

Guidelines for Earth Sciences Graduate Seminar (61-580)

Calendar Description:

61-580. Graduate Seminar

Discussion of current topics in the earth sciences in seminars given by students, faculty members, and visiting speakers. Students are expected to participate in discussions and present a seminar. (Students must register in this course in the Fall and Winter terms of full-time registration in the M.Sc. program and in the first two years of the Ph.D. program.) (1 hour a week.)

Expectations of students in the course:

1. Attendance at seminars given by students, faculty, and visiting speakers.
2. Active participation in discussions at seminars.
3. Presentation of seminars and preparation of a written document that summarizes the material presented in the seminar.

Each of these is discussed in more detail below.

The purpose of this course is to help elevate the overall level of scientific discourse within the department. Science moves forward through critique and discussion, and so these are important aspects of scientific training.

Objectives:

1. Giving seminars:

To improve seminar preparation and presentation skills.

To improve the ability to summarize and critique others' science.

2. Attending seminars:

To broaden knowledge about Earth Science (especially about "hot" topics).

To improve critical thinking and discussion skills.

Attendance at seminars given by students, faculty, and visiting speakers

Students are expected to attend most seminars. Valid reasons for absence include GA duties, illness, conference attendance, fieldwork, etc. These must be communicated to the seminar coordinator prior to the date of the seminar, otherwise the student will be marked as absent. Suitable seminars in other departments are valid components of the seminar course, but it is still expected that the majority of seminars attended will be in Earth Sciences.

Participation in discussions

Students are expected to participate to the best of their abilities in the questions and discussion after a seminar.

Seminar Presentations

MSc students:

1. MSc students will have to give one seminar on a topic that is unrelated to their thesis research. They will also prepare a discussion document on this topic. This seminar will normally be presented in the 4th semester of enrolment in the MSc program (not including summer).
2. In addition, MSc students will be assessed on the quality of the seminars given in the Masters Thesis Proposal course (61-582) and in defence of their thesis (61-797).

PhD students:

1. PhD students will have to give two seminars on topics that are unrelated to their thesis research. They will also prepare a discussion document on each of these topics. These seminars will normally be presented in the 2nd and 6th semesters of enrolment in the PhD program (not including summer).
2. In addition, PhD students will be assessed on the quality of the seminar given in the Doctoral Research Proposal course (61-700).

Guidelines for seminars

The seminars should be in the general area of expertise of the student but not be on a topic that is directly related to the student's own research. It should encompass an important (hot) scientific topic that represents the forefront of the student's general area. For example, topics that appear in recent issues of journals like Nature and Science or top journals in the student's field. It is expected that the papers on which the seminar is based shall encompass differing views or alternate explanations of the scientific question(s) under investigation. This will allow the student to discuss and critique the science with respect to the opposing views.

The student shall prepare a written document summarizing and discussing the work presented, highlighting the key scientific questions being addressed, explaining the views of the various researchers, and providing opinions about the data and interpretations (i.e., where appropriate, critiquing the science). This document shall be no more than five pages in length (single-spaced, 12 point font, 1 inch margins, exclusive of figures). A suggested outline for the written document is as follows:

1. Introduction to the topic, including the key scientific question(s) or problems(s) being addressed.
2. Explanation of hypotheses/models proposed to resolve the problem(s).
3. Discussion of pertinent data and the hypotheses/models.
4. Conclusions.
5. References.

The topic for the seminar(s) must be chosen in consultation with the graduate seminar coordinator and must be pre-approved by the coordinator. Students are encouraged to discuss possible topics with their advisor(s) and/or other faculty members.

An abstract should be provided in advance of the presentation for circulation to graduate students and faculty members (1 page maximum). It would also be useful to provide key references, if possible as PDFs.

These seminars should be on the order of 30 minutes in length, leaving plenty of time for questions and discussion. The latter is particularly encouraged from other graduate students.

Seminar presentations will be assessed on the following basis:

- Organization and clarity of presentation
- Ability to explain, discuss, and critique the science that is being presented
- Response to questions (appropriateness, clarity, etc.)
- Quality of abstract and discussion document

Under normal circumstances, feedback will be provided as soon after the presentation of a seminar as is feasible, but no more than one week after the seminar.

The graduate seminar coordinator will instruct new students on how to prepare and present a high-quality seminar.

Grading

The breakdown of marks will be as follows:

MSc

Attendance:	15%	(coordinator or designate)
Seminars Presented:	65%*	(coordinator + 2 other faculty members)
Participation ¹ :	20%	(rotation among faculty)

**Breakdown of presentation marks*

<i>Thesis proposal seminar</i>	<i>20%</i>
<i>Seminar with critique</i>	<i>25%</i>
<i>Thesis defence</i>	<i>20%</i>

PhD

Attendance:	15%	(coordinator or designate)
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Seminars Presented: 65%* (coordinator + 2 other faculty members)
Participation¹: 20% (rotation among faculty)

**Breakdown of presentation marks*

Seminar with critique (x2) 25%
Research proposal 15%

Notes:

The nature of the topic will be factored in to the expectations for participation. If the speaker's area of expertise is close to the student's research area, the student will be expected to ask more pertinent questions than if the student has little knowledge of the speaker's area.

A letter grade will be assigned at the end of the course (i.e. at the end of the two year period).

Part-time students

As part-time students who are working full time may be not be able to attend a reasonable number of seminars, they will have the option of taking this course or substituting another course in its place.