Undergraduate Research and Technical Presentations - 1 semester hour. An individual instruction course involving undergraduate research and technical presentations. The purpose of this course is for the student gain experience in both preparing for and delivering professional oral presentations on scientific research.

Prerequisite: Must be classified as a senior, PHYS 4175 with a C or better.

Textbooks:
No textbook is required.

Seminar Requirements:
You will be giving one seminar that will be greater than 30 minutes in length. Your seminar should include the following: an introduction to the topic, PowerPoint slides (or a suitable electronic alternative), a description of the physics involved in your topic, mathematical equations related to your topic, a hands-on demonstration or “chalkboard” derivation, and a summary or conclusion. The seminar may be required to be livestreamed to the department. To aid the student in their preparation the student will give weekly short presentations. The student will prepare a professional resume for use after graduation. The student will utilize Career Services to go through a mock interview. The student will present a full practice seminar to their classmates. The students will provide and receive feedback for all practice seminars. Students will take a major field test in order to provide feedback regarding the department’s success in meeting its program learning objectives.

Research Requirements:
The student should have successfully completed a physics 4175 research course which should be the basis of their professional presentation.

Course Calendar:
Students will draw dates and times for their formal seminars. Students will give weekly updates on their presentation. A more detailed calendar follows at the end of the syllabus and will be filled in within the first few classes.

Grading Policy:
Student grades are determined by the average of the following six grades (each worth 0-100 points): seminar 1 grade, feedback from the student’s PHYS 475 instructor of record, attendance grade, resume grade, mock interview grade and the major field test. An A = 90 to 100, B = 80 to 89, C = 70 to 79, D = 60 to 69, and F < 60. The seminar grades are based on feedback provided by the faculty. Career Services staff will be consulted in order to determine the student’s mock interview grade. An internship or other independent research may be substituted for the PHYS 475 pre-requisite by approval of the instructor of record and/or chair of the department.

Attendance Policy:
Students will earn attendance points based on the percentage of class periods they attend. The total attendance points will be normalized by the number of class periods so that perfect attendance and participation earns 100 points.
## Calendar

<table>
<thead>
<tr>
<th>Aug. 26, Intro., Ethics survey, draw #’s</th>
<th>Sept. 2, Ethics discussion</th>
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</thead>
<tbody>
<tr>
<td>Sept. 9, Seminar techniques, Resume</td>
<td>Sept. 16,</td>
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<td>Sept. 23,</td>
<td>Sept. 30,</td>
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<td>Oct. 7, Resume draft due</td>
<td>Oct. 14,</td>
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<td>Oct. 21,</td>
<td>Oct. 28, Resume due</td>
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<tr>
<td>Nov. 4, Seminar 1</td>
<td>Nov. 11, Seminar 2</td>
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<td>Nov. 18, <strong>Mock Interviews Complete</strong></td>
<td>Dec. 2, <strong>Major Field Test 1-3 p.m.</strong></td>
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The calendar is subject to change. We may add faculty talks, graduate student talks and/or alumni talks.

### Program Learning Outcomes:

PLO 1: Critical Thinking: The student will demonstrate proficiency in physics by developing critical thinking and problem-solving skills.

PLO 2: Laboratory Skill: The student will develop good experimental techniques.

PLO 3: Written Communications: The student will develop effective writing communication skills.

PLO 4: Oral Communications: The student will develop effective oral communication skills.

Physics 4170 addresses outcomes 1 and 4. PLO 1 is assessed through the Major Field Test. PLO 4 is assessed through the seminar.

### General Education Core Curriculum Objectives (EEOs):

This course is not included in the general education core curriculum.

### Student Learning Outcomes:

Demonstrate a mastery of oral presentation of physics or astronomy research during a 20-30 minute presentation. Distinguish ethical behavior in science.

### Academic Integrity (4.1)

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/student-academic-dishonesty-4.1.pdf](http://www.sfasu.edu/policies/student-academic-dishonesty-4.1.pdf)

### Withheld Grades Semester Grades Policy (5.5)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which
they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

**Students with Disabilities**
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**Mental Health and Wellness**

SFA values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students' mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFA Counseling Services [www.sfasu.edu/counselingservices](http://www.sfasu.edu/counselingservices) Rusk Building, 3rd Floor 936.468.2401
SFA Human Services Counseling Clinic [www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp) Human Services, Room 202 936.468.1041

Crisis Resources:
Burke 24-hour crisis line: 1.800.392.8343 Suicide Prevention Lifeline: 1.800.273.TALK (8255) Crisis Text Line: Text HELLO to 741-741