Research experience, Capstone, and Independent Study Work in the Department of Geography and Environmental Science
A Guide
May 3, 2023

The current major advisors are Prof. Frei for Geography majors (geogmajor@hunter.cuny.edu) and Prof. Marcotullio for Environmental Studies majors (esmajor@hunter.cuny.edu).

All students majoring in Geography and in Environmental Studies are required to complete either an independent study course or a Research experience. How do you know what your requirement is? Check your degree works, follow these instructions:

- If you are an Environmental Studies major, you must complete a capstone. Registration for a capstone must be approved by the major advisor (Professor Marcotullio). A capstone project in the Environmental Studies major can be completed by enrolling in:
  - Individual Study in Geology (GEOL 39300, 3 cr),
  - Individual Study in Environmental Studies (PGEOG 39300, 3 cr) or
  - PGEOG 49000 Honors in Environmental Studies (PGEOG 49000, 3 cr).

- If you are a Geography Major, registration for an independent study or research experience must be approved by the major advisor (Professor Frei). Your requirement depends on which academic year you declared your major (because the requirements have changed):
  - If you declared your major prior to the 2020-2021 academic year, contact Prof. Frei to discuss your requirements.
  - If you declared your major in the 2020-2021 academic year or later, you are required to complete an independent study, or if you qualify, for honors.
    - GEOG39300 Individual Study in Geography
    - PGEOG39300 Individual Study in Environmental Studies
    - GEOG49000 Honors in Geography
    - GTECH49000 Honors in Geographic Information Science

** not strictly in the guidelines, must be substituted by the advisor

Guidance for a successful research experience (for capstone, research experience or independent study).

In this document we offer some basic information to help you achieve your goals while fulfilling the research experience requirement. After reading through this guide, it is suggested that you make an appointment to speak to the appropriate major advisor (Geography or Environmental Studies) at least one semester prior to taking the research experience course. Students are encouraged to start thinking about research experience projects, and to discuss it with any professors that they choose as well as with the major advisor, at any point during their career at Hunter.

Purpose of a research experience / capstone. The purpose of a research experience is for the student to benefit from the experience of working on an extended out-of-classroom project, under the guidance of a qualified mentor, that involves some original work. The mentor must be a professor in our department, and in some cases may include another qualified individual from another organization outside of Hunter. In our department the specific types of experiences can vary depending on the student's interests. Ideally, the student will seek an experience that is of great interest to them, that they will enjoy, and that will help them achieve their post-graduation goals.

What constitutes a research experience / capstone ? Currently, each professor decides on what constitutes an appropriate project for each student that they mentor. The student and professor must come to an agreement on it. This provides the flexibility to make the experience as meaningful and fulfilling as possible for the student. Often, the research experience project includes some "original work" as opposed to just a literature review. A literature review, which is a typical college level paper, involves incorporating articles and other relevant documents into a paper to summarize the work that has been published in a particular area of study. Original work can mean a variety of things such as, but not limited to: GIS analysis, statistical analysis, incorporation of original sources such as newspaper articles, student-performed surveys, analysis of original observations, or other field work.

When to take the research experience / capstone. Typically, the research experience is taken during the student's last semester prior to graduation. It can, but is generally less desirable, to be taken the semester before the last semester. In general it should not be taken earlier.

When to start thinking about the research experience / capstone. It is never too early to start thinking about it. You may always speak to professors in the department about your ideas, or schedule an appointment to speak to the appropriate major advisor, even if you are years away from graduation.

When to initiate discussion with the Geography or the Environmental Studies major advisor. The student should make an appointment to speak to the major advisor around three to ten weeks after the beginning of the semester preceding the research experience work. The reason to start well before the actual semester in which you take the research experience is that, regardless of which option you choose, you will need to do some preliminary thinking and possibly preparatory work (discussed below).

Timeline. Here is a suggested rough timeline.

1. **Up to one year prior to the student's last semester**. It is never too early for a student to start thinking about what kind of project that may interest them, and to initiate discussions with the major advisor and with any other professors in the department.
2. **Week 3-10 of the semester prior to the student's last semester**. Sometime between the third to tenth week of the fall semester immediately preceding the semester of graduation the student should make an appointment with the major advisor to discuss options and make sure that the student stays on track.
3. **Middle to end of the semester prior to the student's last semester**. The student should be talking to professors in the department who are potential mentors, work out an agreement with one of them to serve as their mentor, and gather information or data that may be required for the research experience (discussed below). If the student is pursuing an internship option, the student should be actively contacting and applying for potential internships during this time. Whether pursuing the typical research experience or an internship, making all the necessary arrangements for a successful spring semester research experience often requires some preliminary efforts during the previous semester.
4. **End of semester prior to the student's last semester**. By this time the student should have either come to an agreement with a professor, or secured an internship that has been approved by the major advisor, and will then be granted permission to register for the appropriate research experience course number during the following spring semester.

What to do during the semester preceding a research experience / capstone? After meeting with the appropriate major advisor, the student then initiates discussions with one or more professors in the department about possible general topics and specific projects. Some students have clear ideas on a project they would like to pursue; others seek ideas from professors. After speaking with one or more professors, perhaps doing some preliminary research to see what types of resources, material, or data are available, the student comes to an agreement with a professor. If the student requires data that is not publicly and/or easily available, or to make special arrangements with individuals or organizations outside of Hunter College, these should be confirmed ahead of time, such as during the semester preceding the research experience, as much as possible.

The research experience / capstone agreement is a formal document signed by both the student and the mentoring professor. The Geography and Environmental Studies major advisors must see an agreement that has been approved by the mentoring professor before granting the student permission to register. It includes, in as much detail as possible, the plan agreed to by both parties. Even though the plan can change during the research experience semester, having a detailed plan will support the student's effort to provide as educational and productive experience as possible. The plan can include, but is not limited to:

- *The topic*: what is the general area of inquiry that the student's research experience will fall under
- *The scope*: What will the student do for the research experience, making sure that the scope of work is appropriate for a one-semester project (plus possibly preliminary work accomplished during the preceding semester).
- *Special arrangements* (if necessary). If the student is planning some field work, or requires data that is not publicly and/or easily obtainable, some special arrangements may be required with individuals outside of the Hunter College community. This should be planned, and sometimes completed, as early as possible, sometimes during the semester preceding the research experience.
- *The final product(s).* What is (are) the final product(s) expected to be produced by the student. Typically, they include a paper, but they may include some other product such as a poster, a presentation, an event organized by the student, a physical demonstration, a blog post, …
- *The paper*: how long is the paper expected to be (expressed in a range of word count)? For example, at 12-point font, 1-inch margins, one page typically contains 500-550 words. Thus, a 15-page paper would include roughly 7000-9000 words.
- *Milestones* during the research experience semester. For example, what does the professor expect the student to accomplish, during a spring semester research experience, by March 1, April 1, and May 1? What are the deadlines for the final product and for earlier drafts?
- *Regular meetings* (can be in person or virtual). The student is expected to meet with the professor regularly during the research experience semester, but the frequency of those meetings may vary depending on the particular situation. For example, sometimes the agreement is to meet at least once every other week, but the student may initiate additional meetings whenever necessary.