

# Guidelines for Research

## Guidelines for EnvS 599 Non-thesis Research

Approved 2016, revised 2022

### Overview

The non-thesis M.S. in Environmental Science requires at minimum of 3 credits of ENVSS 599 Non-thesis Research. This requirement suggests a research project involving approximately 120-160 hours of effort over 1 or 2 semesters (i.e. 40 hours of work per credit). If taken over two semesters, students must enroll in EnvS 599 both semesters (i.e. 1-2 credits each semester). The Non-thesis Research project is intended to be a capstone experience where information and skills built during the student's time at the University of Idaho are brought together in a synthesizing experience.

The difference between a thesis and a non-thesis project is that a thesis involves original research that is potentially publishable in the peer-reviewed literature and is formatted in a prescribed manner and archived in the University of Idaho library. A non-thesis project does not necessarily involve original research, does not have to be formatted in a manner prescribed by the University and is not placed in the library. The Environmental Science Program, however, does ask that the non-thesis project writeup be submitted to the ENVS office for archival and sharing with future program participants.

The non-thesis experience can take two different forms.

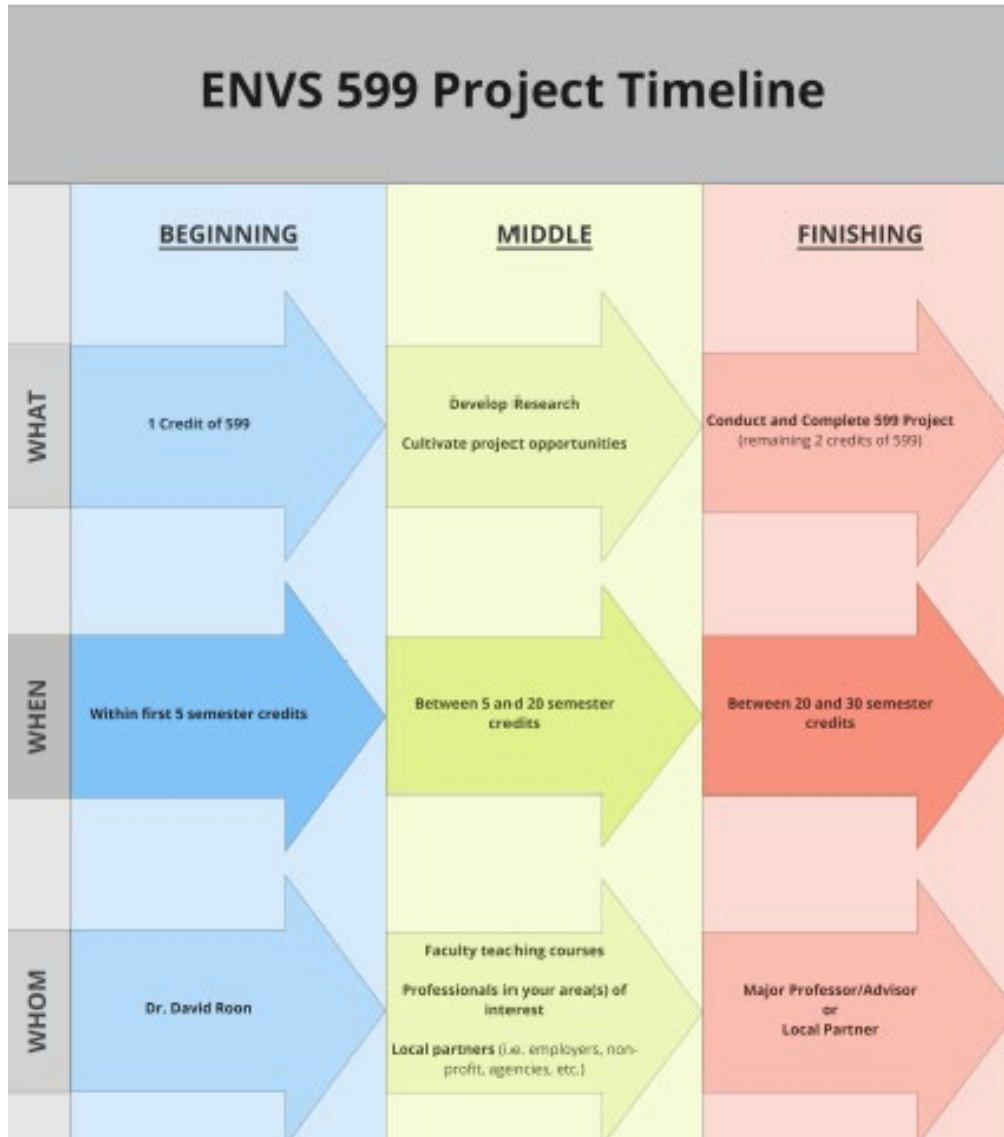
- The first is a basic research paper where the student selects a topic to research, writes a proposal for approval by the student's major professor, conducts a search of the primary literature, and obtains research materials to read and analyze. The student may, but is not required, to carry out laboratory, field work, or interviews to develop new data and information. The final deliverable is a research paper with all information properly cited. This type of capstone experience is appropriate when the student has a topic they would like to pursue in greater detail than their coursework allowed or when building research and writing skills is a priority.

- The second type of capstone experience is carrying out a hands-on project in the community related to the coursework that has been taken for the degree. This type of experience involves selecting a project, obtaining the required permissions, developing a budget and a funding source if needed, writing a proposal, carrying out the project, documenting the steps in the project, and putting together a portfolio that shows the steps and the progress that was made. When selecting the hands-on project option, the student write-up should also include reflections describing how information from each course they took in their MS program influenced how they carried out their project.

## Timeline

Students should complete one credit of ENVS 599 with Dr. David Roon within the first five credits at the beginning of the program (within the first or second semester). Dr. Roon's course is designed to assist students with both above-mentioned types of capstone experiences through defining and clarifying project objectives, sharing resources, facilitating peer review, and providing a venue for presentation of objectives and results. The final one to two credits of ENVS 599 should be completed after 20 credits of course work (typically during the final semester or two). Students must identify a faculty mentor as their Major Professor and register for final ENVS 599 credits with their Major Professor as the course instructor. During course work, students should work to cultivate relationships with course faculty, local agencies, non-profit organizations, and employers to facilitate project completion.

Sometimes the entire paper/project can be carried out in a semester, and sometimes the project is a part of a larger, longer-term plan. In most cases, it is recommended that you complete your non-thesis capstone in the final one or two semesters of the program. As you move through your course work, you will be responsible for developing a mentor relationship with an appropriate Major Professor based on your professional interests and paper/project topic. The two of you will work together to develop goals and objectives for your project, along with a timeline for completion. The project plan is outlined in a proposal that includes context - why there is a need for the paper/project - how the project relates to the coursework that the student has taken, and desired outcomes. The complete proposal must be submitted to your Major Professor for approval. The rest of the time is spent carrying out the steps of your project plan - e.g., research, data collection, analysis, writing and review - including at least one complete draft and then the ENVS 599 paper or portfolio.



### Topic and Scope

The topic you choose should help you build skills related to your career goals. If you are a working professional in a related field, one option is to align your project with activities at work. Another option is to choose a topic you learned about in a class or through personal experience and would like to explore further.

EVSS 599 projects vary widely, incorporating quantitative, qualitative, or mixed methods approaches. For example, one student may conduct a feasibility study for the implementation and management of a recycling program, another may be out in the field collecting soil samples for testing in a lab, while another may research water quality issues in their local watershed. The time and techniques required will depend on the individual nature of each project. You will need to work closely with your Major Professor to determine the scope of your particular project.

## Evaluation

In both cases, the student is responsible for the following deliverables, each of which is shared with the Major Professor:

- Developing a topic for approval by the Major Professor
- Creating a timeline for progress and deliverables
- A paper/project proposal developed in consultation with the Major Professor
- An early deliverable should be an outline including research materials consulted to date (if a research paper is selected) or a progress report (if a project is selected)
- At least one complete draft of the final deliverable whether paper or portfolio (feedback will be given by the Major Professor on drafts)
- A final version of the deliverable

It is the student's responsibility to develop the timeline, share information and gather feedback from the Major Professor. Part of the experience involves managing the project; time management, including getting deliverables in on time, is the responsibility of the student.

For research papers, the evaluation includes the quantity and quality of the research materials consulted, the depth of the analysis carried out, and the style demonstrated by the quality of the written paper or portfolio. Graduate papers with appropriate depth and quality are generally around 30-40 pages, double spaced, with at least 15-25 references cited, including papers from the peer-reviewed literature and other appropriate research materials. Reference materials should primarily include books and primary articles from the scholarly literature. Materials found on the web and non-peer-reviewed sources can be useful, but should be used less frequently than primary literature to support the research. For projects, evaluation includes the appropriateness of the project to a degree in environmental science, the scope of the project, time spent carrying out the project, the success of the project and impact on the community, the quality of the portfolio, and what the student learned from completing the project.

Upon completion, the Non-thesis Requirement Report Form must be signed by the Major Professor and filed with the College of Graduate Studies. It is a good idea for the student to remind the Major Professor of this requirement at project completion.

A copy of the project proposal and ENVS 599 paper and/or portfolio must also be submitted to the EnvS Graduate Program office to be archived and shared with future program participants.