Course description: Developing effective grant writing skills are essential to acquire competitive funding from government agencies and private foundations. Writing a successful grant proposal is a blend of art and science. It requires basic knowhow, content knowledge, writing proficiency, strong research skills, creativity, organizational ability, patience, thick skin, and a great deal of luck. This course will provide students with the background necessary to develop a competitive funding proposal. The intent of this class is not only for the student to experience the joys of the grant writing process but also to result in a highly polished proposal that the student will submit to the 2018 NASA Earth Space Science Fellowship (NESSF) program, the proposal deadline will be about Feb 2018. Students will be expected to prepare a complete, suitable for submission grant proposal to NESSF (6-page proposal with an additional 15-20 pages in forms) or an agency of their choice. The proposal will be reviewed by their peers and HIGP/GG faculty.

Lectures will focus on:

- Helpful tools and resources
- Strategies for developing a proposal
- How to identify potential funding sources
- NASA Research Announcement Research Opportunities in Space and Earth Sciences (ROSES)
- How to read and understand grant guidelines, requests for proposals/applications (RFP/RFA)
- Writing objectives
- Fundamental components of a grant application
- Abstract or summary
- Background and significance/extending the state of knowledge
- Specific aims/goals and objectives
- Project design and methods
- Project management
- Budget, budget justification,
- NSPIRES generated proposal cover page
- Preparation and justification of budgets
- Preparing a curriculum vita
- Cost-sharing and sub-contracts
- Overall grant submission process
- Procedures for grants submission and grants start-up
- The grant review process and conducting grant panel review

Lectures and Discussion: 1:30 - 2:40 pm, Wednesday and Friday, POST 544.
Grading Criteria: There are no exams in this course. Your grade will be computed according to the following 100-point scale:

**70 points:**
- Successful completion of a grant proposal including all forms (35 points**)
- All deadlines for submission and class assignments are met (35 points**)

**There will be a 10-point reduction for each late or missed assignment.**

**10 points:**
- Participation on an in class peer-review panel

**10 Points:** Quality of proposal reviews.
- If reviewer evaluations sum between 7-10, you will receive all 10 points. Sums between 10-15 will receive 8 points, sums between 15-19 will receive 6 points, and sums between 20-28 will receive 4 points.

Please see the grant review form on the course web site for full description of the questions asked and rating scale. The grant documents are VERY IMPORTANT because you will be exposing your work to highly qualified individuals in your discipline area. Please take it VERY SERIOUSLY! Thus, 10% of your grade will be tied to the quality of your final proposal.

**10 Points:** Attendance. Due to the quantity and progressive nature of the material, it is essential that you make every attempt to attend class.

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**Student Learning Outcomes:**
This course teaches to Geology & Geophysics Student Learning Objectives for the M.S. and Ph.D. about the scientific method, communications, and employability.

**Scientific method (SLO MS 2; SLO PhD 3):** Graduates will learn that good proposal writing consists of (1) constructing a testable scientific hypothesis, (2) discussing in sufficient detail how the proposed research will be carried out over the cycle of the grant, and (3) considering how proposed finding will help advance the fields of geology and geophysics.

**Communicate geologic knowledge (SLO MS 3; SLO PhD 4):** The aim of this writing class is for graduates to effectively communicate the methods of their proposed research and explain how it extends the current state of knowledge at a level comparable to that of scientific journal publications.

**Employability/Contributions Post-Graduation (SLO MS 4; SLO PhD 5):** Writing a successful grant proposal to acquire competitive funding from government agencies and private foundations is an essential professional skill needed to pursue employment in research and academia.