ENV 223: ENVIRONMENTAL RESEARCH SKILLS  
FALL 2021  
THURSDAY 2-4 PM  
ROOM: ES1050

I CONTACTS

INSTRUCTOR  
Name: Christian Abizaid  
Email: christian.abizaid@utoronto.ca  
Office: SS 5055  
Student hours: Tuesdays 1:15- 3:15 PM or by appointment (virtual)

TA  
Name: Emily Power  
Email: emily.power@mail.utoronto.ca  
Office hours: times and format TBD

II COURSE OVERVIEW

COURSE DESCRIPTION:  
Environmental studies is an interdisciplinary field that looks at the interactions between humans and the environment. The nature of these interactions is inherently complex, and demands that environmental scholars and practitioners (such as you) have a sound and integrative understanding of natural sciences, social sciences, and the humanities. At the same time, massive amounts of information explaining how humans impact the natural environment are becoming quickly and readily available. Not only is this information available through scientific publications, but also through mainstream and social media outlets, websites, and publications from special interest groups. In order for environmental professionals to be effective, they must know how to generate, evaluate, and communicate reliable and relevant information when making decisions or proposing changes to environmental policy and practice. This course is designed as a practical introduction to environmental studies research. More specifically, it aims to familiarize students with methods and techniques used in environmental studies, allow them to develop a basic set of skills to conduct research on topics of interest in this interdisciplinary field, and communicate results to suitable audiences. The course focuses on research design and research methods, inspired by a philosophy of “learning by doing”. It covers both qualitative and quantitative methods and techniques, and exposes students to the basics of “fieldwork”. 
STUDENT LEARNING OUTCOMES:

This course will allow students to develop basic skills that will enable them to locate and critically assess existing environmental research, as well as to design, conduct and report on a basic research project on a current environmental issue. More concretely, by the end of the course students should be able to:

- Understand how to develop a testable research question that can guide environmental research.
- Design an environmental research project.
- Understand and incorporate ethical concerns and responsibilities into research.
- Identify a suitable sampling strategy and design appropriate questions (or lines of questioning) for interviews.
- Identify and evaluate different primary data gathering techniques.
- Conduct basic fieldwork.
- To communicate research results effectively through different forms (orally, written, and visually).
- Critically assess the strengths and limitations of environmental research.
- Develop the ability to work collaboratively and effectively in groups.
- Develop strong writing skills.

READINGS:

Required:

Supplemental:
Northey, M., Draper, D. and Knight, D.B. (2019). Making sense: a student’s guide to research and writing: geography & environmental sciences (7th ed.). Don Mills: Oxford University Press. This book contains information about taking notes, working in groups, writing in general, reporting on results, etc., and as such, it is a very handy resource for many of the activities you will be undertaking for this course.

Both books can be rented or purchased as e-books through the UofT Bookstore via VitalSource, or directly through Redshelf. Direct links to each book are found below:
- Social Research Methods: VitalSource or Redshelf
- Making Sense: VitalSource or Redshelf

Copies of earlier editions of Social Research Methods and of the 7th and earlier editions of Making Sense are also available through the UofT Library system. Using an earlier edition of the books is acceptable, however, it will be your personal responsibility to figure out page and content compatibility.

The reading list for each class will be posted on Quercus. Additional readings from academic sources will be assigned; such readings will be made available through
III  HOW THE COURSE IS ORGANIZED

The course is organized into three parts. Part I provides a general overview of general concepts and issues in environmental research. Part II covers basic methods for data collection and analysis that are used in environmental studies, discussing quantitative, qualitative, and mixed methods. Part III covers communication in environmental studies, including the opportunity for students to present results from their research.

This is an in person course, with weekly meetings. However, the first three classes (September 9, 16, and 23), classes will be held online synchronously, via Zoom (during official class time) as per FAS guidance. A Zoom link is available on the course’s Quercus. The course consists primarily of lectures and a group research project, enhanced by active-learning activities in-class, guest lectures (To be confirmed) and a field assignment.

PROPOSED COURSE SCHEDULE & RELEVANT SESSIONAL DATES*

<table>
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<tr>
<th>DATES</th>
<th>WEEK</th>
<th>TOPICS</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>PART I. General Research Concepts &amp; Issues</td>
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<tr>
<td>Sept. 9</td>
<td>1</td>
<td>Introductions, environmental research and course policies</td>
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<td>Sept. 16</td>
<td>2</td>
<td>Research as a way of knowing &amp; generating and answering research questions</td>
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<td>Sept. 23</td>
<td>3</td>
<td>Research strategies and designs</td>
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<td>Sept. 30</td>
<td>4</td>
<td>Data sources and types of articles</td>
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<tr>
<td>Oct. 7</td>
<td>5</td>
<td>Research ethics; fieldwork in environmental studies; discussion of fieldwork assignment</td>
<td>Annotated Bibliography due Oct. 8 @ 7:59pm ET</td>
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<td>Oct. 14</td>
<td>6</td>
<td>TBD</td>
<td>Research Proposal due Oct. 15 @ 7:59pm ET</td>
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<td>PART II. Introduction to Research and Data Analysis in Environmental Studies</td>
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<td>Oct. 21</td>
<td>7</td>
<td>Quantitative research (sampling, data collection and analysis)</td>
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<td>Oct. 28</td>
<td>8</td>
<td>Qualitative research (sampling, data collection and analysis)</td>
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<td>Nov. 4</td>
<td>9</td>
<td>Mixed-methods in environmental research</td>
<td>Fieldwork Assignment due Nov. 5 @ 7:59pm ET</td>
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<td>Nov. 11</td>
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<td>Fall Reading Week – no classes</td>
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PART III. Research Communication in Environmental Studies

| Nov. 18 | 10 | Communicating in environmental studies & Writing an environmental studies report |
| Nov. 25 | 11 | TBD |
| Dec. 2  | 12 | Presentations & Course wrap up |

Research Presentation due Dec. 2
Research Report due Dec. 8 @ 7:59pm ET

*Modifications may apply as the term progresses; students will be notified in advance should any changes be made.

IV EVALUATION/GRADING SCHEME

FIELDWORK ASSIGNMENT (INDIVIDUAL), worth 20%
GROUP RESEARCH PROJECT (GROUP), groups of 5 students
  - PART 1. ANNOTATED BIBLIOGRAPHY (INDIVIDUAL), worth 15%
  - PART 2. RESEARCH PROPOSAL (GROUP), worth 10%
  - PART 4. RESEARCH REPORT (GROUP), worth 30%
  - PART 4. RESEARCH PRESENTATION (GROUP), worth 10%
PARTICIPATION (ongoing through term), worth 15%

Note on grading of group work: An additional discretionary component may be applied to a student’s grade for group work (up to ± 5 points). Students who fail to fulfill their commitments with fellow group members will have points deducted; group members whose contributions to the project are outstanding will have points added accordingly. This discretionary component will be determined at the end of the term through a peer and self assessment process (details will be explained in class); these are not simply bonus points and will be applied at my discretion. Please note that severe lack of participation in group work may lead to an individual zero grade on the group project and, as such, likely a failing grade for the course.

ANNOTATED BIBLIOGRAPHY (15%), due Oct. 8
In this short (individual) assignment, students will create annotated entries for academic articles on an environmental topic. Each entry must include the full bibliographic information of the article, a brief synthesis of the main ideas of the article, and an explanation of why/how the article is relevant. This assignment, although individual, constitutes PART 1 of the Group Research Project (see description below). As such, each student must focus their individual annotated bibliography on the topic to be covered in the Group Research Project.
FIELDWORK ASSIGNMENT (20%), due Nov. 5
This assignment provides students with an opportunity to gain first-hand experience collecting primary data using different data collection methods and in the process, also learn about an environmental topic. Please be advised that the assignment entails participation in an independent fieldwork exercise outside of class time. Students will have some flexibility to define the exact day and time they go to the field (prior to the deadline), however, participation in this exercise is mandatory.

GROUP RESEARCH PROJECT, groups of 5 students (total 65%)
Students are expected to conduct an independent group-based research project throughout the term. Inspired by the 'learning-by-doing' philosophy adopted for this course, this project as a whole aims to provide students with direct experience working collaboratively with their peers in the design, implementation, and communication of results of a project on a relevant environmental issue. This is a scaffolded assignment composed of three smaller assignments. Part 1 is the Annotated Bibliography, described above; each group member should produce their own annotated bibliography, related to the Group Research Project. Part 2 is the preparation of a research proposal (10%, due Oct. 15), that builds on the individual annotated bibliographies (described above), that explains the topic to be researched, why it is important, and how you will go about carrying out the work. Part 3. is a Final Research Report (30%, due Dec. 8) that contains the main findings of the research carried out. Finally, Part 4. entails a presentation (format yet TBD) in which students communicate their research results to an audience (10%, Dec. 2).

Group Research Projects account for an important portion of your grade for this term. As such, it is expected that a considerable amount of work and time will be devoted to your group projects. Each member is expected to engage fully in group work and commit with fellow group members to do their respective share of the work. Although projects receive a group grade, students who fail to fulfill their obligations to their peers will be penalized (see note on grading group work above). Please note that some activities related to your group projects will be carried out in class. Still, much of the work will be done independently outside of class time. Detailed guidelines on each part of the Group Research Project will be provided in class and on Quercus.

PARTICIPATION (15%), ongoing
Participation involves playing an active role in the course and engaging with course materials and their peers by asking questions, making comments, partaking in discussions Students are expected to demonstrate engagement with course materials, by actively posing questions, making comments, and participating in in-class activities and discussions. As a way to provide a wider range of options to engage with course materials, students are also welcome to submit questions or a brief informal comment related to readings and materials discussed in class. Electronic questions and comments must be submitted via email, preferably the day
before class and up to the end of the day (i.e., 5:00 PM) on Friday (i.e., a day after such materials were discussed in class). Please note that it is easier to incorporate questions if sent in advance. All participation must be guided by, and adhere to, our collective responsibility of creating an atmosphere of mutual respect.

CRITERIA FOR EVALUATING WORK

The primary criteria used in evaluating written work are the following:

1) **Mechanics**: Your work must be completely free of grammatical, spelling or major factual errors. Students are expected to include thorough, accurate and consistent references in APA academic referencing style that includes page numbering.

2) **Writing style**: Papers must be written in a clear and unambiguous style which assists, rather than impedes, communication with the reader.

3) **Structure**: Your written work should have a clear focus and organization. The logic of the structure is determined by the purpose, which is to test a hypothesis, answer a research question or defend a thesis statement.

4) **Precision and accuracy**: Precision means saying exactly and specifically what you mean, avoiding ambiguity and vague generalities. Accuracy refers to absence of major factual errors.

5) **Analysis**: Your analysis should display understanding of the topic and, based on that understanding, originality of thought. The proposal and the research report will be evaluated on the defensibility of their analysis in terms of their use of evidence and logical coherence.

The primary criteria used in evaluating poster presentations are the following:

1) **Success in communicating** key concepts succinctly and accurately, thereby demonstrating sound understanding of the work being presented in the final product.

2) **Mechanics of communication**, such as manner of speaking (including good diction and tone), structure of the presentation and level of organization of the poster/presentation and level of organization, neatness, effective use of color and visuals, and proper referencing.

3) **Ability to respond** appropriately and fairly to questions and contribute to and stimulate unstructured discussion among peers.

V COURSE POLICIES

COMMUNICATION WITH INSTRUCTOR

I have designated a block of time for “virtual” student hours during which I am available to discuss with you course-related matters (for the hours, see the first page of the syllabus). It is time set aside for you-- take advantage of it! Students are welcome to drop-in virtually at any time during the first hour, or to make an
appointment during at any time in the two 2-hour block. Appointments may also be set for students who cannot attend scheduled student hours sessions. For urgent matters or simple questions, you may also contact me via email, but the rule of thumb is that email should not be a substitute for these “live” sessions. Depending on the situation/issue, I may ask that we set up a virtual meeting.

Please note that I am not online 24/7 and thus may not be able to respond to your messages right away. I will make an effort to respond to you within 2 days during weekdays, but it will take longer during weekends as I remain offline to spend time with my family. Please make sure to use your UofT email account (i.e. @mail.utoronto.ca) and to include the course code “ENV223” and your name in the title box of your email for easier handling. Other e-mail addresses may be filtered as spam and thus I may be unable to respond to them.

LECTURES AND CLASSROOM POLICIES
• **Punctuality:** Class will start on time (i.e., 2:10 PM). If you have to come into class late, please do so in the least disruptive manner possible. As a sign of respect to the instructor and the rest of the class, arrivals after 2:30 PM are discouraged.

• **A positive learning environment:** “The University of Toronto is committed to equity, human rights and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect where all members of our community can express themselves, engage with each other, and respect one another’s differences. U of T does not condone discrimination or harassment against any persons or communities.” This applies to all matters and interactions related to the course including participation in class, group work, field exercises, student presentations, communications with the teaching team regarding course content or evaluation, etc.

• **Etiquette regarding the use of computers and other electronic devices:** The use of computers and other electronic devices has become central to learning since the pandemic, still the use of electronics in class should be limited to activities related to the course. Other uses are disruptive for the instructor and peers and thus are unacceptable.

• **Course notes:** As a courtesy, I will be posting my powerpoint slides on Quercus after class. Please note that I am under no obligation to do so and that such notes are intended to assist you and not replace your personal notes. The instructor reserves the right to stop posting the slides at any time at his discretion.

WRITTEN ASSIGNMENTS
• **Submission guidelines:** Written assignments must be submitted electronically via Quercus by 7:59 pm on the due date. Please note that deadlines have
purposely been set on days that do not coincide with class and to avoid students staying up late to complete assignments. It is recommended that you keep early drafts until you receive a graded copy of your assignment.

- **Late penalty policy:** Work submitted late will be accepted with a 5% daily penalty (including Saturdays and Sundays), up to seven days after the due date. In such cases, the date/time of submission will be considered, using 7:59 pm ET time as time of reference. In the case of an outstanding valid situation you must contact me, preferably in advance. I cannot consider a situation unless I know about it, so do not wait until the end of the term to communicate with me if something did come up. You are responsible for contacting your instructors to request the academic consideration you are seeking. No extensions will be granted unless you have communicated with the instructor. Reweighting of assignments/grades is not permitted.

- **Reread requests:** Students concerned about the assessment in assignments are invited to carefully read the feedback provided by the TA and/or instructor in written form and in the assignment rubric (where applicable). If you require clarification or feel that you have been unfairly assessed, please contact the TA or the instructor explaining the rationale for your request within one week of receiving the graded assignment. Please be aware that rereading the assignment does not necessarily translate into a higher grade. It is a reassessment and as such, the grade may remain, go up, or drop. Requests made after after one week may no longer be considered.

**OTHER POLICIES**

- **Declared absences:** In response to the effects of the pandemic, students are now required to submit an Absence Declaration Tool via ACORN to record any absence from academic work, whether for medical or non-medical reasons. You should complete the Absence Declaration anytime you are absent from academic work, not just when you have missed a specific course deadline. You should record each day of your absence as soon as it begins, up until the day before you return to classes or other academic activities. The University uses this information to consider students for academic accommodation and to monitor overall absences.

- **Quercus:** A Quercus site has been set for this course. PowerPoint slides, additional readings, assignments, and other useful materials will be posted on it. Quercus will also be used by the instructor to communicate with the class as a whole and will serve as the platform for assignment submission. Please make sure to check it regularly. To access the ENV223 Quercus, go to the UofT login page at: https://q.utoronto.ca/ and login using your UTORid and password. Once you have logged in, click on the Dashboard module on the right margin of your
screen. You will then be able to see the tab for ENV223 course (along with all your other Quercus-based courses).

VI INSTITUTIONAL POLICIES AND SUPPORT

ACADEMIC INTEGRITY
Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student’s individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments:
1. Using someone else’s ideas or words without appropriate acknowledgement.
2. Submitting your own work in more than one course without the permission of the instructor.
3. Making up sources or facts.
4. Obtaining or providing unauthorized assistance on any assignment.

On tests and exams:
1. Using or possessing unauthorized aids.
2. Looking at someone else’s answers during an exam or test.
3. Misrepresenting your identity.

In academic work:
1. Falsifying institutional documents or grades.
2. Falsifying or altering any documentation required by the University.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see https://www.academicintegrity.utoronto.ca/).

COPYRIGHT
Lectures and course materials are considered intellectual property of the Instructor and are covered by the Canadian Copyright Act. These materials are made available to students for personal study purposes only (i.e., they cannot be shared outside or ‘published” in any way without prior written consent of the instructor). Lectures
cannot be recorded without the instructor's written permission. Please be advised that posting course materials, or recordings to external websites (or in any other format) without explicit permission of the instructor, constitutes an infringement on the Canadian Copyright Act and is absolutely prohibited. More information regarding this is available here: https://teaching.utoronto.ca/ed-tech/audio-video/copyright-considerations/

ACCESSIBILITY NEEDS
Students with diverse learning styles and needs are welcome in this course. The University of Toronto is committed to accessibility: if you require accommodations for a disability, or have any other accessibility concerns about the course, please contact Accessibility Services as soon as possible. You may also want to contact the Accessibility Services Office if you have problems arising from chronic issues or injuries sustained during the term that affect your ability to do tests or course work.

ADDITIONAL SERVICES and SUPPORT
The following are some important links to help you with academic and/or technical service and support

- General student services and resources at Student Life
- Services for your physical and mental health, and wellness programs can be found at: Health and Wellbeing
- Emergency support if you're feeling distressed
- Full library service through University of Toronto Libraries.
- Resources on conducting online research through University Libraries Research
- Resources on academic support from the Academic Success Centre
- Learner support at the Writing Centre
- Information for Technical Support/Quercus Support
- Services to assist students with English Learning are offered through English Language Learning (ELL)
- Stay on top of your work while connecting with your peers by creating a Recognized Study Group (RSG) or by joining a Meet to Complete online drop-in study session