

## GEO-SCI 703 Geosciences Graduate Seminar Fall 2021

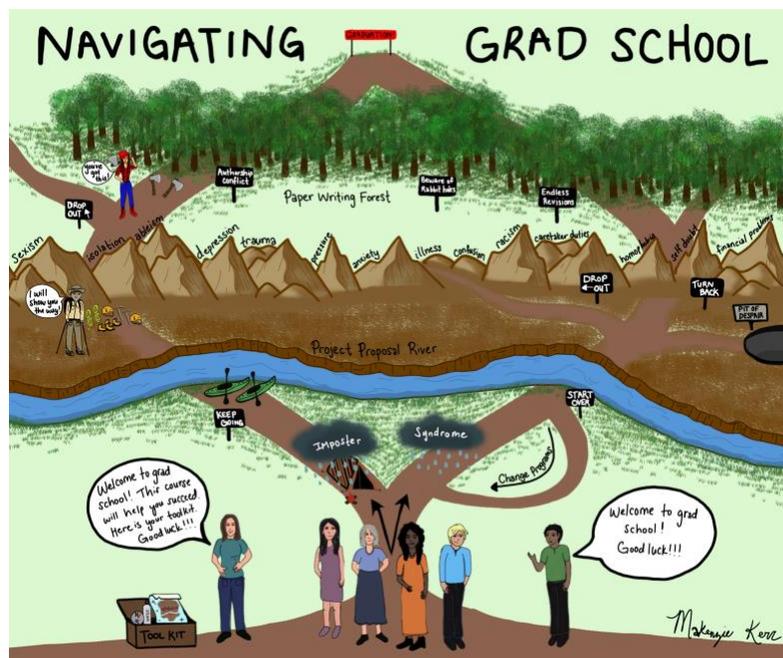
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**Communication:** We will primarily use emails for communication for this course (emailed preferred over phone). You can set up an appointment via email or our appointment scheduling software, show up during our office hours and you are also always welcome to stop by anytime that our doors are open. You can expect a response to your email within 24-48 hours, excluding weekends.

**Credits:** 1

**Pre-requisite:** none

The goal of the Fall seminar is to help students get started in the program and help them find resources and develop critical skills for success in academia. Since most graduate students start in the Fall, this semester starts with overviews of the graduate program milestones but then opens the scope to the structure of academia. Graduate students play a role in the university that differs from that of undergrads and students can be more effective when they have a better understanding of the larger system and the resources for graduate students (grants, support services, context of the discipline etc). This seminar also hones a wide range of communication skills critical to success in science: figure making, writing and oral presentations. Activities in this course are designed to develop and practice skills, and habits that will help students grow as scientists.



### Learning Objectives:

- Identify key resources for completing the degree
- Develop a research proposal
- Clarify advisor expectations
- Strengthen self-advocacy skills
- Communicate science via figures, text and oral presentations
- Join a cohort of graduate students outside of research group

**Meeting time:** The seminars meet 3:30-5:00 every other Friday. Students can organize social gatherings for graduate students following the seminars.

There are a few days in the seminar that are designed to be specifically for either MS or PhD students as the material is particularly suited for one of these populations. Most sessions are for both MS and PhD students with the expectation that PhD students might guide some of the discussions and bring their experiences to the conversations.

**Moodle:** All students have access to the Geosciences graduate student moodle page that hosts a variety of resources. The tab at the bottom of that moodle page lists resources and assignments for this seminar and its companion geosci 705.

### Schedule GEO-SCI 703: Geosciences Graduate Research Seminar

meeting	Group	Topic	Agenda
1	1 <sup>st</sup> half	MS Milestones and process	Access to Moodle resources and progress reports; different paths towards a MS and associated requirements (courses, professional presentation); strategies for transition to PhD
	2 <sup>nd</sup> half	PhD Milestones and process	Access to Moodle resources and progress reports; preliminary exam procedure and purpose, role of the prospectus.
2	MS & PhD	External fellowships	Senior grad students and post-docs will offer advice and guidance about NSF GRFP and other external grants.
3	MS	How does graduate school work?	When are you expected to work? What are you paid for and what aren't you paid for? Who is your boss? Who owns your research? How do you become a valuable research team member? We will unpack some of the mysteries of graduate school.

4	PhD	Academic metrics of success	“Work hard, suffer, endure until you graduate and the ideal job will land on your lap.” We will dispel this and other myths of academia. Part of this discussion will be on how academic success is measured and how you can set yourself up for long term success whether or not you plan a career in academia.
5	MS + PhD	Tackling writing challenges	Discuss barriers to writing, common writing pitfalls and strategies for success. Assemble an effective abstract.
6	MS + PhD	How to make effective figures	Discuss how to make figures that tell a story and look good doing so. Compelling figures can make a difference in how your science is perceived and promoted.
7	MS + PhD	Science Communication	Discuss effective science storytelling and how to ask follow up questions. We will also talk about scientific story telling as way to frame our science to non-scientists.

## Homework

**Before meeting 1:** Download the graduate student manual from moodle; Read through your program’s requirements and prepare questions; Complete the assignment about your concerns and goals for the coming semester. This assignment strengthens your self-advocacy as you work to recognize what resources you need and you will identify key resources to finish your degree.

**Before meeting 2:** Have a conversation with your advisor about grants that you should apply for this year and in the coming years. Check out the grant requirements and application materials. This assignment strengthens your self-advocacy with your advisor and clarifies advisor expectations.

**Before meeting 3:** Submit a draft of a 2-page research proposal in the style of the NSF GRFP. These will be reviewed by peers in this seminar and post-docs/faculty. Even if you are ineligible for NSF GRFP, this 2-page proposal may be helpful for other external grants. The assignment strengthens your writing communication skills and also sets you up to have conversations with your advisor about your research.

**Before meeting 4:** review peer proposals. *The timing of this may be adjusted so that MS students get feedback before the NSF GRFP deadline.* This assignment builds

your critical assessment and communication skills as well as familiarizing you with the research of your peers.

**Before meeting 5:** Have conversations with your advisor and ask the questions in the homework assigned in meetings 3 or 4. Reflect on your writing strengths and weaknesses; Readings on Moodle. This assignment clarifies advisor's expectations and strengthens your self-advocacy skills.

**Before meeting 6:** Bring a figure that you've made to the seminar and be prepared to share what you think works and what doesn't; Revisit the goals and concerns assignment. Have some of your concerns changed? What questions still haven't been answered; Readings on Moodle. This assignment strengthens your self-advocacy as you work to recognize what resources you need.

**Before meeting 7:** Prepare a 2-minute elevator speech about your sciences. Try using Randy Olsen's "And. But Therefore" approach; Readings on Moodle. This exercise builds on your oral science communication skills.

**During finals:** Schedule an individual meeting with the course instructors to discuss what worked well for you this semester and what you want to improve for next semester. This assignment strengthens your self-advocacy as you work to recognize what resources you need.

**Grading Basis:** The letter grade earned by students as follows:

To earn an 'A', students should 1) attend all meetings, 2) frequently contribute questions and ideas to the discussion, and 3) complete with all homework assignments with demonstrated application of learned strategies. The research proposal will be judged not on the proposed research but on writing quality and satisfying the provided requirements (e.g. formatting, address prompts).

To earn a 'B', students should 1) attend all meetings, 2) often contribute to questions and ideas to the discussion and 3) submit all assignments and demonstrate application of learned strategies for most assignments.

To earn a 'C', students should 1) attend all meetings, 2) occasionally contribute question and ideas to the discussion and 3) submit all assignments but without demonstrated application of strategies learned in the seminar.

**Make-up Policy:** Students who are absent due to excusable extenuating circumstances remain responsible for meeting all class requirements and contacting me in a timely fashion about making up missed work. I will offer such students reasonable assistance in making up missed classes.

**Academic Honesty Statement:** Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts

Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent.

[\(http://www.umass.edu/dean\\_students/codeofconduct/acadhonesty/\)](http://www.umass.edu/dean_students/codeofconduct/acadhonesty/).

**Statement of access and inclusion:** The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. If you have a documented physical, psychological, or learning disability on file with Disability Services (DS), you may be eligible for reasonable academic accommodations to help you succeed in this course. Regardless of whether you have consulted with disability services or not, please let me know if you have concerns about participating in this seminar or have comments on how it may be better organized for your learning. We are living in challenging times. Let's take each week at a time and offer each other grace and patience.