PHYSICS 1310/1311 "UNDERGRADUATE SEMINAR"

About the Undergraduate Program of the Department of Physics & Astronomy: The purpose of our undergraduate degree programs in physics and physics & astronomy is to provide our graduates with the knowledge and skills in theoretical, experimental, and computational physics which prepare them to enter graduate programs in physics or astronomy and related fields, to obtain professional or technical positions, or to teach at the high-school level.

Our graduates are proficient in deriving analytic solutions to new or complex problems which require depth of knowledge in a subfield of physics. In addition, students who graduate with Bachelor of Science degrees have the skill to solve physics problems using computer programming; and they are competent experimentalists. Our graduates have the ability to communicate and defend project results, which, in some cases, consist of their own research, in a professional and discipline-appropriate manner.

About Physics 1310/1311: The undergraduate physics seminar is a course that will help you to familiarize yourself with leadership and professional skills in physics and astronomy. The course emphasizes team work for class discussions and presentations. As a student taking undergraduate seminar for the second time, you will lead the presentation projects of the first-time students. You will also give a talk about a research topic; this should be on research you have been conducting with a faculty member. Physics 1310 & 1311 are required courses for physics and physics & astronomy majors. You should take them in your junior or senior year.

Dale Carnegie once stated, "There are four ways, and only four ways, in which we have contact with the world. We are evaluated and classified by these four contacts: **what we do, how we look, what we say, and how we say it**." By creating your own unique brand, you are prepared to make a lasting impression in all four areas of contact. (The APS Prof. Dev. Guide, p. 28).

Course Goals: After completing this course you will be able to

- Communicate and work in a group.
- Create a résumé and a CV.
- Develop and make an oral presentation and answer audience questions in a professional and discipline-appropriate manner.
- Describe physics career options and the professional skills you need to realize them.
- Second-term students will be able to give feedback to a group in a professional manner.

Instructor: Prof. Dr. Regina Schulte-Ladbeck, http://www.phyast.pitt.edu/~rsl/rsl.html

Office Hours: Wednesdays 2:30-3:30 pm, 417 Allen Hall. Please make an appointment

Course expectations: You are expected to attend all seminars. You will come to every seminar prepared for active participation. You will approach readings and other assignments with thoughtful consideration and be thorough in their completion before coming to class. In this way, you should be prepared to participate in each class experience to your fullest capacity.

Following guidelines of the School of Arts and Sciences for a 1-credit course, you will read for seminar and work on class assignments for about 30 hours over the course of the term, or about 2 hours a week, outside of class meetings.

You will work in groups to discuss readings, web research, and prepare and give talks. You will be an active participant in your group, and conduct all assignments as directed by your team leader. The classroom will be a safe environment for discussing and challenging ideas and concepts. The students and the instructor are expected to treat each other with respect. You will take the necessary action to respectfully listen to the voices of others and their own opinions and values. When asked to give feedback, you will give it in a professional manner.

Students can expect the instructor to come prepared to assist students. I will be a willing listener and advisor with any professional skill and career questions you might have. You may expect me to be available outside of class to give additional support and to help you succeed.

Course Requirements for ALL Students:

- Attendance
- Group work
- Readings (as assigned by the instructor)
- A résumé (no longer than 1 page) and a CV (no page limit)
- A written synopsis of one scientific paper (no longer than 1 page)
- One group presentation

Course Requirements for Second-Semester Students:

- Feedback to group presenters (orally, based on evaluation form)
- One individual presentation

Course Methodology: Because science is done in collaborations and is often a group effort, you will be **working in groups**. Among the professional skills that scientists need are **communication skills**. You will practice these in your groups, by giving oral presentations, by posing and answering questions, and by giving feedback to other students. Other **professional skills** that you will practice this term are intended to help you succeed in applying for your first job or for graduate school.

Course Grades, or How to Get an A: **Attendance is mandatory, obligatory and compulsory.** I will subtract 10 points for each unexcused absence. You must hand in the 3 writing assignments on or before 12 noon on the due date. These count for 60 points. All students must participate in a group presentation, and second-semester students must give an individual presentation. The presentations will be scored using an assessment rubric developed by the faculty. They will count for 40 points. Each group presenter will be given the group's score. The presentation score for second-semester students will be the mean of their group and individual scores. Second-semester students must hand in feedback forms that are the basis of their oral evaluation of the group presentations.

Course resource: There is no book for this course. A useful resource for professionals skills development is the APS Career Guide, located at http://www.aps.org/careers/guidance/index.cfm .

Grading Scale: The grading scale is derived from the University's GPA scale as follows

A	85-100 pts
B	70-84.9 pts
C	40-69.9 pts
D	15-39.9 pts
F	0-14.9 pts

Academic integrity: Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity, noted below from the February 1974, Senate Committee on Tenure and Academic Freedom reported to the Senate Council, will be required to participate in the outlined procedural process as initiated by the instructor. A minimum sanction of a zero score for the quiz or exam will be imposed.

Students with disabilities: If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 216 William Pitt Union, (412) 648-7890/(412) 383-7355 (TTY), as early as possible in the term. Disability Resources and Services will verify your disability and determine reasonable accommodations for this course.

Other Matters of Interest:

Allegheny Observatory Public Lecture Series
physicsandastronomy.pitt.edu/AO/public-lectures

My blog
leadershiprocks.blogspot.com (Check my "Physics for Climbers" notes)

Draft schedule for Undergraduate Physics Seminar: Physics 1310 & 1311
Fall 2010

Week 1 9/1	Introductions, Syllabus and Schedule Seminar topics discussion Skills profile exercise
Week 2 9/8	Guest speaker: Tim Adamo (alumnus) "Hopf algebras, renormalization, and Feynman diagrams" **Homework:** Read Wikipedia entries on résumé, CVs
Week 3 9/15	Group discussion: Résumés and CVs **Homework:** Read TBD, depends on desired discussion topics
Week 4 9/22	Group discussion: Desired topics **Due date** for your résumé and CV **Homework:** Google "Tips for giving a scientific presentation", and read, http://www.aresearchguide.com/3tips.html
Week 5 9/29	Group discussion: How to prepare an oral presentation using ppt **Homework:** Review admission requirements for Pitt and CMU on departmental webpages; Read the paper assigned to your group, write your paper synopsis ***Event:*** Career Fair at the Pete is 9/30 from 10am-4pm. GO!
Week 6 10/6	Panel discussion with staff & faculty: How to get into graduate school in physics & astronomy **Homework:** Prepare your group presentation **Due data** for your paper synopsis
Week 7 10/13	Group 1 presents
Week 8 10/20	Group 2 presents
Week 9 10/27	Group 3 presents
Week 10 11/3	Group 4 presents
Week 11 11/10	Group 5 presents
Week 12 11/17	Guest speaker: TBD **Homework for second-semester students:** Prepare your individual presentations
Week 13 11/24	Recess, no class
Week 14 12/1	Individual presentations
Week 15 12/8	Individual presentations