

**Physics 114: Introduction to Experimental Physics**  
**Fall 2011: Th 1:10 - 3:50 PM and T 12:00-1:00 PM**  
**Room: CNS 204**

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- Course Organizer:** Michael "Bodhi" Rogers  
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- Office Hours:** T 2:00-3:00 PM, Thur 11:00 AM -12:00 PM  
and by appointment
- Professors:** Dan Briotta, CNS 268, briotta@ithaca.edu  
Beth Ellen Clark Joseph, CNS 267, bclark@ithaca.edu  
Luke Keller, CNS 264, lkeller@ithaca.edu  
Matt Price, CNS 266, mprice@ithaca.edu  
Michael "Bodhi" Rogers, CNS 265, mrogers@ithaca.edu  
Kelley D. Sullivan, CNS 260, kdsullivan@ithaca.edu  
Matthew C. Sullivan, CNS 262, mcsullivan@ithaca.edu  
Bruce Thompson, CNS 263, bthompso@ithaca.edu

## Course Philosophy

This course is an introduction to modern experimental physics for all beginning physics majors or those considering the major. Students will become acquainted with some modern experimental tools that they will use throughout their career in physics. This course will also serve as an introduction to the Physics Department at Ithaca College, as each professor here will lead a short, hands-on project. Each project will be different according to each faculty member's interests, but all of the projects will have similar aspects, including an emphasis on data-taking as well as data analysis via computers. Almost all modern physics work is collaborative work, so students will be asked to work together in groups.

All students are also expected to attend the Physics Department seminar. The seminars are held every other Tuesday from 12 to 1 PM. In addition to learning physics during your career at Ithaca College, we hope our students will also become adept at speaking about physics. Attending these seminars will help you learn how to speak about physics. Additionally, the seminars are designed to let our students know about the many interesting branches and opportunities in physics.

## Homework

Most of the work in this course will be completed during class. However, some outside work will be assigned during the various projects. Each professor will assign and evaluate that homework. There are no exams in this course.

## Grading

This course and the projects in this course are intended to help you begin to think like a physicist. However, how you are thinking is a difficult thing to evaluate! For this reason and other reasons, the grading in this course is **pass/no pass**. Your performance in the class will be based on two factors: attendance and participation. Again, because most of the work will be completed in class, **attending class is absolutely vital!**

## Attendance

All students are required to attend all classes and the Physics Seminar. **More than two unexcused absences will mean an automatic no pass.** Please speak to one of the professors if you anticipate any difficulties attending class or the seminars.

## Other notes:

- In compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, reasonable accommodation will be provided to students with documented disabilities on a case-by-case basis. Students must register with Student Disability Services and provide appropriate documentation to Ithaca College before any academic adjustment will be provided.
- I will send out occasional emails to the entire class to their *Ithaca College* email addresses, so you must check them regularly.

## Fall 2011 Physics 114

### Course Schedule

<b>Date:</b>	<b>Topic:</b>	<b>Professor:</b>
Sept. 1	Life as a Physics Major	Bodhi Rogers
Sept. 8	Seminars and Undergraduate Research	Luke Keller and Bodhi Rogers
Sept. 13	Physics Seminar: Soft Matter Physics	Thomas Mason, UCLA
Sept. 15	OSIRIS-REx	Beth Ellen Clark Joseph
Sept. 22	SOFIA	Luke Keller
Sept. 27	Physics Seminar	TBA
Sept. 29	Archaeogeophysics	Bodhi Rogers
Oct. 6	Relativity	Matt Sullivan
Oct. 13	Spreadsheets	Bruce Thompson
Oct. 11	Physics Seminar: IC Students Report on REU	J. Wu, J. Russ, M. Garay
Oct. 20	<b>Fall Break</b>	
Oct. 25	Physics Seminar: IC Students Report on REU	D. Cele, A. Hope, H. Hill
Oct. 27	Careers in Physics	Bodhi Rogers
Nov. 3	Physics and Astronomy Education Research	Matt Price
Nov. 8	Physics Seminar: THz Technologies	Lee Mossbacker, Traycer Diagnostics Systems
Nov. 10	Magneto-Optical Traps	Bruce Thompson
Nov. 17	Fluorescence Microscopy	Kelley Sullivan
Nov. 24	<b>Thanksgiving Break</b>	
Nov. 29	Physics Seminar: Fusion Energy	Stewart Prager, Princeton
Dec. 1	TBA	Bodhi Rogers
Dec. 8	Heading into Final Exams Week	Bodhi Rogers
Dec. 13	Physics Seminar: Messenger and New Horizons	Ann Harch, Cornell
Dec. 15	Superconductivity	Matt Sullivan