



The University of Western Ontario
SOCIOLOGY 4461G-001
VISUALIZING DATA

Winter 2023

Thursdays, 2:30PM – 5:30PM, Room SSC-1000

(Delivery Method: In person)

Instructor: Dr. Jasmine Ha

Office Hours: Wednesdays 11AM – 1PM, and by appointment

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Course Description:

This course is designed to introduce you to modern methods and tools for the visualization of social-scientific data. We will explore the history of efforts to visualize social data, and the politics of data generation and consumption. We will learn how to use R and related tools to produce insightful, beautiful, reproducible data visualizations. In the process, we will also learn about existing datasets that can be used to answer relevant social scientific research questions and an analysis technique based on visualization: social network analysis.

Prerequisite(s): Sociology 2205A/B or 0.5 course from the [Introductory Statistics Course List](#).

Anti-requisite(s): None

Learning Outcomes:

At the end of the course, students will be able to:

1. Understand and practice key principles of data visualization in the social science;
2. Learn about available dataset that can be used to address research questions relevant to Canada and internationally;
3. Learn the basics of social network analysis and its applications;
4. Gain hands-on programming experience for data analysis and data visualization;
5. Develop writing skills in interpreting empirical patterns and explaining their relevance.

Course Material:

Textbook. Healy, K. (2018). *Data visualization: A practical introduction*. Princeton University Press.

The textbook is available for purchase at the UWO Bookstore: <https://bookstore.uwo.ca/product/9780691181622>

Supplementary Readings. Besides the textbook, students will also be guided to read some original research papers. The papers will be posted on the OWL site

Software. We will be using Microsoft Excel and R in this course. Both should be available without any extra cost to UWO students. While students are encouraged to use their own computers, our class will meet in a computer

lab (SSC 1000) and students will have the option to use the lab computers. Outside of class time, students may access the [General Student Computing Labs](#) (SSC 1000, 1012, 1032), subject to schedule and availability.

Communication:

How to contact me:

- By email: jasmine.ha@uwo.ca and office hours: Wednesdays 11am - 1pm (SSC 5208). Email is not suitable for questions requiring considerable exposition. These questions are suited for in-person exchange during office hours. Office hours are drop-in and first come, first serve.
- If you have course-related questions that may be relevant for the whole class, it is best to ask the questions in class or to post them on our OWL course site's Forum.
- Students are responsible for checking the course OWL site (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

Communication Guidelines & Expectations:

- Messages and email will be returned within 48 business hours (unless announced otherwise). That means you may not receive a response during the evening or on the weekend.
- Be patient, avoid emailing multiple times.
- Make sure your tone and correspondence in all communication is professional

How to get important information:

The **OWL Course site** will be set up to include all relevant course materials. In particular, pay attention to the following tabs:

- The **Homepage** will have key instructions on where to find information.
- The **Announcements** will be Used for Regular Communication or Urgent Messages
- The **Calendar** will be used regularly to let you know when assessments are due.
- The **Assignments** will have all course assessment outlines and instructions on what to do if you have questions.

Method of Evaluation:

Evaluation breakdown:

The evaluation methods described in the course outline are essential requirements for the course.

The final grade will be determined as follows:

Lab exercises	15%
Dataset presentation	25%
Project topic	10%
Project presentation	20%
Project paper	30%

Lab exercises (15%). Each class will include a hands-on practice session, which is designed to help you practice what we are learning—including what we do on Excel and R. There will be 10 lab exercises to guide your practice.

- Each lab exercise is worth 1.5% of your course grade, and they must be submitted on OWL before the next class (Thursdays at 2:30pm). They are intended to be very low stakes: you will not be evaluated based on whether you get the right answers, only that you tried and answered all the questions.
- Students will be given sufficient time to complete the lab exercises in-class. Students are expected to attend class in-person, as this will make it a lot easier to provide technical instructions and to resolve possible glitches due to software errors or misuses.
- Those who must miss class for legitimate reasons (e.g., sickness) are responsible for getting notes from classmates and/or connecting with the instructor at office hours to catch up on the lab exercises. The lab exercises must be submitted by the stipulated due date and no late submission will be accepted.

Dataset presentation (25%) Presentations will take place on the following dates: Jan 26 & Feb 2

I will provide a list of secondary data sources relevant to social science research. Each student will choose a data set for which they will develop a short presentation (5 minutes + 5 minutes Q&A) that addresses and answers the following topics and questions:

- An overview of the data set
- What types of methodological approaches are typically used with the data set?
- What types of research questions is the data set particularly well-suited to answer?
- What types of research questions is the data set poorly suited to answer?
- What would be an innovative use of the data set that prior people have infrequently done?
- Could you potentially use this data source for your own research?

The grade for presentation will be given based on two components:

- Individual Presentation (15%)** Students will be graded based on their understanding of the chosen data set and the quality of their oral presentation.
- Engagement & Feedback on other's presentation (10%)** The purpose of this exercise is to expose students to a variety of secondary data sources. As such, you should become familiar with all of them, not just the one you will present on. Students are expected to read about all data sets and engage during the Q&A of other's presentations. The more you participate, the more you will get from the class, and the more interesting it will be for all of us!

Research Project (60% total). This course is designated as a “writing-intensive” course, and the most important thing to learn in such a course is to incorporate feedback to improve your research project. Accordingly, the project assignment is designed as three related components. Students are encouraged to modify and improve the subsequent components of the project based on the instructor's feedback. All components of the paper should be submitted on the OWL site.

Students are encouraged to select a research topic which can be addressed by the Canadian General Social Survey (GSS). Any student whose research project requires an alternative dataset should seek permission from the instructor

The three components of the research project are:

- a) **Project Topic (10%)** due Friday, February 17, 2023 at 11:55PM EST). Share your plan in up to 3 pages (double-spaced). Students should indicate (1) the research question(s) they seek to answer, (2) propose the dataset, variables, and analysis that they plan to use, and (3) explain why the project is important/relevant for existing research or policy concerns.
- b) **Project Presentation (20%)** in-class on Thursday (March 23, 2023). Similar to the dataset presentation, 15% of the grade is based on the individual presentation and the other 5% is based on engagement and feedback on other's presentation.
- c) **Project Paper (30%)** due on Monday, April 10, 2023 at 11:55PM EST. Students should develop visualizations that help to answer their research questions. Students may choose from a variety of formats: research paper, policy brief, executive summary, or infographic. Each visualization should be accompanied by written interpretation of the patterns or findings. While there is no fixed limits, I expect the written paper to be within 10 pages double-spaced and the number of visualizations to be between 5 and 10.

Additional Notes About Grading

There will be no opportunities for extra credit. I encourage you to work consistently throughout the semester, and to reach out to other students in the class or to me as soon as you have trouble with the material. Consistent with departmental guidelines, it is expected that the class average for this course will be around 78-82%. Should the final overall grades yield a value significantly below this range, grades will be adjusted upward to ensure an appropriate mean for the class.

Contingency plan for an in-person class pivoting to 100% online learning:

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, affected course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

Student Absences:

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

Assessments worth 10% or more of the overall course grade:

For work totaling 10% or more of the final course grade, students must provide valid medical or supporting documentation to their Home Faculty Academic Counselling Office as soon as possible.

Students with an approved absence from an in-class test or exam will be required to write a makeup exam. Course professor or teaching assistant(s) may not be available to respond to questions during the makeup exam. Students should be aware that the make-up test will not necessarily be in the same format, be of the same duration, or cover the same material as the original test.

Late assignments with accommodation

Any student receiving academic accommodation for an assignment will receive an extension.

Late assignments without accommodation

Any assignment submitted after the deadline, without academic accommodation, will receive an automatic 5% penalty per 24-hour period (including weekends). Assignments will not be accepted after one full week from the due date.

Important Policies

Academic Consideration for Missed Work: Students must provide valid medical or supporting documentation in order to receive accommodation for missed work worth 10% or more of the final grade in the course. All required documentation for absences must be submitted to the Academic Counselling office of a student's Home Faculty. Individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds or for other reasons.

Western's policy on Accommodation for Medical Illness can be found at www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf. The student medical certificate is available at https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation: When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at <https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work and are encouraged to make appropriate decisions based on their specific circumstances.

Accessibility Options: Students with disabilities or accessibility challenges should work with Accessible Education (formerly SSD http://academicsupport.uwo.ca/accessible_education/index.html), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with](#)

[Disabilities](http://www.registrar.uwo.ca/academics/examinations/accommodated_exams.html). Information regarding accommodation of exams is available on the Registrar's website:
www.registrar.uwo.ca/academics/examinations/accommodated_exams.html

Scholastic Offences: Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following web site:
https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

A Note on Plagiarism: Students must write their assignments in their own words. Whenever students take an idea from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major scholastic offence.

Plagiarism Checking: All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<https://www.turnitin.com/>).

Mental Health: Students who are in emotional/mental distress should refer to Mental Health@Western (www.uwo.ca/health/mental_wellbeing/index.html) for a complete list of options how to obtain help.

Please visit the Social Science Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters:
[Academic Counselling - Western University \(uwo.ca\)](http://www.uwo.ca/academic_counselling/).

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html. To connect with a case manager or set up an appointment, please contact support@uwo.ca.