

Department of Geology Independent Study Evaluation Form

Guidelines for Independent Study are available in the Department of Geology Independent Study Handbook. A four-part rubric designed by the Geology faculty will be used to evaluate Senior Independent Study (IS) - to assess oral presentations, the written thesis, the process of becoming an independent researcher, and the oral thesis defense. Each student will be given the Senior IS Evaluation Form so that each understands the criteria on which the IS is evaluated. The design of the IS Evaluation form has been guided by the mission statement and student learning goals of the Geology Department, which are stated below.

Mission Statement

The Department of Geology at The College of Wooster seeks to produce liberally educated scholars who are scientists, well-versed in scientific methodology and its application, who possess a thorough knowledge of fundamental geologic concepts, who take a creative approach to problem-solving, and who are able to express themselves with clarity, both orally and in writing.

Student Learning Goals

Content: Students will be able to articulate and apply fundamental concepts in core areas of geology including Plate Tectonics, Evolution, Solid-Earth Composition/Structure and Surface and Atmospheric Process.

Communication: Students will be able to articulate their ideas effectively in written and oral communication.

Critical Thinking: Students will be able to generate, manipulate and interpret quantitative data, use geologic concepts to solve problems and understand and apply the scientific method.

Creativity and Initiative: Students will demonstrate independence of thought and expression, integrative thinking by solving problems through multiple approaches, and initiative in pursuit of research and solution to problems.

Earth Science Methods: Students will demonstrate ability to apply field/laboratory skills, map interpretation/geographical information skills, and information technology skills.

General expectations for Independent Study in Geology include:

Course Format:

The Senior Independent Study thesis is to be completed during the fall and spring semesters of the senior year. The Dean of Faculty must approve any exceptions to this rule.

Adviser:

Each student will be paired with an adviser whom they will meet with on a regular basis throughout the first and second semester of senior year until the thesis is due. Individual advisers will establish the deadlines for field work and the analytical and writing phases of IS projects. Advisers are chosen on the basis of the interest of the students. A second reader, who may be a faculty member from within or outside of the department, will also evaluate the written thesis and the oral thesis defense.

Meetings:

Each student is expected to meet individually with his/her advisor to consider and discuss weekly progress and plans for the upcoming week. The overall process of the IS project will be evaluated by the individual adviser with the “**Part III: Process**” rubric of the Senior IS Evaluation Form.

Presentations:

Each student will give one presentation each semester of their senior year during a GEOCLUB meeting. These two presentations (as well as the presentation during Junior Independent Study) will be assessed using the “**Part I: Oral Presentation**” rubric of the Senior IS Evaluation Form by all faculty members attending the presentation.

Written Thesis:

The Geology Student Handbook has information on the format and expectations of the written thesis as well as examples of theses. The written thesis will be assessed using the “**Part II: Written Thesis**” rubric of the Senior IS Evaluation Form. Theses are due to the Office of the Registrar following procedures and deadlines set by the College.

Oral Examination (Senior IS only):

Upon completion of the written IS thesis and submission to the Office of the Registrar, the student is required to schedule an oral examination with her/his first and second readers and to defend the thesis orally. Oral thesis defenses generally run from 45 to 60 minutes. The student is not expected to prepare a formal presentation, but is expected to answer questions regarding the thesis and broader questions regarding the discipline. The student will know if s/he passed I.S. at the completion of orals. However, the final grade is not given to each student until all students in the department complete their oral examination. The student’s adviser and second reader attending the oral examination will use the “**Part IV: Thesis Defense**” rubric of the Senior IS Evaluation Form to assess the oral examination.

Weighting of Individual Components

- Process 25%
- Oral Presentations (2) 20%
- Written Thesis 30%
- Thesis defense 25%

Grading:

Senior Independent Study grades are based on a comprehensive Independent Study process, which includes individual meetings with advisers, oral presentations, data collection and analysis that involve field and/or laboratory work, the final written thesis, and thesis oral defense. Overall grading of the IS is based on the expectations described above. Students will receive one of the following grades for the Senior Independent Study (Geology 451-452).

- **Honors:** outstanding in all aspects of content, method, and form
- **Good:** significantly above average in terms of content, method, and form
- **Satisfactory:** acceptable overall in terms of content, method, and form, although consideration may be given to balancing weakness in one area by strength in another
- **No credit:** a deficiency in content, method, or form with no compensating strengths in other areas

Part I: Oral Presentation

The oral presentation rubric will be completed after each of the two Senior Independent Study presentations by all faculty members attending the presentation.

Student:	_____
Adviser:	_____
Faculty:	_____

Presentation of Talk

- Clear introduction and stated importance of the topic _____
- Organized talk with logical progression of ideas _____
- Sufficient evidence to support assertions _____
- Thorough knowledge of the topic displayed _____
- Appropriate summary of findings and stated conclusions _____

Visual aids

- Figures are professional and neat _____
- Figures and text are helpful in illuminating aspects of presentation _____
- Appropriate labeling and indication of scale _____

Speaker

- Clear with audible vocal projection _____
- Articulate with minimal verbal clutter _____
- Developed a rapport with audience _____
- Delivered talk at an appropriate rate _____
- Welcomed and thoughtfully addressed audience questions _____

Additional comments:

Rubric Points Key

- 4 = Excellent
- 3 = Good
- 2 = Satisfactory
- 1 = Poor

Average _____

Date: _____

Part II. Written Thesis

The written thesis rubric will be completed by the student's adviser and the designated second reader.

Student:	_____
Adviser:	_____
Faculty:	_____

Organization and Content of Thesis

- Title (clear, concise, and informative) _____
- Abstract (effective summary of the paper's thesis, evidence and conclusions) _____
- Introduction (provides context and purpose for the paper) _____
- Thesis/Hypothesis (clearly stated and relevant to the topic) _____
- Application of scientific method (demonstrates use/understanding of scientific method) _____
- Summary (the paper's primary points are briefly restated) _____
- Content of paper (writing displays a deep understanding of topic) _____
- Insights (supports discussion with evidence and student's own analysis) _____
- Citation of sources (all borrowed ideas and words adequately cited) _____
- Use of figures (clear illustrations that illuminate the thesis material) _____
- Logical flow (paper is well organized with a fluency in the writing) _____

Format and Other Issues:

- Proper format followed (meets the requirements outlined in Geology Department Independent Study Guidelines) _____
- Spelling and Grammar (proper punctuation, spelling, sentence structure, etc.) _____

Additional comments:

Rubric Points Key

- 4 = Excellent
- 3 = Good
- 2 = Satisfactory
- 1 = Poor

Average _____

Date: _____

Part III. Process

The process rubric will be completed by the adviser after the student has completed the oral thesis defense.

Student:	_____
Adviser:	_____
Faculty:	_____

Attended scheduled meetings with adviser _____
Prepared for meetings with adviser _____
Met deadlines established with adviser or by the College _____

Displayed increasing independence in seeking, integrating, and understanding research materials _____
Demonstrated ownership of research project _____
Showed improvement in ability to discuss (comments and questions) project with adviser _____
Addressed research or writing issues discussed with adviser _____

Understood how to appropriately analyze data _____
Understood how to appropriately interpret results _____
Has a clear plan to archive data and samples _____

Additional comments:

Rubric Points Key

- 4 = Excellent
- 3 = Good
- 2 = Satisfactory
- 1 = Poor

Average _____

Date: _____

Part IV. Thesis defense

The thesis defense rubric will be completed by the adviser, second reader, and all other departmental faculty after attending the oral thesis defense.

Student:	_____
Adviser:	_____
Faculty:	_____

Depth of knowledge related to the IS project	_____
Understanding significance of thesis results in the broader context of geology	_____
Breadth of knowledge in the field of geology	_____
Demonstration of critical thinking	_____
Effective oral communication of geology research	_____

Additional comments:

Rubric Points Key

- 4 = Excellent
- 3 = Good
- 2 = Satisfactory
- 1 = Poor

Average _____

Date: _____