

# **PHY 598: Graduate Seminar I, Fall 2024**

## **Course Description:**

This course focuses on developing several crucial skills for success in physics graduate school and a scientific career in general. These include:

- Reading and understanding scientific literature on a given topic
- Preparing and presenting scientific talks using slides
- Lecturing on a physics topic on the chalkboard

This course is required for all first-year graduate students.

*Fall and Spring, 0-1 credits, Letter graded (A, A-, B+, etc.)  
May be repeated for credit.*

Class Meeting: Mondays 5:00-6:20 PM in Physics Building, Room P127

First Class: Aug 26th

Last Class: Dec 9th

Course Instructors: Prof. Cyrus Dreyer

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Office: Physics B-141

Prof. Jesus Perez Rios

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Office: Physics A-139

Prof. Raymond Blackwell,

e-mail: [raymond.blackwell@stonybrook.edu](mailto:raymond.blackwell@stonybrook.edu)

Office: Physics B-103

## **Requirements:**

The course will involve three components:

1. ***Scientific presentation.*** Student will:
  - a. Select a topic from a provided list (link will be provided on the first day of class), or propose a topic, and two dates for the presentation (in the first and second half of the semester).
  - b. Prepare a 10-minute presentation (using slides) on the topic, aimed at the level of a general physics graduate students.

- c. Schedule a meeting to consult with the appropriate instructor (Dreyer, Perez-Rios, or Blackwell) prior to the presentation.
  - d. Present the talk at the selected date in the first half of the semester. Answer questions and receive feedback from instructors.
  - e. Incorporate feedback and give an improved presentation (on the same topic) on the selected date in the second half of the semester.
2. **Practice lectures.** Student will:
    - a. Select a topic from a provided list of topics (link provided on the first day of class) and a date in the middle of the semester.
    - b. Give a 15 minute mini-lecture on the topic, either on the chalkboard, aimed at the level of a physics undergraduate.
  3. **Participation.** Student will:
    - a. Attend class.
    - b. Provide feedback on 5 other students' first round scientific presentations via Brightspace.

## **Class Timeline:**

(Dates are subject to change based on enrollment, etc.)

- August 26: Initial meeting and introduction to the course
- September 2: No class
- September 9: Prof. Dreyer will give a talk on effective scientific presentations. Also, deadline to pick topics for presentations
- September 16: Prof. Blackwell will give an example 10-minute talk. Prof. Perez Rios will give an example 15-minute lecture.
- September 23-October 21: First round of scientific presentations
- October 21-November 11: Practice lectures
- October 28: Deadline for submitting feedback on other students' presentations
- November 11- December 9: Second round of scientific presentations

## **Grade Breakdown:**

### First round Presentation: 15%

Grade will be an average of grades (on a scale of 1-10) assigned by each instructor. You will be graded on knowledge of the content of your topic, quality of the slides, quality of the delivery, and ability to answer questions.

### Second round Presentation: 35%

Same as the first-round presentation, but also will be graded on how feedback was effectively incorporated to improve the presentation.

### Practice lecture: 30%

Grade will be an average of grades (on a scale of 1-10) assigned by each instructor. Will be graded on clarity and effectiveness of instruction

### Feedback to other presenters 10%

The goal is to provide feedback via Brightspace to the other students on how they could improve their presentation. You are expected to provide feedback on a minimum of *five* presentations. There will be no need to provide grade, as the grades are decided solely by instructors.

### Attendance: 5%

You are expected to attend all presentations. If you miss a class without a valid excuse communicated to the instructors, you will lose the attendance points for that specific class.

### Instructor Meeting 5%

You are to present a completed draft of your presentation to your faculty mentor in the week preceding your presentation. Don't wait for the Friday before! Your faculty mentor may not be available.

## **Resources:**

- "Designing and Delivering an Effective Research Talk" by Prof. Meigan Aronson ([slides](#), [movie](#)[wmv;285MB])
- Read the "[Advice to beginning Physics Speakers](#)" by James Garland, in *Physics Today*, July, 1991.
- See a [workshop talk given by Dr. Barbara Gross Levi](#) (who is a science writer for *Physics Today*) on how to give good talks. See also [the work by Prof. \(Emeritus\) Edward Tufte](#) on the all-too-often misuse of *Powerpoint* for scientific presentations. Make sure you follow the link(s) there to his and other example(s) of such misuse.
- Stony Brook subscribes to several [research databases and online journals](#). Particularly valuable are the [Web of Science](#) and some [APS journals](#) including *Reviews of Modern Physics*.

## **University Policies**

### **Student Accessibility Support Center (SASC) Statement:**

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact the Student Accessibility Support Center (SASC), ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their

needs with their professors and the staff at the Student Accessibility Support Center (SASC). For procedures and information go to the following website: <http://www.stonybrook.edu/ehs/fire/disabilities>

### **Academic Integrity Statement:**

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at [http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

### **Critical Incident Management Statement:**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures.

### **Regarding Equivalent Opportunity/Religious Absences:**

[https://www.stonybrook.edu/sb/bulletin/current/policiesandregulations/policies\\_expectations/equivopportunity\\_religiousabsences.php](https://www.stonybrook.edu/sb/bulletin/current/policiesandregulations/policies_expectations/equivopportunity_religiousabsences.php)

### **Student Participation in University-Sponsored Activities:**

By their participation in campus-related activities such as research conferences, dramatic or musical performances, intercollegiate athletic competitions, or leadership meetings, students make contributions to the University. In recognition of the students' commitment both to their regular academic programs and to related activities, the University makes every effort to accommodate unique situations.

Students are responsible for presenting a printed copy of semester obligations to all their professors at the beginning of the semester to alert them to activities that may present conflicts. Instructors are required to make arrangements for students to complete examinations, quizzes, or class assignments early or late if the student's participation in a University-related activity results in the student's absence from the class when such work is due. Some events occur only by invitation during the semester, and instructors should make accommodations for these students.