

# **Syllabus PHYS 2997 Teaching of Physics Fall 2016**

## **Course Information**

CRN	24407
Location	105 Allen Hall
Time	Friday 3:00 – 4:50 pm
Instructor	Russell J. Clark, Ph.D
email	<a href="mailto:ruc2@pitt.edu">ruc2@pitt.edu</a>
Phone	412-624-9204
Office	OEH 404
Office hours	Monday: 3:00pm – 4:00pm Tuesday: 8:00am – 9:00am Wednesday: 3:00pm – 4:00pm Thursday: 8:00am – 9:00am Friday: 7:00am – 8:00am Other times by appointment: <a href="http://tinyurl.com/Russell-Clark-Appointments">http://tinyurl.com/Russell-Clark-Appointments</a>

## **Course Description**

This is a mandatory course for all physics graduate students. The overall objective of this course is to prepare incoming graduate students for their duties as Teaching Assistants (TAs) and lay the foundation for any subsequent teaching role they may assume. This course will introduce students to the principles of learning and physics education research-based curricular and pedagogical approaches using concrete examples. There will be opportunity to reflect upon various aspects of the course and teaching and learning in general.

The grade for the course is either credit or no credit (pass/fail). The following are requirements for the course.

- ✓ You must fully complete all the assignments and activities by the assigned dates.
- ✓ You must participate in all class discussions and activities.

## **Internet Access**

Internet access for this course is provided through the Courseweb system. This is a portal used for many different courses at the University of Pittsburgh and is basically a communications tool between the instructor and the students. Through Courseweb you may send email to your instructor or the UTA, view your grades and download course materials such as the syllabus. You will also find announcements, upcoming activities and class assignments. Use the following link to access Courseweb: <http://courseweb.pitt.edu>. Once there, login using your Pitt email username and password. If you do not know your username and password, contact the computer help desk (412-624-4357 or 4-HELP). After you login you will see links for all of your courses that participate in Courseweb. Simply click on the link for this course.

## Schedule

Lecture	Date	Topic or Activity	Description
1	09-02	Introduction	Student introductions Overview of the course Standard Inventory Exam (STPFASL) CSEM Exercise
2	09-09	Basics of Teaching	Syllabus, Pronunciation & Enunciation, Preparation, Good presentation, Working problems, Answering questions, Listening, Attitude
3	09-16	Audience Awareness	Teaching in recitations, Teaching in labs, Teaching in lectures, Office hours, Email, Academic integrity
4	09-23	Grading and Problem Selection	What is the purpose of grading, What is a rubric, Developing a rubric, Problem sorting exercise
5	09-30	New Pedagogies	Learning models, Student response systems, Peer instruction, Active engagement, Just in time teaching, Flipped classrooms, Interactive Lecture Demonstrations, Multi-media, Inquiry based labs
6	10-07	Presentation 1	Presentations and group discussions
7	10-14	Presentation 1	Presentations and group discussions
8	10-21	Presentation 1	Presentations and group discussions
9	10-28	Presentation 1	Presentations and group discussions
10	11-04	Presentation 2	Presentations and group discussions
11	11-11	Presentation 2	Presentations and group discussions
12	11-18	Presentation 2	Presentations and group discussions
	11-25	<b>Thanksgiving Break</b>	<b>No class</b>
13	12-02	Presentation 2	Presentations and group discussions
14	12-09	Summary	A discussion on what you can do to improve your performance as a teacher.
	12-17	<b>Final Exam Week</b>	<b>No class</b>

## Grading

The course grade for this class is S/NC, which means pass (S) or fail (NC). You will not receive a letter grade for this class.

You will be given points (see the table below) for participation in and completion of the class assignments.

**You will only receive a grade of S (pass) if your final score is 185 or above.**

Note that you will only be allowed to makeup missed work if you have an excused absence. If you have to miss class due to illness or a family emergency then you may be asked for documentation, such as a note from your doctor. If you know that you will have to miss class due to attending a conference or some other compelling reason, then you should discuss this with the instructor ahead of time.

Assignment	Description	Points
Attendance	You will receive 8 points for class participation in each class meeting. If you show up for class, but do not participate then you will receive fewer than 8 points.	112
In Class Assignments	Throughout the semester you will be given short assignments to complete in class. The number of points per assignment will vary but collectively they will be worth 14 points.	14
Homework	Throughout the semester you will be given assignments to complete outside of class. The number of points per assignment will vary but collectively they will be worth 14 points.	14
Presentation 1	You will give a 10-15 minute presentation on a given topic in introductory physics, such as working a homework problem or deriving an equation. The presentation will be followed by a group discussion on the strengths and weaknesses of the presentation.	15
Presentation 2	You will give a 10-15 minute presentation on a topic in introductory physics of your choosing, such as working a homework problem, deriving an equation, or presenting a new topic. The presentation will be followed by a group discussion on the strengths and weaknesses of the presentation.	15
Essay 1	Write a one to three page essay about one of the following topics: Student Response Systems Peer Instruction Just In Time Teaching Flipped Classroom Inquiry Based Labs	15
Essay 2	Write a one or two page essay on what you need to improve in your teaching and how you plan to make that improvement.	15
		200

## Disability Services

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services (DRS), 140 William Pitt Union, 412-648-7890, [drsrecep@pitt.edu](mailto:drsrecep@pitt.edu), 412-228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

## Academic Integrity

Take time to read the information on “Academic Integrity” and be sure that you understand your responsibilities under the guidelines set out for The Dietrich School of Arts and Sciences, which are spelled out in full at <http://www.as.pitt.edu/fac/policies/academic-integrity>.

## Statement on Classroom Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student’s own private use.

## Useful Information

The following links and locations may be useful to you.

Resource	Location	Link
Campus Building Index		<a href="http://www.tour.pitt.edu/locations">http://www.tour.pitt.edu/locations</a>
Academic Resource Center	G-1 GSCC	<a href="http://www.asundergrad.pitt.edu/arc">http://www.asundergrad.pitt.edu/arc</a>
Writing Center	317B O’Hara Student Center	<a href="http://www.writingcenter.pitt.edu/">http://www.writingcenter.pitt.edu/</a>
Math Assistance Center	215 O’Hara Student Center	<a href="http://www.mathematics.pitt.edu/about/math-assistance-center">http://www.mathematics.pitt.edu/about/math-assistance-center</a>
School of Arts and Sciences	Thackeray Hall	<a href="http://www.asundergrad.pitt.edu/">http://www.asundergrad.pitt.edu/</a>
Advising Center	201 Thackeray Hall	<a href="http://www.asundergrad.pitt.edu/advising-center">http://www.asundergrad.pitt.edu/advising-center</a>
Office of Student Records	140 Thackeray Hall	<a href="http://www.asundergrad.pitt.edu/offices/student-records.html">http://www.asundergrad.pitt.edu/offices/student-records.html</a>
Registrar	G-3 Thackeray Hall	<a href="http://www.registrar.pitt.edu/">http://www.registrar.pitt.edu/</a>
Office of Career Development and Placement Assistance	200 WPU	<a href="http://www.studentaffairs.pitt.edu/cdpa">http://www.studentaffairs.pitt.edu/cdpa</a>
Study Abroad Office	802 WPU	<a href="http://www.abroad.pitt.edu">http://www.abroad.pitt.edu</a>
Counseling Center	Suite 334 WPU	<a href="http://www.studentaffairs.pitt.edu/cchome">http://www.studentaffairs.pitt.edu/cchome</a>
Campus Computing Labs		<a href="http://technology.pitt.edu/service-locations/computing-labs.html">http://technology.pitt.edu/service-locations/computing-labs.html</a>