Syllabus for PH 403, Thesis

Course Name: Thesis

Course Number: PH 403

Faculty: Prof. Ethan Minot

Contact Info: ethan.minot@oregonstate.edu, phone 541 737 9671 (email is preferred)

Course Credits: 1

Course Location: Corvallis

Meeting times: Tuesday 4:30 to 5:20pm

Course Catalog Description:

A research project leading to a thesis under the supervision of a faculty member, whose approval must be arranged by the student in advance of registration. (Writing Intensive Course)

Course Description:

PH403 is the Writing Intensive Course (WIC) for the Physics Major. Students should enroll in 1 unit of PH403 in Fall, Winter, and Spring of the senior year. Students are expected to be concurrently enrolled in PH401 (Research), or to be conducting an approved research project, or to have completed an approved research project such as an REU (Research Experience for Undergraduates). All students must identify a Physics faculty member, or approved non-Phsyics OSU faculty member, as an advisor who will read and grade the thesis.

Student Learning Outcomes:

- Develop and articulate content knowledge and critical thinking in the discipline through frequent practice of informal and formal writing.
- Demonstrate knowledge/understanding of audience expectations, genres, and conventions appropriate to communicating in the discipline.
- Demonstrate the ability to compose a document of at least 2000 words through multiple aspects of writing, including brainstorming, drafting, using sources appropriately, and revising comprehensively after receiving feedback on a draft.

Course Content:

- Use writing as a way of learning and thinking critically about course content
- Learn and practice writing as professionals in the field of Physics
- Complete informal, ungraded or minimally graded writing assignments
- Complete formal, graded writing assignments that are taken through the full writing process, including drafts and revisions (revision is required)
- Receive and give peer feedback on writing in progress
- Revise and polish at least 2,000 words of individual writing, excluding figures (though the typical physics thesis contains 5,000 to 10,000 words)
- Complete a total of at least 5,000 words of assigned writing

We focus on constructing, polishing and revising the thesis to develop the accurate, clear and concise style in prose and illustration that is the hallmark of a well-developed scientific argument. Throughout the year, you deepen your understanding of the physics underlying your own work, and develop a broad knowledge of the work of others.

In Fall, the discussions and exercises focus on writing and reviewing your thesis proposal, general issues related to professional science writing, including literature searching, ethics, co-authorship, and conclude with a progress report. In winter, the discussions and exercises deal with the thesis structure itself: presenting arguments, writing for clarity, presenting non-text data, editing. In Spring, the discussions are about finishing and polishing the thesis, and preparing the oral presentation.

The completed written thesis is due by the end of the 6th week of Spring term. You will give an oral presentation in the mini-conference which is held in two sessions in the last two weeks of Spring term.

Evaluation of Student Performance:

Attendance is required. An important part of the WIC is to engage is the peer review process, and to learn physics content from the presentations of others. Unexcused absences or failure to complete assignments (even ungraded ones) may result in downward grade steps.

Fall (1 credit). Attendance, participation & submission of ungraded assignments (20%); Thesis proposal (30%); Proposal review (20%); Skeleton (30%).

Winter (1 credit). Attendance, participation & submission of ungraded assignments (30%); Draft 1 (30%); Draft review (10%); Draft 2 (30%);

Spring (1 credit). Grade will be assigned by thesis advisor based on the thesis quality. The oral presentation in week 10 or 11 is required to pass the course, but it does not carry a letter grade component.

Learning Resources

There is no required text. Many useful resources are available to help with different aspects of writing.

- Duke Scientific Writing Online Resource
- Writing Science, Joshua Schimel, Oxford University Press (2011)
- Revising Prose, Richard A. Lanham, Pearson Longman (2007)
- Technical Communication: a reader-centered approach , Paul V. Anderson, Wadsworth, Cengage Learning, 7th ed. (2011). ISBN 978-1-4282-6393-2. A modern, useful guide to writing, revising and editing all forms of technical communication. You can order separate chapters from the publisher. Valley Library: PE1475 .A628 2011
- Elements of Style, William Strunk, Jr and E. B. White, MacMillan, 4th Ed. (1999). ISBN 978-0205313426. Timeless advice about concise, clear writing. Valley Library PE1408 .S772 1979a.
- The Craft of Scientific Writing, Michael Ally, Springer, 3rd Ed. (1996). ISBN 978-0387947662. A modern, no-nonsense, approach to scientific writing. Valley Library T11 .A37 1996.

Statement Regarding Students with Disabilities

Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Statement of Expectations for Student Conduct

http://studentlife.oregonstate.edu/code

Religious Holiday Statement

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.