Instructor: Ben DeVries

Email: bdv@uoguelph.ca

Office Hours: TBA

Prerequisite: 0.50 credits at the 1000 level in Geography

Course Description

This course will introduce analytical techniques commonly used in geography and other natural and social sciences. It will emphasize the use of quantitative information in geography, including data collection and analysis. Analytical procedures will include graphical presentation of data, descriptive statistics, application of probability and sampling theory, inferential statistics and spatial statistics. The course will focus on when and why these tools should be applied, how analytical procedures are conducted and the interpretation of the results. Computers and data analysis software will be used.

Learning Objectives

- To learn how to use quantitative tools for the description and analysis of geographic data;
- To develop critical analytical skills for the evaluation of geographic research; and
- To learn how to undertake statistical analyses using the R programming language.

Course Organization and Presentation

Lectures for GEOG*2460 are scheduled for Tues. and Thurs. at 10:00AM-11:20AM as AD-S. The lectures will comprise a mixture of synchronous remote sessions (via Zoom video conferencing) and asynchronous, pre-recorded lectures to be posted regularly. There is a courselink page for pre-recorded lectures, class announcements, the reading list, incomplete lecture notes, grades and weblinks. A discussion forum will be set up on the courselink where you can communicate and exchange ideas with your classmates. You will need your central account ID and password to access this resource. This is the same login ID and password that is used to access your University of Guelph GryphMail and WebAdvisor.

Students are expected to take their own notes in class to supplement the posted lecture material. Lectures may include occasional guest lectures and selected multimedia material.

Textbook:

There is no required textbook for this course. Additional resources and readings will be provided when required.
Method of Evaluation

- **Labs** 30%
- **Quizzes** 15%
- **Mid-term** 25%
- **Final Exam** 30%

Students must obtain an overall average of 50% in the combined mid-terms and final exam to pass the course. Lab assignments are due at the beginning of the scheduled lab. The late penalty for labs is 10% per day, so it is best to get them in on time! If you have a legitimate reason for an extension you must contact your GTA and make arrangements for a new deadline before your assignment is due. The final exam may contain a multiple part question that covers the laboratory material.

Lectures

A detailed schedule of labs and lectures will be published at the beginning of the course. The *tentative* topics to be covered each week are as follows:

- Course introduction
- Descriptive statistics
- Probability
- Confidence intervals
- 1-sample and 2-sample t-tests
- Chi-squared tests
- Linear regression
- Spatial statistics
- Logistic regression

Labs:

Lab assignments will cover material discussed in lectures. All assignments will be done using R and RStudio, which is free software specially designed to carry out statistical analysis. Assignments are due at the beginning of lab sessions the week after they are assigned. The lab assignments will be based on concepts covered in the lectures, and will occasionally expand upon these concepts. Material covered in labs may also be included in the mid-term and final exams (but not the quizzes).

Quizzes and Exams

There will be one mid-term and one final exam in this course. The dates and formats of these exams will be announced at the beginning of the course. In addition, period quizzes will be given, the frequency of which are to be determined and will also be announced at the beginning of the course. The mid-term and final exams may cover some material included in the labs. Quizzes will only be based on material covered in lectures.

Territorial Acknowledgements

We acknowledge that the University of Guelph resides on the ancestral lands of the Attawandaron people and more recently, the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer our respect to our
Anishinaabe, Haudenosaunee and Métis neighbours as we strive to strengthen our relationships with them.

Today, this gathering place is home to many First Nations, Métis and Inuit peoples and acknowledging them reminds us of our important connection to this land where we learn and work.

**E-mail Communication**

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

**When You Cannot Meet a Course Requirement**

Late assignments will be assessed a penalty of 10% per day (not including weekends). After the assignment has been handed back to the class no grade can be assigned on late work.

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. See the undergraduate calendar for information on regulations and procedures for Academic Consideration.

**Drop Date**

The last date to drop one-semester courses, without academic penalty, is November 29, 2019. For regulations and procedures for Dropping Courses, see the Undergraduate Calendar.

**Copies of out-of-class assignments**

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

**Accessibility**

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibility Services (SAS) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website.

**Academic Misconduct**

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. An example of academic misconduct that might occur in this course is a student copying an answer or using a map/image from another student. Students must create their own digital files for computer-based exercises. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty,
staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.