

FLORIDA STATE UNIVERSITY

Department of Physics

Syllabus: Discovering Physics - PHY 1090 Fall 2012

12:30 – 1:20 pm Tuesdays HCB 0210 (Shifted by ten minutes!)

Instructor: Bernd A. Berg, 615 Keen Building.

Office Hours: M and W 2:30 pm – 3:30 pm.

Phone 644-6246, **E-mail** berg@hep.fsu.edu .

Textbook: None. **Final Exam:** None.

Course Goals

This course provides an introduction to the research done in physics. It will consist of a number of informal talks with discussions and tours of research facilities at FSU. The goal is to acquaint you with the world of research in physics and the lives of people doing it. By the end of the course you should know about the science we pursue at FSU and about what your life may be like as an undergraduate physics major and – if you choose to pursue this option – as a graduate student in physics and practicing scientist. We will also talk about interdisciplinary research career opportunities that make use of physics training in disparate job settings.

Discovering Physics is designed for physics major freshman, but suitable for all students interested in physics.

Class Format

The class will consist of a series of lectures, mostly by guest speakers, class discussions, and tours of research facilities. For the class discussion, you (the students) should take the opportunity to interview the speaker based on the talk and about any introductory material you may have researched on your own. Questions about the motivations (either for studying physics or for the current research) are also encouraged.

Grading

There are 15 class meetings scheduled. If you attend at least 12 of the meetings, you will receive a grade of “S” (“80% of the success is being there”, Woody Allen). If you attend fewer than 12 meetings, you will receive a grade of “U”. The sign-up sheet will be collected at the beginning of the class. Late arrival does not count.

Questions

You are encouraged to ask questions before, during or after class, during office visits with me or guest lectures, or via e-mail.

University Policies

The statements of the following website are part of the syllabus
<http://facsenate.fsu.edu/Curriculum-Forms/Policies> .

Tentative Schedule (Fall 2012)

August 28: Prof. Bernd Berg: *Course Introduction; A Short History of Physics.*

September 4: Prof. Jorge Piekarewitz: *Theoretical Nuclear Physics.*

September 11: Prof. Ingo Wiedenhover: *Tour of the LeRoy Collins Research Lab**.

September 18: Prof. Mark Riley: *Experimental Nuclear Physics.*

September 25: Prof. Takemichi Okui: *Theoretical Particle Physics.*

October 2: Prof. Susan Blessing: *Experimental Particle Physics.*

October 9: Presentation by the Society of Physics Students (SPS), Ashley Huff, Chair.

October 16: Prof. Peter Hoefflich: *Astrophysics and Cosmology.*

October 23: Prof. Per Rikvold: *Statistical Physics.*

October 30: Prof. Huan-Xiang Zhou: *Biophysics.*

November 6: Prof. Oskar Vafek: *Graphene.*

November 13: Prof. Nick Bonesteel: *Quantum Computing.*

November 20: Student Discussion.

November 27: Prof. James Brooks *The National High Magnetic Field Laboratory.*

December 4: Tour National High Magnetic Field Laboratory**.

* Meet in the atrium of Keen Building between 12:20 and 12:30. Students not in attendance by 12:30 will be marked absent.

** Meet at the front entrance of the National High Magnetic Field Lab (NHMFL) between 12:20 and 12:30. Students not in attendance by 12:30 will be marked absent. No transportation is arranged to the NHMFL; you must make your own arrangements. Some parking is available nearby, and a shuttle bus is available between FSU, FAMU, and Innovation Park.