t run, you will get at
most 25% credit. Homework loses 5% in points per day after the due date for up to 5 days (Yes, this includes weekends) after which it will not be accepted. Some assignments may have overlapping due dates and start dates. For instance, you may have to start the next assignment before the prior assignment is due.

Labs:

- Brownian motion 14%
- All other labs are 10% each

All labs can be submitted electronically on canvas in a .pdf document or printed and turned in during lecture for the appropriate due date. Like the homework, labs will lose 5% each day they are over due up to 5 days after which labs will not be accepted. And yes, this includes weekends.

Tests:

- 10% each

These are noncumulative, closed book in-class tests that will pertain to labs, programming and homework. Topic lists will be provided prior to each test. They will be given the 5th and 10th week of classes. See schedule.

Lab Room

There is an access code to the lab room which will be given in the first week. You are expected to attend your lab session unless of course you are sick. In this situation, you can access the lab at any time except on Thursdays. On Thursdays, another class has the room for the entire day. I have been told on more than one occasion that the professor from the other course does not want us in there on Thursdays. Also, respect other's experiments. Don't mess with equipment that doesn't pertain to our lab.

Programming

Bishara is going to get you up to speed on python for the first few weeks of the term. If you are already an expert, I encourage you to help others in the class. Python is available in the lab, but you should also have it installed on your laptop if you have one. Bishara will help you get it set up. All programming will be done in python. Read the programming page