

## **GEOG 4660 GEOGRAPHY / ENVR 4500 ENVIRONMENTAL SCIENCE AND STUDIES HONOURS THESIS PROJECT COURSE OUTLINE**

**CREDITS:** 6 hours (fall and winter terms)

**PREREQUISITE:** Normally, good standing as a Third or Fourth Year student in Environmental Science or Studies, Human- or Physical Geography.

**RESEARCH ADVISOR:** Students are required to identify a qualified advisor (see section 3.1) prior to registering.

**COORDINATORS:** Dr. Michael Campbell  
Office: 213 Wallace Building  
Email: Michael.campbell@umanitoba.ca  
Tel: (204) 474-8514  
Office hours: By appointment

### **1. EXPECTATIONS**

ENVR 4500 / GEOG 4660 is an independent research project course. It counts for 6 credit hours, and it extends over both the fall and winter terms. You will need to arrange to work with a particular professor or qualified advisor (i.e., someone with a track record of research or study in your area of interest) on a mutually agreeable research problem. Co-advising arrangements are encouraged. Students in ENVR 4500 / GEOG 4660 are expected to maintain a steady level of work during the entire academic year, likely committing 5-10 hours per week to their project. Students must consult regularly with their advisor(s) to ensure that their work stays on track. Every student in ENVR 4500 / GEOG 4660 is expected to conform to university standards regarding research at all times.

### **2. CLASS MEETINGS AND DEADLINES:**

There are no regular lectures or labs, but the following meetings of the class will be scheduled in a location to be determined or online as required:

A project proposal symposium in **late September**

A progress update symposium in **late January**

A final report symposium in **early April**

A number of seminars will be held in **October, November and January** to which we invite experts in the field to present on their topics. Depending on availability, these seminars could cover topics such as:

- 1) how to publish findings in peer-reviewed literature;
- 2) how to write research grants;
- 3) human ethics within research;
- 4) animal ethics in research;

- 5) literature search and referencing;
- 6) grad school, what is it like and how do you apply;
- 7) tours of laboratories;
- 8) research with indigenous peoples and;
- 9) citizen science.

Students are expected to attend at least 5 of these seminars, and to do so in consultation with their advisor

Final dates for the workshops will be selected with students and advisors based on their availability.

In addition, students should meet individually with their advisor regularly to discuss the status of their research. If you have difficulty meeting with your advisor, or feel you are being neglected, please contact the course coordinator(s) as soon as possible so that we may remedy the situation.

Notes:

1. All submissions for the course should be provided electronically to the advisor and course coordinator(s) by email or other means such as a 'Dropbox' public link.
2. The finalized version of your project proposal should be submitted for grading the day of the oral proposal presentation.
3. The progress report should be submitted at least 1 day prior to the oral progress presentation.
4. The final Honours Thesis report should be submitted in its final form no later than on the last day of classes in the Winter term.

### **3. COURSE CONTENT AND PROCEDURES:**

The course is designed to give Honours students experience in conducting scientific environmental and geographical research, from the inception and planning stages through study execution, data analysis, written reporting, poster presentation and oral communication. Each student will be responsible for finding an advisor, from among University of Manitoba faculty or other environmental professionals, who is willing and able to supervise the research project. Data collection for the project is generally carried out during the fall and winter terms. Students may also use data gathered during the preceding summer's employment, provided that both the employer and the student's project advisor agree in writing beforehand to the student's use of these data. Non-experimental projects involving summarization and analysis of existing data or the theoretical exploration of a problem using literature and/or web-based sources are also acceptable. The course coordinator(s) will act with the advisor to grade and assess student progress.

#### **3.1 Registration in the course**

Students are required to identify a qualified advisor prior to registering. A list of Faculty from the E&G can be found at:

<https://umanitoba.ca/environment-earth-resources/honours-program-information>

The advisor does not necessarily need to be one from the list but can be someone qualified from outside the Department or the University. If from outside the University, then co-supervision with a Faculty from the Department should be considered.

Prior to being granted permission to register in the course, each student (with the help of their advisor(s), will prepare a 1-2 page summary of their proposed thesis research and submit that to the course coordinator(s) by email. The summary should generally identify the need for the study based on past work in the area, research purpose, objectives and goals, possible methods to be employed, location of where the research is to be undertaken, and the name and affiliation of the proposed advisor(s).

### **3.2 Research proposal and review**

In consultation with the advisor, each student will prepare an 8-10 page written research proposal before starting a project. The student will present the proposal orally to course participants and the final version of their proposal in accordance with the guidelines below to their advisor and the course coordinator in late September. The finalized version of your project proposal should be submitted for grading the day of the oral proposal presentation.

### **3.3 Progress report**

Each student will prepare a poster on their research progress at the beginning of the Winter term, by which time the project should be well underway. Guidelines for preparing the poster is provided below. Prior to printing the poster, it should be submitted electronically to the Advisor and coordinators(s). The Department will then cover the cost of printing the poster on campus. The poster will be presented orally during the symposium in late-January. Thus, in order to ensure that the poster is ready at the time of the symposium, the student should have the poster completed electronically about 2 weeks prior to the symposium.

### **3.4 Honours Thesis**

The final honours thesis report should be written in accordance with the guidelines given below. All reports will be presented orally at the end of the Winter term. The thesis must be submitted in final form by the last day of classes in the Winter term. Following submission, the thesis is examined and graded by the supervisor and a second examiner appointed by the Honours program coordinator(s) following consultation with the supervisor. The advisor and student will agree upon any final editorial corrections that the student should make to the report. One final corrected copy of the report should then be submitted electronically to the course coordinator.

### **3.5 Nomination for Faculty Award**

The advisors may nominate their student's Honours Thesis for the Faculty Award (only one award per year). To nominate a thesis, the advisor needs to send a letter of recommendation to the course coordinator(s). The course coordinators and the Department Head will then select up to three of the Department's Honours Theses to be forwarded to the Faculty Award competition.

## **4. GRADING**

The course grade for each student will be assigned by the course coordinator(s), on the basis of evaluations from the student's advisor and the course coordinator(s).

Marks will be allocated as follows:

1. The research proposal = **10%**
2. The research proposal presentation = **5%**.
3. Progress report poster and Q & A= **15%**
4. The final honours thesis report as a written document = **45%**
5. The final thesis presentation = **15%**

Total = **100%**

Resultant values will be a mean of the marks submitted by the advisor and course coordinator(s).

#### **4.1 Grading scale**

|           |               |           |              |
|-----------|---------------|-----------|--------------|
| <b>A+</b> | <b>90-100</b> | <b>C+</b> | <b>65-69</b> |
| <b>A</b>  | <b>80-89</b>  | <b>C</b>  | <b>60-64</b> |
| <b>B+</b> | <b>75-79</b>  | <b>D</b>  | <b>50-59</b> |
| <b>B</b>  | <b>70-74</b>  | <b>F</b>  | <b>0-49</b>  |

#### **4.2 Evaluation and Withdrawal**

Students will receive evaluations from their advisor after the research proposal review meeting and the progress report review meeting prior to the University Voluntary Withdrawal Deadline (<http://umanitoba.ca/registrar/withdraw-course>). The course coordinator will provide each student with their grade summary at any time throughout the year upon request.

#### **4.3 Communication with students**

The University of Manitoba has a new policy on electronic contact with students that requires **all email contact on university business to use students' official University email addresses**.

The policy is at:

[http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic\\_com\\_munication\\_with\\_students\\_policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_com_munication_with_students_policy.html)

#### **4.4 Academic regulations and expectations (additional information in Schedule A)**

- **Recording Class Seminars:** Drs. Michael Campbell and Jonathan Peyton of the University of Manitoba hold copyright over the course materials and lectures that form the components of this course. No audio or video recording of lectures is allowed in any format, openly or surreptitiously, in whole or in part without permission of the Instructor(s). Course materials are for the participant's private study and research.
- **Academic Dishonesty:** Plagiarism, cheating or impersonation in the completion of assignments are very serious offences. Students caught doing so may be debarred from class with further risk of academic penalty and possible expulsion. All graded work must be independent.

- **Academic Supports:** The University of Manitoba provides many services and supports to encourage good scholarship and encourage all members and students to maintain a respectful work and learning environment. Policies have been developed regarding threatening behavior, or assaults whether verbal or physical to support victims and discipline offenders. For more information on these see Schedule A attached and available on the UM Learn site.
- **Department Policies**  
<http://umanitoba.ca/faculties/environment/departments/geography/index.html>
- **Student Advocacy** - <http://umanitoba.ca/student/advocacy/>; 520 University Centre; 204 474 7423; [student\\_advocacy@umanitoba.ca](mailto:student_advocacy@umanitoba.ca)

## **5. GUIDELINES FOR WRITING THE RESEARCH PROPOSAL:**

The Honours Project Research Proposal is generally 8-10 double-spaced pages in length. The following points should generally be covered, preferably in the order given. These do not represent required section headings for the proposal, however, before you begin to write, you should consult with your advisor to determine if all of these points are relevant to your proposal and if there are any additional items that should be included. These points are:

- Title Page
- Introduction and Background
- Research Purpose and Objectives and/or Hypotheses
- Planned Methods
- References

### **5.1 Title Page**

The title page should include your name, the title of the proposal, advisor's name, course number, and date of submission.

### **5.2. Introduction and Background**

The introduction and background section should comprise up to half of the written text in the research proposal. The intent is to summarize the current state of the subject you are going to investigate, and provide a context for the work you are going to propose. When done properly, the reader will be led to the same conclusion as yourself: that the work you are proposing is both a logical extension of the work that has preceded it and a necessary contribution to the field of study. This section is considered preliminary, as by the time you complete your research in the spring, you will have also done more reading on the subject, and the literature review you provide in your final report will be more complete than the one you are able to complete for your project proposal.

### **5.3 Research Purpose and Objectives and/or Hypotheses**

In this section, you must clearly state the overall purpose of your research project and outline the specific research objectives and goals you expect to achieve. Note that some research projects lend themselves to hypothesis testing, others do not. Discuss what is best for your particular case with your advisor. To be effective, this section should be brief and

to the point (i.e., no more than 1 page). A numbered list is an effective way to state your objectives. You should confer with your advisor on this section in some detail, since he/she will be able to help you define realistic objectives and goals and/or hypotheses for your project. Ultimately your advisor, and the course coordinator(s), will evaluate your objectives and goals with the intent of determining if they are realistic and suitable within the context of an ENVR 4500 / GEOG 4660 project.

#### **5.4 Planned Methods**

In this section, you need to provide some detail about how you plan to carry out your research project. Specific methods should be described for each research objective. You do not need to provide elaborate details about specific techniques, equipment and materials used, but you do need to defend your choices. For example, you might outline a general scheme for an experiment, a protocol for a laboratory analysis, a survey, video production, or provide an example derivation for a calculation. A flow chart is very useful to clearly outline what you plan to do. As with the Introduction, you need to cite references for the work you use to justify the chosen techniques. Note that University of Manitoba Guidelines should be consulted to determine if any approvals are required for your proposed research

([https://umanitoba.ca/admin/governance/governing\\_documents/research/responsible\\_conduct\\_of\\_research.html](https://umanitoba.ca/admin/governance/governing_documents/research/responsible_conduct_of_research.html) )

#### **5.5 References**

See Section 7 below.

### **6. GUIDELINES FOR PREPARING THE PROGRESS REPORT POSTER:**

The poster should concisely describe and discuss for the advisor and course coordinator the findings and analysis of the project to date. The maximum size of the poster can be no more than 36 by 48 inches. Many guides are available online to help with poster design (e.g., [this link](#)). A suitable format could include (but be sure to discuss the format with your advisor who might suggest an alternative approach):

1. Title, names and affiliations
2. Purpose and Objectives (restate briefly; cite your research proposal for elaboration)
3. Methods (cite your research proposal for the basics; describe any modifications fully)
4. Preliminary Results and Discussion, including comparisons with literature or web-based sources
5. Challenges and Problems
6. Outlook for successful project completion

The poster should state the project's purpose, objectives, and methods very briefly. However, it should emphasize mainly the preliminary results that have been obtained to date, wherever possible through a preliminary graphical or tabular presentation of data and some assessment of their significance. This presentation should be integrated with a brief discussion comparing the results obtained with the outcomes expected on the basis of relevant literature. An appraisal of research challenges and problems should be described,

as well as a timeline or an assessment of the potential for the project's successful completion.

The Poster will be orally presented by the student during the late-January symposium.

Software to make a poster include Microsoft PowerPoint, or Adobe Illustrator, Photoshop and InDesign. Examples of open source alternatives include OpenOffice, LibreOffice, Inkscape and Gimp. Ensure that the software can save the posters in pdf format to facilitate printing and archival.

## **7. GUIDELINES FOR WRITING THE FINAL THESIS REPORT:**

The final honours thesis report should generally follow University of Manitoba graduate theses in format ([http://umanitoba.ca/faculties/graduate\\_studies/thesis/guidelines.html](http://umanitoba.ca/faculties/graduate_studies/thesis/guidelines.html)). An honours thesis is generally at least 25 pages in length (minimum), exclusive of tables, figures and references. The length and expectations of the final report will be developed with the student's advisor(s).

The format for most honours theses is as follows (but discuss alternate formats with your advisor):

**1. A title page** (not numbered), as follows:

.....

The title of the honours thesis

by

Author's Name

A report submitted to the Department of Environment and Geography,  
University of Manitoba,  
in partial fulfillment of the requirements for course  
ENVR 4500 or GEOG 4660  
(Honours Thesis Project)

Month, year

.....

**2. An abstract** of maximum 250 words summarizing the problem, methods, results and conclusions (numbered page i - sequential small Roman numerals follow)

**3. Acknowledgements** (page ii)

**4. Table of Contents** (beginning on a new page)

**5. List of Tables** (beginning on a new page)

## 6. List of Figures (beginning on a new page).

This should be followed by the main body of the thesis:

## 7. Introduction and Background (beginning on page 1 - sequential Arabic numerals hereafter), outlining research purpose, objectives, questions and/or hypotheses addressed, in the context of relevant literature)

## 8. Materials and Methods

## 9. Results

## 10. Discussion

## 11. References

## 12. Appendices (if necessary)

Text should be **Times New Roman, size 12 font and double-spaced**. Figure legends, tables and references may be single-spaced; references should then be separated by a blank line. **Margins** should be 1 inch (2.5 cm) at the top, bottom and right-hand edges of the page, and 1.5 inches (3.8 cm) at the left. **Figures** should be placed on separate pages in the text after each is first cited. The figure legend may be printed below the figure on the same page (this page would be numbered sequentially with the text), or the legend may be placed on the preceding page facing the figure (in this case, the page with the legend receives a number but the page with the figure does not). **Tables** should likewise be interleaved and paginated in sequence with the text after they are first cited.

## References:

For the purposes of your proposal (and later for your progress and final reports) you will need to cite appropriate literature. The method for citing references in the text of theses is generally the name and date method, e.g., (Author, 2006), (Author and Author, 2006) or (Author et al., 2006) when there are three or more authors. When multiple references are used for a given point, place them in chronological order, separated by semi-colons. Papers are then listed in alphabetical order (according to the first author's surname) at the end of the paper in the reference section.

Basic style is as follows, but be sure to discuss with your advisor if you should consult a particular Journal or Style Guide for your area of study:

- *Book*: Author AB, Author CD. 2004. *Title of Book*. Publisher, City, ST, Country.
- *Book Article*: Author AB, Author CD. 2004. Title of article. In Adams AB, Smith DC, eds, *Title of Book*, 2nd ed, Vol 1-Toxicology. Publisher, City, ST, Country, pp 1-5.
- *Journal Article*: Author AB, Author CD. 2004. Title of article. *Environ Toxicol Chem* 16:2200- 2204.
- *Proceedings*: Author AB, Author CD. 2004. Title of article. *Proceedings*, Name of Conference, City, ST, Country, date (month, days, year), pp 00-00 (if no page

numbers are available, cite parenthetically in the text).

- *Report*: Author AB. 2004. Title of report. EPA 600/334/778. Final/Technical
- Report. U.S. Environmental Protection Agency, Washington, DC.
- *Thesis*: Author AB. 2004. Title of thesis. University, City, ST, Country.

## **8. GUIDELINES FOR THE ORAL PRESENTATIONS:**

The following guidelines refer specifically to the two oral presentations in the Honours Project course. The goal of these presentations is to summarize your research plans or results prior to discussion and to provide visual aids to assist in that discussion. A powerpoint or similar media should be used in both cases. The presentation should be concise and no more than 10 minutes in duration for the research proposal, and no more than 15 minutes in duration for the final presentation. The progress report in late January will be conducted as a poster presentation, i.e., with the student explaining the poster to viewers.

## SCHEDULE A

### Academic Supports

**Writing and Learning Support:** The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor's feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at:

<http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 201 Tier Building.

**University of Manitoba Libraries (UML)** - As the primary contact for all research needs, your liaison librarian (if they weren't recently fired by Central Administration) can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>.

In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: [www.umanitoba.ca/libraries](http://www.umanitoba.ca/libraries)

### Mental Health

- **For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.**

- **Student Counseling Centre:** Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. <http://umanitoba.ca/student/counselling/>; 474 University Centre; S207 Medical Services; (204) 474-8592
- **Student Support Case Management:** Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team. <http://umanitoba.ca/student/case-manager/index.html>; 520 University Centre; (204) 474-7423
- **University Health Service:** Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation. <http://umanitoba.ca/student/health/>; 104 University Centre, Fort Garry Campus; (204) 474-8411 (Business hours or after hours/urgent calls)
- **Health and Wellness:** Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault. <http://umanitoba.ca/student/health-wellness/welcome.html>; 469 University Centre; (204) 295-9032
- **Live Well @ UofM:** For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site: <http://umanitoba.ca/student/livewell/index.html>

**Copyright Information** - All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community. For more information: <http://umanitoba.ca/copyright>

### Rights and Responsibilities

- **Your rights and responsibilities:** As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.
- The [Academic Calendar](http://umanitoba.ca/student/records/academiccalendar.html) <http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and

*General Academic Regulations.*

- While all of the information contained in these two sections is important, the following information is highlighted.
- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form:  
<http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.
- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior are included in the next section.

**Policies and Services Information**

- **Respectful Work and Learning Environment:**  
[http://umanitoba.ca/admin/governance/governing\\_documents/community/230.html](http://umanitoba.ca/admin/governance/governing_documents/community/230.html)
- **Student Discipline**  
[http://umanitoba.ca/admin/governance/governing\\_documents/students/student\\_discipline.html](http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html) and,
- **Violent or Threatening Behaviour**  
[http://umanitoba.ca/admin/governance/governing\\_documents/community/669.html](http://umanitoba.ca/admin/governance/governing_documents/community/669.html)
  - If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at:  
[http://umanitoba.ca/admin/governance/governing\\_documents/community/230.html](http://umanitoba.ca/admin/governance/governing_documents/community/230.html) More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>

**Intellectual Property** - For information about rights and responsibilities regarding **Intellectual Property** view the policy:

[http://umanitoba.ca/admin/governance/media/Intellectual\\_Property\\_Policy\\_-2013\\_10\\_01.pdf](http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-2013_10_01.pdf)