

Spring 2019

Syllabus

Physics 451/452: Senior Thesis

Physics 495/496: Honors Thesis

Fridays 2-2:50 pm in Small Hall room 233

Undergraduate prerequisites: You must have a physics research advisor.

Instructors

Prof. Seth Aubin

Office: room 255, Small Hall, tel: 1-3545

Lab: room 069, new wing of Small Hall, tel: 1-3532

e-mail: saubi@wm.edu

web: <http://www.physics.wm.edu/~saubin/index.html>

Office hours: Open office hours.

Course Objectives

The primary purpose of this course is to introduce the basics of presenting scientific research. The course will cover the following topics:

- Abstracts, i.e. executive summary of a paper.
- The science pitch, i.e. “elevator” talk.
- Long talks.
- Project reports.
- Science literature search resources.
- Graduate school and employment.
- Science ethics and professionalism.

Course Materials

There is no textbook. The instructor will provide training documents.

Evaluations

You will receive a grade of “G” for the first semester of the senior thesis course, which will then be converted to a final grade after completion of the thesis in the second semester. Your final grade for the course will be determined by your research advisor with input from the instructor. This grade is based on the quality of your research, effort, midyear report and talk, senior thesis and defense talk, and participation in the PHYS 451/452 or 495/496 courses. An informal grade will be provided at the end of the first semester, as well as guidance on the trajectory of the research.

Thesis and defense (2nd semester): These written and oral presentations are the primary means of evaluating your work.

Research effort: Your weekly productivity and effort on your thesis project are essential components of your course performance.

Midyear report and talk: These written and oral presentations provide guidance on your research performance and can complement evaluations in the second semester.

Short talks and abstracts (1st and 2nd semesters): These short oral and written presentations will occur at the start of the semester.

Course participation: In class participation is required.

CAUTION

- PHYS 451 and 452 (or PHYS 495 and 496) are required for graduation as a Physics major.
- Two semesters of PHYS 451/452 or one semester of PHYS 495/496 will satisfy the COLL 400 requirement. You need three credits of COLL 400 to graduate.

Additional COLL 400 requirement

Project Summary for Diverse Audience: All students using their Senior Thesis research to satisfy the COLL 400 requirement must submit a brief project description (not exceeding 500 words), written at a non-scientist level (for example, for high-school students). It must summarize the goals of the project, student's contribution and results. The Project Summary must be e-mailed to the Research Coordinators together with the thesis draft one week before the last day of classes of the student's graduating semester.

Important academic deadlines

Add/drop deadline: Monday, January 28, 2019

Withdraw deadline: Friday, March 15, 2019

Weekly Schedule (tentative)

Week 0: 1/18 **Class: Intro to Senior Thesis, 2nd semester**
Overview of the senior thesis course during the 2nd semester.

Week 1: 1/25 **No Class ... TBA**

Week 2: 2/1 **No Class ... TBA**

Week 3: 2/8 **No Class ... TBA**

Week 4: 2/15 **No Class ... TBA**

Week 5: 2/22 **No Class ... TBA**

Week 6: 3/1 **No Class ... TBA**

----- Fall Break -----

Week 7: 3/15 **No Class ... TBA**

Week 8: 3/22 **No Class ... TBA**

Week 9: 3/29 **Friday: 1st draft of thesis due to advisor**

Week 10: 4/5 **No Class ... TBA**

Week 11: 4/8-12 **Monday: Sign up for final presentations**
Honors thesis: Corrected complete draft of thesis submitted to examination committee.

Week 12: 4/19 **Friday: Corrected complete draft of thesis is due**
COLL 400 Project Summary for Diverse Audience is due.

Week 13: 4/22-26 **Thesis defenses, week 1**
Format: 20 minutes for talk (30 minutes for honors) + 10 minutes for questions
(Honors presentations get priority for this week)

Week 14: 4/29 – 5/2 **Thesis defenses, week 2**

Friday, May 3, 11 am: Deadline for reporting honors
Student must submit thesis cover sheet (signed by entire committee) to Charles Center.
5pm, honors: Deadline to submit electronic thesis copy to W&M Publish (library).

Wednesday, May 8, noon: Deadline for submitting final hardcopy version of thesis.

Dates to Remember for 2019 Graduates

- **August 31 (Fri)** - All seniors: the title of your research topic and the name of your advisor must be given to the Research Coordinator Professor Seth Aubin
- **Nov 19 (Mon)** Written Report due to advisor and Research Coordinator. (By **Wed, November 28**, Advisors are to give students any comments about their paper.)
- **Dec 3 (Mon) – Dec 13 by noon (Thu)** Mid-term presentations in conference room.
- **March 29 (Fri)** 4 weeks before last day of classes in senior year - Complete draft of thesis turned in to advisor.
- **April 8 (Mon)** Sign up for final presentations in Small Hall 123C
- **APRIL 12 (Fri)** 2 weeks before last day of classes in senior year
Honors Projects: Corrected complete draft of thesis submitted to members of the examination committee.
- **APRIL 19 (Fri)** 1 week before last day of classes in senior year
Senior Projects: Corrected complete draft of thesis submitted to your adviser and research coordinator. COLL 400 “project summary for diverse audience” is due (submit to research coordinator).
- **APRIL 22 (Mon) - May 2 by noon (Thu) Presentations** (Honors - Bring your cover sheet for signatures by the committee). *Honors Presentations get priority April 22 to April 26.*
Honors Talks (30 minutes) Seniors Talks (20 minutes) plus 10 minutes for questions.
Thursday, May 2 NOON Final presentations must be complete
Sign-up Sheet is located in Elle Wilkinson’s office Room 123C.
- **MAY 3 by 11:00 am (Fri) Deadline** for reporting level of Honors YOU MUST take a **copy** of the thesis cover sheet signed by all the committee members to the Charles Center.
By 5pm: Honors Students must submit electronic copies (commonly called ETDs) to W&M Libraries' online scholarship platform, W&M Publish. All spring-fall Honors students are required to upload the final version of their thesis to W&M Publish **by 5:00 pm**. To see full instructions please go to <http://publish.wm.edu/honorstheses/guidelines.html>
- **MAY 8 12:00 noon Wed before commencement**
All students must provide their final copies of theses.
Honor Theses must provide **2 hard copies (Single Sided)** and **Seniors Theses** provide **1 hard copy (Double Sided)**. Please see Ellie Wilkison in Small Hall 123 if you want to use the department’s printer to print your thesis. Electronic copies of all theses (a single PDF file) must be emailed to Ellie Wilkinson (evwilk@wm.edu). Note – Honors Theses will receive one complimentary copy of their thesis bounded. All seniors can request a hard copy for \$30.00. Your thesis hardbound copy will be mailed to you in July/August timeframe.