GRSC 7770 Graduate Teaching Assistant Seminar: 
Introduction to Teaching Physics Labs

Class time & location  Fridays, 2:30 - 3:20 pm  
Room 321
Lab meeting  1111/1211 3:35-4:25 Friday in room 314  
1112/1212 1:25- 2:15 Friday in room 321
Instructor  Sarah Dunning  sarah@physast.uga.edu
Office location  Room 222
Office hours  By appointment, or just drop by
Faculty Contact  Jean-Pierre Caillault  jpc@akbar.physast.uga.edu

Description
This seminar serves as an introduction to teaching physics as a graduate teaching assistant at the University of Georgia. It is a discipline-specific equivalent to the GRSC 7770 course required for all new graduate teaching assistants by the university. The classes are designed to prepare teaching assistants for their new role at the University of Georgia as well as for potential careers involving instruction at other institutions or in other professional capacities.

GRSC 7770 is structured in a front-loaded format so that TAs will have maximum exposure to important topics before they enter the classroom for the first time. This also allows the class to better meet your needs throughout the semester as a developing teacher. Our sessions will include the following topics:

- Techniques to organize and conduct the first class meeting of a course effectively
- Discussion of the range of options for dealing effectively with students and classroom problems
- Practice in planning, organizing and leading class discussions and lectures
- Discussion of good test design and valid evaluation
- How to evaluate one’s own teaching
- Using a variety of teaching methods in the classroom
- Departmental and institutional resources for teaching
- University and departmental instructional policies
- Opportunities to document the graduate teaching experience for future careers in the academy and elsewhere

This course will include not only general practical and pedagogical information that can be useful for a beginning TA in any field, but it also offers techniques and activities that are particularly appropriate for teaching physics. This material should make teaching not only less daunting for you, but also more rewarding for both you and your students. In addition, you will meet and learn from some of the department’s outstanding faculty and graduate student instructors. The faculty and your peers are your most
important resources for teaching advice and support; this course is designed as a supplement to that resource.

**Disability or Health Related Issues**  Students with a disability or a health related issue who need a class accommodation should speak with me as soon as possible.

**Grading**  The course is graded on a satisfactory/unsatisfactory basis. If you miss more than two classes without documentary evidence of a medical or family emergency, you will receive a grade of Unsatisfactory. In addition, because the grading criteria are quite broad, your written work will receive comments rather than a conventional letter grade, as my main concern is that you complete the work. Failure to complete assignments in a timely fashion will result in a grade of unsatisfactory.

**Academic honesty**  All academic work must meet the standards included in “A Culture of Honesty.” Each student is responsible for informing themselves about these standards before performing any academic work. [http://www.uga.edu/ovpi/honesty/acadhon.htm](http://www.uga.edu/ovpi/honesty/acadhon.htm).


**Required reading**  Handbook for Graduate Teaching Assistants. Distributed at TA orientation and available online (through [www_CTL_uga_edu](http://www_CTL_uga_edu)).

This class is designed to prepare you for your employment as an instructor at the university and to assist you in your professional development. In order to achieve these objectives, your attendance and participation are a must. As graduate students, all of us have numerous time commitments to our coursework, our teaching, other jobs, and our families. With this in mind, I have designed the course schedule in order to give you the tools you will need as early as possible in the semester, with all assessments completed one month before the end of the semester (the busiest time of the Fall). There will be four (4) written assignments that you must complete.

**Class assessments**

1. **Lesson plan. Due Sept. 5.**  Design a lesson plan for one class, trying out an innovative or creative approach to teaching one of the current physics labs. Bring enough copies for all TAs in GRSC, in addition to a copy to turn in to me.

2. **Peer observations. Due Oct. 3.**  An important part of learning how to teach is responding to constructive criticism. You will observe two of your peers teach their sections and provide a short written review based on provided evaluation forms.

3. **Revised teaching philosophy statement. Due Oct. 17.**  Now that you have half a semester of teaching under your belt, you are in a bet-
ter position to think about your philosophy of teaching. Revisit your early teaching philosophy statement and make changes that reflect your growth as an instructor over the semester.

4. Improving the labs. Due Nov. 7.
Your task here is to come up with ways of improving the labs at UGA. Select an exercise from the current lab manual and come up with ways to correct/improve the material. Your final copy should be the improved version of the lab with changes marked in bold.

Note: This course syllabus is a general plan for the course. Deviations announced to the class by the instructor may be necessary.

GRSC 7770 Schedule

Friday Aug. 22  What does it mean to teach physics labs?
Read: McKeachie, ch. 1, 2, TA Handbook p. 4, 11-12
Departmental Expectations for 1111/1211 TA's
Overview of GRSC course & university resources for TA's
Administrative basics & insider tips on teaching first year labs
Writing your preliminary teaching philosophy

Friday Aug. 29  Lab Intros [Initial teaching phil. due]
Read: McKeachie, ch. 3, 6, 20
Strategies for the first day of class
Lab intros.

Friday Sept. 5  Grading [Lesson plans due]
How to grade fairly, efficiently, and consistently

Friday Sept. 12  Motivating students [Guest speaker: Craig Wiegert]
Read: McKeachie, ch. 12, 23

Friday Sept. 19  Nuts & bolts
Read: McKeachie, ch. 13, 14
The classroom environment: knowing your students, dealing with diversity & special needs.

Friday Sept. 26  Answering questions
Read: Handout “Answering and Asking Questions,” and McKeachie, ch. 5, 8
Responding to student questions
Five-minute “teach” - part I

Friday Oct. 3  Teaching & learning styles
Differences in student learning styles  
Finding your own teaching style  
Five-minute “teach” - part II

Friday Oct. 10  **Legal issues in teaching** [Peer observations due; Guest speaker: Art Leed]  
Read: McKeachie, ch. 10, TA Handbook p. 34

Friday Oct. 17  **Correcting problems in your teaching** [Revised teaching philosophy due]  
Read: McKeachie, ch. 26  
Identifying weaknesses in your own teaching

Friday Oct. 24  **Professional development**  
Read: TA Handbook p. 39-42  
Creating your teaching portfolio  
Documenting your teaching for awards, jobs, and tenure

Friday Oct. 31  **NO CLASS**—FALL BREAK

Friday Nov. 7  **Improving the labs 1** [Improving labs report due]  
Read: Skim the lab manual; familiarize yourself with at least one point you’d like to mention in discussion

Friday Nov. 14  **Improving the labs 2**  
Read: Skim the lab manual; familiarize yourself with at least one point you’d like to mention in discussion

Friday Nov. 21  **Science and society colloquium**  
Read: Handouts “Physicists in Congress” and “Put a Little Science in Your Life.”  
The bigger picture: award-winning physics and astronomy department teachers share their insights on what it means to teach physics/astronomy.

Friday Nov. 28  **NO CLASS**—THANKSGIVING

Friday Dec. 5  **Learning to learn** [Guest speaker: Lori Aultman]  
Read: Handout “Promoting Academic Integrity in the Classroom,” and McKeachie, ch. 25, 16  
Lesson plans distributed to all GRSC students

Friday Dec. 9  **Conclusions and evaluations**  
Last Class!  
Read: McKeachie, ch. 24