Physics 490 : Senior Seminar  
Spring 2005

The purpose of this class is to develop skills for communicating scientific knowledge. There are two main parts to the course. First: reading, questioning, and discussing scientific articles. Second: writing papers and giving presentations on a research project of your choosing.

Professor: Dr. Julie A. Rathbun       x2927 Duke 111 julie_rathbun@redlands.edu

Class meetings: W 1:00 PM – 2:20 Duke 111 or Duke 122

Goals:
1. To critically read scientific literature and engage in scientific discourse
2. To communicate results through scientific writing and oral presentations
3. To develop the ability to supply constructive criticism when evaluating the work of peers

Course Policies
Assignments are due at the beginning of class on the day indicated. All assignments turned in after this time will receive a late penalty of 10% per day. If you have a pressing reason to extend a due date, you must request an extension well in advance of the original due date. I reserve the right to schedule pop quizzes if students are failing to attend meetings or come to meetings prepared.

Grading:
Journal articles 50%
   Summaries 20%
   Participation 30%
   Includes: Discussion, questions & presentation of journal articles and other students’ projects

Research project 50%
   Outline & drafts 10%
   Presentation for faculty 10%
   Final paper 10%
   Non-technical paper 10%
   Presentation for others 10%
**Papers & Presentations**

You are expected to be able to share your research with professionals and the general public, two very different audiences. As such, you will write 2 papers, one for each audience. You will also give 2 presentations: one to the physics department (in March) and one open to the entire university population (in Mayterm).

**Tentative Schedule:**

Jan 14, 1:00-2:20 outline and summary due, discussion of projects & writing style, make calendar for student paper presentations  
Jan 19 paper disc. Led by Julie; students bring article summary. Also must turn in articles for next few discussions  
Jan 26 Student led discussion / bring in summary  
Feb 2 Student led discussion / bring in summary  
Feb 9 Student led discussion / bring in summary  
Feb 16 first draft due, discussion of technical vs. non-technical paper  
Feb 23 discussion of first draft, each student must bring in summary of other student’s projects  
Mar 9 presentation practice  
Mar 16 second draft due, discussion  
Mar 23 Presentation to Faculty  
Mar 30 Discussion of grad school and job applications  
Apr 6 Non-technical draft due, discussion  
Apr 13 presentation practice  
Final version of both papers due during finals week (Wed, 4/20 most likely)  
Presentation to University (during MayTerm)