HONORS PROGRAM IN EARTH AND OCEANOGRAPHIC SCIENCE

PURPOSE

The purpose of the Honors Program in Earth and Oceanographic Science is to promote and recognize independent scholarship through direct, sustained engagement with significant earth and ocean science research during a student’s senior year. Participants in the Honors program gain experience in diverse aspects of completing a substantive research project, including writing and public presentation.

ELIGIBILITY

Admittance to the Honors Program in EOS is based upon two criteria:

(1) Academic performance in previous EOS courses. Candidates for Honors will have demonstrated in previous EOS courses potential for significant academic achievement, including the ability, independence, and maturity to plan and carry out a substantive research project. At a minimum, candidates normally will have maintained an average grade of no less than B+ in EOS courses, with no grades lower than a B-. This criterion applies to all EOS courses, exclusive of independent studies, taken through the candidate’s junior year, both at Bowdoin and at approved off-campus programs.

(2) Identification of a significant research topic and faculty advisor. Candidates for Honors are responsible for proposing a well-defined, original research project that is scientifically significant and which can be completed with available facilities and budget within two semesters. A member of the EOS faculty at Bowdoin must agree to serve as primary advisor for the project. Initiative for Honors projects should come from the student, who is encouraged to consult with departmental faculty about possible topics typically no later than fall semester of their junior year.

PROPOSAL

Students interested in undertaking Honors during their senior year should submit a written proposal to the proposed faculty advisor (i.e. an EOS faculty member) and Departmental Chair at the beginning of spring semester of their junior year. Review of the applications will begin February 1 and continue through the Wednesday before spring vacation. The proposal should include:

- project title
- a brief description that includes
  - the scope of the research
  - the approach
  - expected results
  - relevance
- a short reflection on student academic preparation for the proposed research
- a description of tools, instruments, supplies needed to complete the research
- a signed approval by the Honors Project Advisor
Students who are participating in off-campus study or are otherwise on leave are responsible for making arrangements to meet this deadline. The Department will normally notify students of their acceptance in the Honors program by the beginning of registration the following week. Students are advised that some possible sources of funding have deadlines earlier in the junior year (Bowdoin research fellowships late February/early March) and should consult their advisor about competing for such funds.

HONORS PROJECT ADVISORY COMMITTEE

Normally, the Honors Project Advisory Committee will include three members, with at least two members drawn from the EOS faculty at Bowdoin. In consultation with their project advisor, Honors candidates may also include faculty from other departments at Bowdoin, or faculty or other professionals from organizations beyond Bowdoin. The composition of the committee must be agreed upon by the student and project advisor at least two weeks prior to the mid-year presentation. The role of committee members outside of the Bowdoin EOS faculty will include written feedback on progress reports and thesis drafts provided to both student and faculty advisor.

- **Summer work.** An Honors project in EOS will commonly include significant work during the summer before the candidate’s senior year. The nature and schedule of this work should be clearly stated on the Honors proposal form submitted during the spring semester of the junior year.

- **Enrollment in independent study.** Honors projects will normally comprise two semesters of advanced independent study (EOS 4000-4500) during the student’s senior year. Students are expected to have regular meetings with their project advisor individually or in advisee groups. In addition, all Honors candidates must attend one scheduled hour per week for cross-cutting honors topic discussions.

- **Beginning-of-senior-year.** We recognize that students may realize over the summer that they are interested in pursuing Honors. In these rare cases they should submit their Honors Proposal (see above) two days before the fall semester add/drop deadline.

- **Honors Project Advisory Committee.** Two days before the fall semester add/drop deadline (see Honors Schedule) Honors candidates will submit their proposed list of advisory committee members to the EOS Department for consideration. Any changes to the proposed committee must be submitted in writing 2 weeks prior to the mid-year presentation, with approval from the primary advisor. Should Advisory Committee members, at or beyond Bowdoin, be unable to continue at any point during the year, the student should consult their advisor about a suitable replacement.

- **Mid-year presentation and progress report.** Two Fridays before the Thanksgiving break, Honors candidates will summarize their progress in an oral presentation to their Advisory Committee, other EOS faculty and staff, and interested students. The presentation will be ten to fifteen minutes long, allowing up to fifteen minutes following for questions and comments. Honors candidates are expected to demonstrate familiarity with the primary scientific literature that relates to their project. By the last day of classes of the fall semester, candidates also will submit a progress report to each
member of their Advisory Committee in thesis format that includes a background/previous work section, a methods section and a references section. Students are expected to submit the progress report to their committee (approximately 2 weeks prior to the deadline. **The report and presentation will form one component of the fall semester independent study grade and will be used by the Advisory Committee to determine whether the candidate is eligible to continue progress towards Honors during their spring semester.**

- **Presentation at science conferences.** One expectation of Honors projects is that the research will be of interest and use to the broader Earth and Ocean Science community. Honors candidates are therefore required to present their work in an oral and/or poster session at a recognized conference. These include but are not limited to:
  
  o National Council for Undergraduate Research at its annual meeting in late March or early April
  o Northeastern Section of the Geological Society of America at its annual meeting, usually in late March
  o Geological Society of Maine at its spring meeting, usually in early April
  o Geological Association of Canada/Mineralogical Association of Canada at its annual meeting in late May
  o American Geophysical Union at its annual meeting in early to mid-December
  o Geological Society of America at its annual meeting in October or early November
  o American Society of Limnology and Oceanography at its Ocean Science or Aquatic Science meeting in February
  o New England Estuarine Research Society at its fall meeting, usually in late October
  o Maine Water Conference at its annual meeting, usually in March

These presentations require submitting a formal abstract of the candidate’s work typically several months in advance. Candidates should consult with their Project Advisor about possible venues for presentation by the fall semester of their senior year (earlier for national GSA and AGU meetings).

- **Committee draft of Honors thesis.** Honors candidates must submit a draft of their thesis to their Project Advisor one week (the second Monday) after returning from spring vacation. After revisions, a complete first draft of the Honors thesis—including data tables, references and figures—should be submitted to each member of the Honors Advisory Committee no later than four weeks (the fifth Monday) after returning from spring vacation. The Honors Advisory Committee will return written comments on this draft **no later than** the time of the student’s final presentation at Bowdoin.

- **Final public presentation at Bowdoin.** Honors candidates will present a public summary of their project during Druckenmiller Honors Presentation day (typically the Friday of spring semester reading period). Students will present their research in a twenty minute talk and answer questions from members of the Honors Advisory Committee and the general audience.
• **Final copies of Honors thesis.** A final copy of the Honors thesis, revised in accordance with written and verbal comments from the Honors Advisory Committee members, is due to the main library by their deadline (mid-May). In addition to the main library copy, Honors candidates will submit to the EOS Department one additional copy of their thesis, including photographs, maps, and ancillary material. These copies should be submitted on acid-free paper. The cost of reproducing the thesis and enclosed figures will normally be assumed by the Honors candidate rather than by department funds.

• **Copies of project data.** In addition to hard copies of the Honors thesis, candidates must submit to the EOS Department by the library deadline, an electronic archive copy of the final thesis, final presentation, and relevant project data. Candidates may also be requested to provide a copy of their field notes with their Honors Project Advisor.

• **Publication of research.** Honors candidates are strongly encouraged to submit all or part of their project to a suitable journal for publication and should consult their Honors Project Advisor for guidance. Alternatively, some Honors results will form parts of larger projects, typically submitted as a joint manuscript co-authored by students and their advisor. Faculty publications that utilize data or results of Honors projects will clearly acknowledge the contributions of the Honors students.

**EVALUATION OF THE HONORS PROJECT**

• **Levels of honors.** The EOS Department awards a single level of honors. Honors will be awarded upon the recommendation of the student’s Honors Project Advisory Committee, based on evidence for independent work, scientific soundness, originality, completeness, and written and oral presentations.

• **Independent study grades.** The Honors Project Advisor will normally assign separate grades to Honors candidates for the fall and spring semester independent studies (EOS 4000-4500). These grades will reflect the progress and quality of work undertaken in each semester. Awarding of Honors does not necessarily connote that a student will receive the grade of A for one or both semesters of their independent studies.