

**SAINT MARY'S UNIVERSITY**  
**DEPARTMENT OF ENVIRONMENTAL SCIENCE**  
**HONOURS PROGRAM GUIDE**  
**Last revised: August 21, 2023**

This is for Environmental Science students in the Honours Program and who are completing the Honours thesis (ENVS 4599), for their thesis supervisors and for interested ENVS students considering honours theses. This ENVS Honours Thesis program guide supersedes those of other departments, *even if your supervisor may be from that department*. Students and their supervisor(s) should therefore review the Department of Environmental Science guidelines presented in this document.

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## List of people and their contacts

Departmental Chair of Environmental Science

Dr. Cristian Suteanu, Cristian.Suteanu@smu.ca

Role: Chair of department, oversees all programs within ENVS.

ENVS Honours Thesis Program Coordinator

Dr. Linda Campbell, LM.Campbell@smu.ca

Role: Oversees the Honours Thesis Program and coordinates timelines and progressions with students and supervisors

Environmental Science Department Office

Nicole Luttrell, envs@smu.ca

Role: Administrative support, including coordination of the Thesis presentation and evaluations (aka “defenses”) in April.

## Program timelines and deadlines for ENVS 4599

Academic Deadlines are in BOLD. Other timelines are suggested for the honours thesis students and their supervisors to consider. All submissions are to be made electronically by email. In regard to ENVS 4799 course expectations and deadlines, please refer to the ENVS 4799 syllabus.

Date	Action	Notes
January – August 2023	Discuss possible honours thesis projects with prospective supervisors.	When you agree on a project with a supervisor, contact the Honours Program Coordinator with the supervisor(s) cc'd to request registration approval for ENVS 4599 and 4799. The Program coordinator will add the student's A# to Banner.
<b>22 September 2023</b>	Written Honours research project proposals submitted to the Supervisor(s) and to the ENVS Honours Program Coordinator.	Note: While the proposal is due, students are encouraged to start work on their project before this date.
07 October 2023	Agree on a writing plan and deadlines with supervisor(s) and send	This will include a discussion of preferred formats and approaches for writing the thesis. ENVS is an interdisciplinary department, and as such, each

Date	Action	Notes
	a summary to the Program Coordinator.	supervisor will have own requirements for reviewing drafts and the structure of the drafts. Sending a timeline summary to the program coordinator ensures accountability and agreement.
<b>1 December 2023</b>	Written progress reports submitted to the Supervisor(s) and Program Coordinator.	The written progress report should be shared with the Honours Program Coordinator. If there is agreement that progress is satisfactory, then an IP grade will be assigned in Banner for the student.
16 February 2024	The first draft of thesis is due.	<p>Please send the first draft of the thesis to the supervisor(s) for review, cc'ing the Program Coordinator.</p> <p>If a whole thesis draft cannot be completed by this date, please discuss with the supervisor(s) in advance the following options and send the final version of one of the following:</p> <ul style="list-style-type: none"> <li>- Outline of thesis.</li> <li>- Skeletal draft (point form) of the whole thesis.</li> <li>- Draft Introduction Chapter and Methods Section, with a summary of the results.</li> <li>- Progress summary and data update (not an ideal option)</li> </ul>
28 February 2024	Supervisor(s) confirms the external reader for thesis with student and emails the Program Coordinator with the name and contact.	The ENVS Honours Program Coordinator can help with this discussion. It is the supervisor's responsibility to contact and confirm the external reader's name and availability.
<b>30 March 2024</b>	<p>Final drafts submitted electronically, with all cc'd:</p> <ul style="list-style-type: none"> <li>- the Supervisor(s).</li> <li>- approved external readers.</li> <li>- the ENVS Honours Program Coordinator.</li> <li>- the Environmental Science Department Office (envs@smu.ca).</li> </ul>	<p>The evaluation template in the appendices can also be sent to the approved readers and external examiners. It will help to guide them through this process.</p> <p>The final drafts should be saved as a single PDF file including all sections and appendices. Ensure the formatting follows that of the library requirements and has numbered pages.</p>
<b>13 April 2024</b> (approximately)	Oral thesis presentation and questions.	This date may need to be flexible to ensure everyone is available that day and will be decided via discussions in ENVS 4799 class.
<b>30 April 2024</b>	Final thesis submitted to the Library.	Email confirmation to supervisors(s) and Honours Program Coordinator to ensure your final grade gets entered in Banner.

## What is the ENVS honours thesis?

The Honours Program is a complete program of study and shows up (like a Major or Minor) on the student registration status. Once a student has been accepted into the Program, the registration status at the university changes from "Major" (MAJ) to "Honours" (HON).

The purpose of the Honours thesis (ENVS 4599) is to demonstrate competency in carrying out research and reporting on the results, and both prepare students for graduate school and help them become professional environmental scientists.

Honours students are also required to enroll in Honours Research Frameworks (ENVS 4799), which is designed to support and guide the process of the honours thesis. ENVS 4799 has a separate syllabus and learning objectives designed to support the progress of the honours thesis and the associated skills.

## Objectives and Expectations of the Honours Research Project Course (ENVS 4599)

- During the course, the student is expected to become familiar with the current research literature. The student should demonstrate independence (ability to gather information from various sources without excessive need for guidance) and initiative (trying to find answers on his/her own). Additionally, the student will learn to complete an adequate literature review on his/her thesis topic.
- The student should generate a research question that is testable (the Supervisor can provide the context in a well-defined area) and, when necessary, design an experiment or an observational methodology to test the hypotheses.
- The student may conduct an experiment or make observations and analyze the data in a manner that tests the research hypothesis.
- The student will demonstrate organization skills, maintain a field, data analysis, modeling, or laboratory notebook, complete the tasks on-time and properly, attend research meetings (as scheduled by the Supervisor), and follow directions.
- Following the department guidelines, the student will complete all the research phases in a timely manner.

## Academic Integrity

Plagiarism and cheating will not be tolerated. Your thesis must represent your original work in your words. It is your responsibility to understand the University regulations and maintain high standards of integrity and ethics in your research and how you present your research (written, presentations and other media). The Library has an excellent resource page:

<https://www.smu.ca/academics/avoiding-plagiarism.html>. If in any doubt at any point, discuss immediately with your supervisor(s) or/and the ENVS Honours Program Coordinator.

## Applying for admittance into the Honours Thesis program (ENVS 4599 and ENVS 4799)

Students in the Honours Program of ENVS can undertake honours thesis research. In addition to the course requirements for the Major Program in Environmental Science, the Honours Thesis program requires a minimum cumulative GPA of 3.0 and additional honours courses for graduation (please consult the “Faculty of Science” and the “Environmental Science (ENVS)” sections in the Academic Calendar). These courses are “ENVS 4599 Honours Research Project” (6 credit hours) and “ENVS 4799 Honours Research Frameworks” (3 credit hours). Thus, students can be registered in the Honours Program for their degree progression, but would take ENVS 4599 and ENVS 4799 for only one of those years (usually the year in which the student graduates).

### Finding a supervisor

As a first step for entering the Honours program, students must find a suitable Supervisor(s) for their thesis research and then enroll in ENVS 4599.

The Supervisor is usually a faculty member in the Department of Environmental Science or in another department at SMU. Students are advised to check with the Honours Program Coordinator about Supervisor regulations, such as the acceptability of part-time professors or of non-SMU faculty to serve as Honours thesis Supervisors; in certain circumstances, a Co-Supervisor might also be assigned to the project. It is highly recommended that a visit to the Science Advising Centre also be booked to review your courses, grades and transcripts at this time as well.

Co-supervisors. In certain cases, there may be a co-supervisor involved. This should be the exception and may occur when the research supervisor is not a SMU faculty member or if there is an equally-shared oversight regarding the student project. In those cases, there must be a decision on who is the *lead supervisor* and who is the *co-supervisor*. The lead supervisor is ultimately responsible for the administrative processes, approvals and signatures. There cannot be more than 2 supervisors. This should be clarified very early in the process and communicated to the Honours Program Coordinator. If there are any questions or concerns, please contact the Honours Program Coordinator as soon as possible.

### *How to find a supervisor?*

Environmental Science is a highly interdisciplinary program. As a result, ENVS has among the most flexible supervisor options within the Faculty of Science. Potential supervisors can be ENVS faculty and adjunct faculty, as well as members of other SMU Science departments. Potential supervisors from government and nonprofit organizations who have environmental science expertise can also be considered. Do reach out to the ENVS Honours Program Coordinator to discuss.

This means that the options for supervisors and research programs are very flexible which can allow the option of designing the honours thesis in many ways. Even so, this can be overwhelming in some cases. Here are some ideas:

- If you took a course with an environmental theme which interested you, you can approach the professor with your interest and explore the possibility of an honours thesis.
- If there is an SMU Science faculty member doing environmental research which interests you, you can approach the faculty member with your interest.
- If you enjoyed a summer job or a volunteer position immensely, that could provide a lead to an honours thesis project.

- If you have a project idea that you are interested in but have not found the right supervisor, it is possible to discuss this.

If you are interested in doing an honours thesis but have not found a supervisor yet / or still unsure of how to approach a potential supervisor, contact the Honours Program Coordinator. They can work with you on identifying a supervisor and developing an honours thesis.

Note that students may carry out projects based on field or laboratory work done during summer employment, but a substantial part of the project must not have been written prior to registration, as part of the employment. The student must explain in the written proposal how the work has been divided between employment and university study.

### **Registering for the Honours Thesis Program**

- Fill out the Registrar's Office honours application (<https://www.smu.ca/academics/student-forms.html#honoursappl>) and note on the form the name of the Honours Supervisor (s) and a brief 2-3 sentence summary of the thesis project.
- Email the completed form to the ENVS Departmental Chair and the ENVS Honours Thesis Program Coordinator (emails above) who will review the information and discuss the proposed project idea.
- After the departmental review, this form is next sent to the Faculty of Science Advising Office as the Dean's designates, then the approved form goes to the Registrar's Office.
- Thereafter, if the application is approved, the Registrar's Office informs the student about acceptance into the ENVS 4599 and 4799 courses.

### **Honours in two subjects**

It is possible to take an Honours Program in two science subjects (Environmental Science and Biology, Chemistry, or Geography, or Geology, etc.). This is known as "Double Honours". Note, however, that the thesis will be written in one or the other of the Honours subjects. If the other department does not provide a support course for their honours thesis program, ENVS 4799 must be taken as the support course.

Students intending to take double Honours should pay careful attention to the Academic Calendar regulations for both subjects, as well as to the Faculty of Science regulations in the Academic Calendar. Students must consult with the Departmental Chair of the Environmental Science Department and the other appropriate department prior to making an application for a double Honours degree.

### **Steps for completing the ENVS 4599 Honours Research Project**

#### **Research Proposal**

Following consultation with their supervisor(s), students must submit a written research project proposal for approval by the deadline above. Although there will be no direct grading of the proposal, it will be used to evaluate the work of the student during the research and will help grading the overall work accomplished by the student.

The proposal should be 3-4 pages in length (excluding references), double-spaced and include the following:

- The title of the thesis.

- The name of the supervisor / supervisors
- The rationale of the project, including the objective(s) and hypotheses to be tested, and a statement of the research question.
- An overview of the data to be collected and the methodology used for the data collection.
- A timetable for activities related to the different parts of the thesis such as literature review, experimentation/data collection, data entry and analysis, data interpretation, and writing up.
- An initial list of references, following the most common citation format in your field of discipline.

The proposal is reviewed by the supervisor(s) and the Honours Program Coordinator or delegate. The student may be required to review and resubmit the proposal if any required elements are missing or if the description of any proposal components is insufficiently clear. The following factors will be considered in the approval of projects:

- Originality and scientific value of the proposed work.
- Whether the proposed work is well focused and likely to lead to useful results within the time available (work involved should be equivalent to a normal full-year course).

### **Carrying out the research project**

Supervisory meetings. It is expected that the supervisor(s) and the student will meet on a regular basis during the year to discuss the student's progress on the research project. The frequency may vary according to the Supervisor and the student.

### **First draft of the thesis.**

A draft of the complete thesis should be submitted to the supervisor mid-February or as determined by the supervisor(s). The supervisor(s) may suggest alterations to be made to this copy. It is very important to come to an agreement on the thesis writing plan in the Fall semester.

Due date of final thesis manuscript. The final draft of the thesis must be submitted in digital form to the supervisor(s), Honours Program Coordinator and to the Environmental Science Department Secretary.

### **Selecting an external reader for the thesis**

- It is the supervisor(s) responsibility to approach the external reader and ask them to review the student's thesis. The student can however discuss possible candidates for the role of external readers with their supervisor(s) and remind the supervisor(s) of the timelines.
- The external reader is also expected to be present at the student's thesis presentation and evaluation.
- The external reader can be someone from outside of the thesis project and who has sufficient discipline knowledge to be able to evaluate the quality of the research.
  - o They can be a member of the ENVs department, another SMU department or from outside the University so long they have the necessary level of knowledge.
  - o They cannot be a collaborator, potential co-author or otherwise be in a position to directly benefit from the thesis outcomes.

### **The format and content of the thesis manuscript**

The final thesis manuscript should be well written and organized, and it should include coherent hypotheses and inferences. It should include a thorough (yet concise) summary of the relevant literature. The manuscript should include bibliographic references, and, if appropriate, tables, charts,

graphs, and/or other figures. The student should be able to identify the implications of the findings, to make suggestions for future research, and to recognize the strengths and weaknesses of the study. Students should check with their supervisor(s) about the specific components that should be present in the thesis manuscript. It is strongly encouraged and recommended that students attend thesis-writing workshops conducted by the Writing Centre (<https://studio.smu.ca/wc-home>).

The Honours thesis must be formatted and have content that is in accordance with the University Library regulations detailed in the document "Honours Thesis Format Procedures Sheet". This document, along with details concerning the University Library submission process, copyright permission letter examples, template files for the signature page, title page, abstract page, etc., can be found on the Library website at <http://www.smu.ca/academics/archives/honours-thesis.html>.

In ENVS 4799, there will be an assignment focused on documenting and reporting metadata for your honours thesis data. You are encouraged to add this as an appendix to your honours thesis.

Acknowledgements and use of copyright material. Students must properly acknowledge the use of any data that has been obtained by others. Reproduction of published figures may require written permission from the original publisher. This written permission (generally available through the publisher's website) must be made available on request. Examples of copyright permission letters can be found on the University Library's website. Students should keep in mind that, depending on the publisher, the copyright permission process may take a long time, and they should therefore send out their permission requests as early as possible.

## **Examination and grading procedure**

### **Fall Semester Interim Report**

The student and the supervisor(s) should meet in late November before the written progress report is due to review progress and data collected to date. This is also a good opportunity to discuss data management plans and ensuring data will be sufficiently archived or saved in an accessible way (this will be covered in the ENVS 4799 class).

### **Final (Winter) Semester Grade**

The supervisor will assign a grade based on research progress, the thesis itself and the quality of the oral presentation and the student's skill at answering the thesis questions from the committee and the external reader / reader. It is the responsibility of the Honours student's supervisor to submit the final grade to the Honours Program Coordinator who will enter the final grade in Banner. See the timelines at the beginning of this document.

Suggested Final evaluation grading:

Honours research proposal (due in September)	15%
Written objectives and hypothesis	5%
Written methods and protocols.	5%
Final Thesis Oral Presentation (see Appendices for evaluation template)	15%

Final Thesis (see Appendices for evaluation template)	50%
Quality of research efforts and data management (field, lab, computational)	20%

### Final Honours Thesis Evaluation & Oral Presentation

Each Honours thesis will be marked jointly by the supervisor and one other external reader (a suitably qualified person from outside or inside the university who is not directly involved with the project). The external reader should be recommended by the supervisor and approved by the Honours Program Coordinator. The external readers may require the student to submit their original notes and data made during the research.

The draft and final thesis should be a single PDF version (no multiple files) with all sections and appendices included.

The presentations and questions are in a public forum. The department may send an open invitation to the Faculty of Science community. Students' friends and family are also welcome to attend the presentations. The venue will be decided each year after discussion in the ENVS 4799 class, and whether it will be virtual, hybrid or in-person.

### Final Honours Thesis Evaluation (aka “the defense”) and roles

#### Students

- Prepare the submitted thesis as a single PDF and email to the examination committee (supervisor(s), external reader, Program Coordinator) in advance (see the deadlines table for the date).
- Prepare a 12 to 15-minute oral presentation.
- Prepare background and understanding to be able to answer up to 15 minutes of questions from the external reader and from the committee (see below).
- Each student will have a maximum of 30 minutes for the presentation and questioning.
- (Note that there will be a discussion in ENVS 4799 on the types of presentations and how to prepare and practice for your “defense”).

#### External Readers

- External readers will have up to 8 to 10 minutes to ask questions after the student's presentation.
- They will be expected to read the submitted thesis for quality, ability to do independent research and provide feedback on the thesis for the revisions.
- They will be expected to come to the thesis evaluation ready to ask questions and to assess the student's knowledge of their research project and the context surrounding their research project.

#### Supervisor(s)

- The lead supervisor is responsible for documenting feedback and making sure the final revisions are completed before the submission to the library.
- The supervisor(s) are expected to work with the student to prepare for the thesis evaluation (e.g. practice talks, review of the research context, etc).

- The supervisor(s) are expected to assess the thesis suitability and readiness for the thesis evaluation and provide feedback for the revisions.
- The supervisor(s) are expected to work with the student to finalize the thesis for submission to the SMU Library, including reviewing comments from external reader and committee with the student, ensuring the quality of work meets departmental expectations and guiding the student through the revision process.
- Once the thesis meets expectations, the lead supervisor will sign off the thesis signature page and the remaining forms.

### Thesis Evaluation Chairs

- Thesis Evaluation Chairs do not grade the defenses or the student's work but will facilitate a fair and equitable discussion between supervisors and external reader regarding final grade and follow-up advice for students.
- The Thesis Evaluation Chair(s) are expected to oversee the integrity and timeliness of the thesis presentation(s).
- Ensure that the presentations and questions do not run overtime (total of 45 minutes).  
Recommended breakdown:
  - o 12–15-minute presentation.
  - o 1-2 questions from the audience.
  - o 8-10 minutes of questions from the external reader.
  - o Few questions from supervisor(s).
  - o Remaining time: finalizing recommendations and confirming final decision with the student.
- Ensure that the questioning is appropriate for the level of honours thesis evaluations.
- Guide the process, starting with the honours thesis research presentation, through the questions, and finalize with the recommendations.
- The student will leave during the recommendation discussions, with only the committee, external reader, supervisor(s) and Thesis Evaluation Chair present.
- The Thesis Evaluation Chair will facilitate a discussion regarding the recommendations, including a review of the evaluation rubric, the final grades for the presentation, evaluation and thesis quality, the ability to respond to questions.
- The student will be asked to return to review the final recommendations for revisions and the grade.
- The Thesis Evaluation Chair will ask everyone except the *lead supervisor* to sign the forms and the thesis signature page. The lead supervisor can withhold the signature until the final thesis is completed to everyone's satisfaction.

### Submission of the final thesis to the library

After an Honours thesis has been accepted as satisfactory by the lead supervisor, the examiners, and after the student has complied with the formatting requirements the final steps are to:

- The student should submit by email a single file PDF version of the thesis to [theses@smu.ca](mailto:theses@smu.ca), cc'ing the supervisor(s) and the Honours Program Coordinator.
- The email message should include the student's A-number, the signature sheet, as well as any applicable documentation, e.g. Research Ethics Board certificate, Animal Care Committee approvals and sampling permits, Restriction letter, Copyright letters etc.
- Confirmation of library acceptance of the honours thesis emailed to supervisor(s) and Honours Program Coordinator.

## Extenuating circumstances

- If there are extenuating circumstances, the Faculty of Science policies will apply. Link: <https://www.smu.ca/faculty-of-science/science-student-forms.html>.
- The lead supervisor will review the process with the student requesting consideration due to extenuating circumstances. If deadlines need to be adjusted within the Fall and Winter semesters, it is the lead supervisor's decision.
- If there are significant delays in meeting any significant academic deadlines it is necessary to involve the ENVS Honours Program Coordinator as soon as possible.
  - o The Declaration of Extenuating Circumstances Form is **mandatory**.
- A student who doesn't complete their honours course by the end of the Winter Semester will be given an IP grade, which can stand for a maximum of six months. If the IP grade isn't converted to a real grade within the six months (e.g. by the end of October in the following academic year), it then changes to an F.

## Helpful resources

SMU Writing Centre: <https://studio.smu.ca/wc-home>

SAS Software and Application Support Centre – for computational and software support (e.g. R, Excel, coding etc): <https://studio.smu.ca/sas-welcome>.

SMU Patrick Power Library Research Help: <https://www.smu.ca/academics/research-help.html>

SMU Patrick Power Library Honours Thesis Requirements:

<https://www.smu.ca/academics/archives/honours-thesis.html>.

Academic Integrity: <https://www.smu.ca/academics/avoiding-plagiarism.html>.

Extenuating Circumstances: <https://www.smu.ca/faculty-of-science/science-student-forms.html>.

## Appendices

- Oral Thesis Presentation & Questions Evaluation Form. FORTHCOMING.
- Honours Thesis Evaluation Form. FORTHCOMING.