

Physics 109: Paths to Success in Physics

Aristotle said a bunch of stuff that was wrong. Galileo and Newton fixed things up. Then Einstein broke everything again. Now, we've basically got it all worked out, except for small stuff, big stuff, hot stuff, cold stuff, fast stuff, heavy stuff, dark stuff, turbulence, and the concept of time.

Instructor	Dr. Eric Ayars
Class time	Friday 3–3:50PM, in Ayres 101.
Office	PhSc 106
Office hours	Drop in or by appointment.
Phone	898-6967
Email	eayars@csuchico.edu
On-Line	https://physics.csuchico.edu/ayars/109/

Overview

This course serves as an introduction to the physics major for incoming majors and those interested in physics, and provides information about career options in physics. There are no prerequisites. At the end of the course you should be able to:

- Complete your own personal plan to graduation
- Identify career paths available to someone with a physics degree
- Become familiar with active research areas in physics
- Complete a group research project

Details

The class has three major components: readings, discussions, and projects.

Readings We will start each class with a short discussion of an article about a recent result from physics research. The articles are posted on the course website.

For the first month or so we will read and discuss articles that I select. After that you will, with a partner, select an article for the class to read and discuss. Good sources for articles include Physics Today, Physics, AAS Nova, and Astrobites. You must submit your article to me at least one week prior to when it will be discussed.

Discussions The remainder of our time in class will be a combination of discussions, presentations, and question and answer sessions with invited guests for the first 10 weeks. Guests will include other physics faculty as well as recent graduates from Chico State and physicists from a variety of career paths.

Projects During the last 6 weeks of the semester classes will be used to work on your selected group research project. There will be three projects due this semester. The first will be a group interview of a Chico State physics alum compiled into a report to the class about their career path. The second will consist of laying out your own personal path to graduation based on one of the two Major Academic Plans for options within the physics major. The third will be to conduct research in small groups mentored by a member of the physics faculty, and then present the results to the class. Project ideas will be presented by participating faculty members. This project will result in a presentation to be held during the scheduled final.

Grading

Your grade will be computed as follows:

- Professionalism — 10%
- Readings — 30%
- Projects — 60%

Expectations

Students are expected to attend every class, having studied the material for that day *prior* to class. Check the course web pages frequently for reading assignments, etc.

Academic integrity is required in all you do in this course. If you violate the standards of the campus Academic Integrity statement (available at <http://www.csuchico.edu/prs/EMs/2004/04-036.shtml>) you will fail my class and be reported to Student Judicial Affairs. In particular, plagiarism (the uncredited use of another person's words or ideas) is a form of academic dishonesty and will result in no course credit and a referral to Student Judicial Affairs.

Other than that, "Proper" classroom behavior is discouraged. Class time will be for questions and discussion and ideas and a fair bit of noise. If you expect to sit quietly at your desk while someone pours knowledge into your brain through a funnel *you are in the wrong major*.