

PHY 495 – Seminar in Physics

1 Unit

Spring 2018

PLNU Mission Statement
To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Professor: Dr. Heide Doss

Office: Rohr Science (RS 211) **cell phone:** (619) 840-4559; **office phone:** (619) 849-2219

E-mail: plnuPhysicsDoss@gmail.com or hdoss@pointloma.edu (response time faster for first email)

Office Hours: MTWF 8:30 AM – 9:45 AM, 10:45 AM-12PM Th 8:30AM – 10:30 AM; or by appointment, (RS 211 NOTE if you really need to see me, I will also be around MF from 9:45 to 10:45 but this is also Chapel time – so you'll have to make up Chapel one evening.

Regular meeting times: January 9, 2017 – April 27, 2017 (NOTE: T Jan 9 is a M schedule)

Lecture: T 12:25 pm – 1:20 pm (Rohr Science 13)

Final Exam: None

Textbook: None

Course Description:

Presentation of papers by students, faculty, and visiting scholars, as well as attendance at seminars at other institutions. May be repeated up to a maximum of four units. Graded Credit/No Credit.

Student Learning Outcomes: By the end of this course students will be able to demonstrate the following skills:

1. Effective reading of scientific literature;
2. Presentation of scientific material from literature;
3. Group collaboration on a scientific project;
4. Writing a journal style article as a group, along with peer review;
5. Presenting a group project in both video format and conference format;
6. Writing a résumé and a cover letter.

Final Grades: Successful completion of this course is based on satisfactory completion of activities, active participation in discussions, and successful presentations. Graded Credit/No Credit.

Guest Speakers/Seminars: Part of this course is attending seminars that are not scheduled during class time. The dates and times will be provided to you as they are scheduled. You will be required to attend at least 5 seminars, with one being at another institution. Only seminars cleared with me will count.

Collaboration: Scientists and engineers collaborate, and I expect and encourage you to collaborate with your peers, however your work should be your own. The guideline is that you should have no trouble explaining or repeating the work you turn in.

Late Work: Late work will not be accepted unless there is a documented emergency. Assignments are due as noted on the syllabus, in class, and on Canvas. Incompletes are only assigned in extremely unusual circumstances.

Final Exam: There is no final exam for this course.

Course Grade: The points you receive during the course are weighted accordingly, and the grade you earn in this course is based on the scale that follows.

Component	Weight
Participation	20%
Writing Assignments	25%
Presentations	25%
Projects/Video	15%
Seminars	15%

Credit	No Credit
Total weighted score ≥ 70	Total weighted score < 70

Department Mission:

The Physics and Engineering Department at PLNU provides strong programs of study in the fields of Physics and Engineering. Our students are well prepared for graduate studies and careers in scientific and engineering fields. We emphasize a collaborative learning environment, which allows students to thrive academically, build personal confidence, and develop interpersonal skills. We provide a Christian environment for students to learn values and judgment, and pursue integration of modern scientific knowledge and Christian faith.

PLNU Attendance and Participation Policy:

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report, which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Class_Attendance in the Undergraduate Academic Catalog.

Class Enrollment:

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

Academic Accommodations:

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486

or by e-mail at DRC@pointloma.edu. See [Disability Resource Center](#) for additional information. For more details see the PLNU catalog:

http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Academic_Accommodations

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

Credit Hour:

In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for any 1 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

Copyright Protected Materials:

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU Academic Honesty Policy:

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Academic_Honesty for definitions of kinds of academic dishonesty and for further policy information.

FERPA Policy: In compliance with federal law, neither PLNU student ID nor social security number should be used in publicly posted grades or returned sets of assignments without student written permission. This class will meet the federal requirements by distributing grades and papers individually. Also, in compliance with FERPA, you will be the only person given information about your progress in this class unless you have designated others to receive it in the "Information Release" section of the student portal. See Policy Statements in the undergrad academic catalog.

Tentative Syllabus – subject to updates

The general rule is 2 to 3 hours outside of class per unit hour of class, each week.

There will be seminars outside of class time that you are expected to attend.

Date	Topics and Readings (Assignments due)	Assignments
1/16/18 T	Science literature Résumés, and Cover Letters. NOTE: Every time you read: “email me a copy of the article,” this means email me a copy at least 72 hours before our next class.	Read one science article written for the general public, and one for the general scientist. Be ready to share and discuss. Look for a scientific journal article to read in an area you are interested in (email me a copy of the article.) Be prepared to do give an informal presentation to the class. Look for a job, copy the job listing, create a draft of résumé and cover letter for the job.
1/23/18 T	(Turn in hard copies of job offer, résumé, and cover letter) (Presentation/Discussion of science articles read) Science literature & presentations	Find and read a research article in an area affiliated with the job you wrote a résumé and cover letter for. Email me the info. Get ready for a job interview presentation. Create a 6 to 7 minute power point presentation on the article. Dress for an interview next class. finalize résumé and cover letter turn in.
1/30/18 T	(Turn in final résumé, and cover letter) (Presentation of job related science article – dress up) Formal presentation/discussion of research article related to the job you are applying for. Discussion of project. Project groups formed.	Read a scientific research paper (email me the article you choose). Be prepared to discuss it. Write an article for the general scientist and another for the general public about the science in the research article you read. Each should be between 1 and 2 pages. Pick a project with your assigned group – email me for approval. As a group write up a one page proposal. Be ready to present your proposal (no need to dress up).
2/6/18 T	(turn in article for general scientist and article for general public on the research article you read) (turn in written proposal - Presentation/discussion of project proposal) Scientific literature – form, process Science discussion, preparing for different audiences.	Work on your project/ project presentation/ video/ project article. This will be written as a research article. Pick your journal (from given choices) and follow its format (see templates). The introduction section is due next class. Read a research article and prepare a conference style presentation of the research article you read. Be ready to present next class – dress up.

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2/13/18 T	(Conference style presentations of research article read– discussion. Dress up) (Group project turn in Intro section of your “research” article)	Work on your project/ project presentation/ video/ project article. Analysis section and Supplementary section(s) due next class.
2/20/18 T	(Group Project turn in Analysis section of project article and any supplementary sections of your “research” article) Discussion of peer review, journal articles, conferences, ethics	Work on your project/ project presentation/ video/ project article. Conclusions and Abstract of “research” article due next class. Read a research article
2/27/18 T	(Turn in Conclusions & Abstract for project article) (Informal discussion of research articles) Discussion of peer review, journal articles, conferences, ethics	Finalize your project articles – you will need 4 printed copies of your article for next class. Complete your video.
3/5 – 3/9	No Classes - Spring Break	
3/13/18 T	(turn in article) Peer review Revisiting interviews – interview questions	Peer review assignments following review template for journal submitted to. Group: prepare conference style presentations of your project 9 to 10 minutes 2 minutes questioning. Finalize video and upload to canvas by 3/20)
3/20/18 T	(videos uploaded to canvas before class starts) (Conference style project presentations no videos yet – dress up.) Revisiting interviews – interview questions	Find and read about current science topic in the news. Email me what it is. Be ready to discuss it next class. Be ready to present your group video. Search for another research article in an area you are interested in and email me the info.
3/27/18 T	(Video presentations) (Current science topic informal discussion)	Read the research article you found last week (the one you emailed me.) Write an article for the general public about it.
4/3/18 T	(Turn in article for general public about research article) (Informal presentation/discussion of research articles.) Ethics situations	Read a current research article that interests you (email me info). Be ready to discuss. Write up a brief synopsis for the general public and a brief synopsis for the general science audience.

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Date	Topics and Readings	Assignments
4/10/18 T	(Turn in two articles) (Informal presentation/discussion of research article)	Read a current research article that interests you (email me info). Write up a synopsis and have enough copies to hand out to each class member and one to turn in. Be ready to lead an informal research discussion – no more than 6 minutes.
4/17/18 T	(turn in synopsis) (lead an informal research discussion based on article using synopsis)	Read journal article in an area you are interested in. Email me info. Prepare a mini power point presentation (5 minutes) about the work.
4/24/17 T	(Power point presentation about research article) final discussion	:-)
	Grades turned in by May 14	