

SDA 490 D100 Capstone Seminar in Social Data Analytics

Course Syllabus



Instructors	Professors Edana Beauvais & Pierre Mouganie
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Class location	Online
Instructor office location	Online

Course Description

Final capstone group project that applies the skills students have learned in their studies to gain experience tackling real-world policy and social problems and develop a portfolio that they can showcase to prospective employers or graduate programs. Topics vary. Prerequisite: Admission into the Social Data Analytics Minor and 18 units completed in the minor. With respect to assignments, students will develop a final group project.

Course Format

We will meet as a seminar for three hours once per week. The seminar structure will vary, but typically it will begin with a lecture and then there may be some applications (review of programming in Stata or R). For the final hour of the seminar, students will meet in their smaller groups to discuss their final projects, and we will also meet altogether as a seminar to discuss the groups' progress throughout the course.

This seminar is co-taught by Professor Mouganie (Economics) and Professor Beauvais (Political Science). Professor Mouganie will be covering weeks 2–6, which will largely focus on causal inference and will also be providing individualized and group feedback on project progress, including data sources. Professor Mouganie will be using Stata. Professor Beauvais will be covering weeks 6–11, which will largely focus on text analysis and will also provide individualized and group feedback. Professor Beauvais will be using R. By the end of the

course, students should feel comfortable using the Stata and R programming languages to execute a variety of data analysis tasks.

Students will be graded on four features: attendance and participation, a group research proposal, a group final project, and a grade for their presentation of their final project. Attendance and participation will be graded individually. The group research proposal will be due approximately halfway through the term (tentatively on Feb 23rd, before the Week 7 Seminar—we may update this syllabus with finalized dates by the second week of semester). All students in a group will receive the same grade for the research proposal. The final research paper is tentatively due by the last day of class (April 11th) (we may update this syllabus with finalized dates by the second week of semester). The final paper will be a maximum of 4,500 words, 12-point font, double-spaced, including references. Students can choose their own citation style, provided they are consistent. All students in the group will receive the same grade for the final research paper. Lastly, students will have to present their final projects publicly, to an open, SFU audience tentatively scheduled for Friday, April 8th (we may update this syllabus with finalized dates by the second week of semester). Each student in each group must take a turn presenting their work and respond to questions and comments from the audience. Students will be graded individually for their portions of the presentations.

Logistics

- Seminars: We 9:30AM - 12:20PM at RCB5118 (or online)
- Professor Beauvais Office hours: TBD
- Professor Mouganie Office hours: Email for appointment or Wednesdays from 2:00 to 4:00 pm (through Zoom).

Assignments and Grading

Assignment	Grade
Attendance & participation	20%
Midterm assignment: Due Feb. 16–Literature review & data plan	20%
Final Research Project	40%
Final Research Presentation	20%

Week 1 (Jan 12): Introduction with Professor Mouganie & Professor Beauvais

Week 2 (Jan 19): Research Questions, Endogeneity and Random Assignment with Professor Mouganie

- Readings:

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- Chapters 2 and 5 of “The Effect” Textbook by Nick Huntington Klein using the following link: <https://theeffectbook.net/>

Week 3 (Jan 26): First Meeting with Vancouver city officials, Selection on Observables, Interpreting Regressions and Hypothesis Testing with Professor Mouganie

- **Readings:**

- Chapter 4 of “The Effect” Textbook by Nick Huntington Klein using the following link: <https://theeffectbook.net/>

Week 4 (Feb 2): STATA overview, Literature review overview and Data Collection

- **Readings:**

- Slides will be provided

Week 5 (Feb 9): Causal Inference–Differences-in-Differences and Regression Discontinuity with Professor Mouganie

- **Readings:**

- Chapters 18 and 20 of “The Effect” Textbook by Nick Huntington Klein using the following link: <https://theeffectbook.net/>
- Card, David. “The impact of the Mariel boatlift on the Miami labor market.” *ILR Review* 43, no. 2 (1990): 245-257.
- Hoekstra, Mark. “The effect of attending the flagship state university on earnings: A discontinuity-based approach.” *The review of economics and statistics* 91, no. 4 (2009): 717-724.

Week 6 (Feb 16): Zoom meeting with city officials and mid-term research presentations: Literature review and data analysis plan. Each group will present for about 10 minutes and maybe show 2-3 slides, then the City will give feedback.

Week 7 (Feb 23): Intro to Text Analysis with Professor Beauvais

- **Readings:**

- Wilkerson, J., & Casas, A. (2017). “Large-scale computerized text analysis in political science: Opportunities and challenges.” *Annual Review of Political Science*, 20, 529-544.

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- Grimmer, J., & Stewart, B. M. (2013). “Text as data: The promise and pitfalls of automatic content analysis methods for political texts.” *Political analysis*, 21(3), 267-297.

Week 8 (March 2): Collecting & Wrangling Text Data I with Professor Beauvais

- **Readings:**

- Chapter 1 of Silge & Robinson *Text Mining with R: A Tidy Approach*. Available here: <https://www.tidytextmining.com/>
- Imai, Kosuke. 2017. *Quantitative Social Science An Introduction*. Princeton University Press. Section 5.1 only (pp 189–205).

Week 9 (March 9): Collecting & Wrangling Text Data II with Professor Beauvais

- **Readings:**

- Barberá, P., Boydston, A. E., Linn, S., McMahon, R., & Nagler, J. (2021). “Automated text classification of news articles: A practical guide.” *Political Analysis*, 29(1), 19-42.
- Beelen, K., Thijm, T. A., Cochrane, C., Halvemaan, K., Hirst, G., Kimmins, M., Lijbrink, S., Maarten, M., Naderi, N., Rheault, L., Polyanovsky, R., & Whyte, T. (2017). *Digitization of the Canadian parliamentary debates*. Canadian Journal of Political Science/Revue canadienne de science politique, 50(3), 849-864.

Week 10 (March 16): Sentiment Analysis with Professor Beauvais

- **Readings:**

- Chapters 2–4 of Silge & Robinson *Text Mining with R: A Tidy Approach*. Available here: <https://www.tidytextmining.com/>. Note: These are very short “chapters”! (The equivalent of a couple of pages each.)
- Rheault, L., Beelen, K., Cochrane, C., & Hirst, G. (2016). “Measuring emotion in parliamentary debates with automated textual analysis.” *PloS one*, 11(12).

Week 11 (March 23): Topic Modelling with Professor Beauvais

- **Readings:**

- Chapters 5–6 of Silge & Robinson *Text Mining with R: A Tidy Approach*. Available here: <https://www.tidytextmining.com/>. Note: These are very short “chapters”! (The equivalent of a couple of pages each.)

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- Lucas, C., Nielsen, R. A., Roberts, M. E., Stewart, B. M., Storer, A., & Tingley, D. (2015). “Computer-assisted text analysis for comparative politics.” *Political Analysis*, 23(2), 254-277.

Week 12 (March 30): Peer Discussion & Presentation Practice with Professor Mouganie & Professor Beauvais

Week 13 (April 6): Peer Discussion & Presentation Practice with Professor Mouganie & Professor Beauvais

- **Assignment due:**

- Final projects tentatively due on the last day of classes (by 11:59PM on April 10th, 2022) (we may update this syllabus with finalized dates by the second week of semester).

SFU Policies

Plagiarism Policy

Plagiarism involves using another author's words without attribution or otherwise presenting another person's work as one's own. It is a fraudulent and serious academic offence that will result in a severe academic penalty. Also, close paraphrasing of another author's work & self-plagiarism, including submitting the same, or substantively the same, work for academic evaluation more than once, are unacceptable practices that will result in a severe academic penalty.

- The university policies on academic honesty are available at: <http://www.sfu.ca/policies/gazette/student.html>
- The Department of Political Science's interpretation of this policy can be found at: <http://www.sfu.ca/content/dam/sfu/politics/documents/Undergraduate/Plagiarism%20Policy.pdf>
- All students are responsible for familiarising themselves with these policies. A helpful SFU Library tutorial on plagiarism is at: <https://www.lib.sfu.ca/help/academic-integrity/plagiarism-tutorial>

The DOs and DON'Ts of AVOIDING PLAGIARISM

Do not:

- submit an entire paper or part(s) of a paper or papers that has been written or researched by any other person(s);
- submit a paper as an assignment that has been bought from another person or from a 'paper mill' or essay service;
- submit a paper or other written assignment that has been submitted at another time or for a different course by yourself or any other student or former student;
- submit material that has been downloaded from a website, without acknowledging (using appropriate citation style) that you have done so;
- take someone else's idea(s) and represent it/them as your own;
- copy any text verbatim, or with only slight variation from the original text, without using quotation marks and documenting the source with proper citation style;
- do not closely paraphrase another's material; either paraphrase completely in your own words, or cite as a direct quotation using quotation marks (in either case, give full credit and details regarding authorship and location of the original material);

Do:

- learn how to cite material properly (there are many good guides on this, including the departmental one);
- use a recognized citation style (eg. APA, MLA, Chicago), according to instructions given by the course instructor, and be consistent in the use of the style throughout any single piece of written work;
- carefully read and make sure you understand the university's policy on academic honesty;
- ask the instructor of this course or other faculty members if you have any questions about plagiarism.

Grade Appeals

Grade Appeals Grade appeal procedures follow guidelines set out in the SFU Policy T20.01, "Grading and the Reconsideration of Grades". Only final grades or written assignments may be appealed. Grades may be raised, lowered, or remain unchanged.

1. Students must first consult with their instructor, providing a written account of why their grade should be changed. The grade will be discussed with the instructor informally.
2. If Step 1 is unsuccessful, students should submit a completed grade appeal form to the Department Chair, along with all of the graded material being appealed. The Department Chair will arrange for a re-evaluation of the work in question and assign a new grade.
3. If a student feels their grade appeal has been dealt with inappropriately at the department level, they may convey their concern to the Dean of the Faculty of Arts and Social Sciences. The Dean will review and confirm the new grade assigned, or initiate an alternate means of reconsideration. The decision of the Dean shall be final, subject only to an appeal to Senate. Students can access more information about the department's grade appeal policy, and download the grade appeal form at: <http://www.sfu.ca/politics/undergraduate/advising.html>

Department Commitment to Equity, Diversity, and Inclusion

The Department of Political Science seeks to promote the values of Equity, Diversity, and Inclusion in relation to our undergraduate and graduate students, administrative staff, sessional instructors, and faculty members. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of ethnicity/race, culture, religion, ability status, socio-economic status, sexual orientation, gender, gender diversity, citizenship, and national origin. We commit to fostering a departmental climate that is welcoming, respectful, and inclusive as well as ensuring that departmental policies and practices are fair.

Preferred Name & Preferred Gender Pronouns

Generally, class rosters provided to the instructor only include the student's legal name. Please advise the instructor if you wish to be addressed by a different name and/or gender pronoun early in the semester, or before it begins if possible. Here is a good example of how to inform your instructor through email:

Dear Dr. Sanchez:

I am writing to let you know that the name I go by is [NAME] and my pronouns are [PRONOUNS]. I will be using this name on all of my coursework. I trust that my pronouns will be respected in class. Thank you for your understanding and attention to this matter.

Sincerely,
K.C. Ang

Student Behaviour

Misconduct with respect to a student, teaching assistant, instructor, or staff member with the intent of humiliating or intimidating that person will not be tolerated.

This course involves participation in discussions and activities that may touch on sensitive and/or controversial topics. We each have different experiences that influence our perspectives of the world. You may feel uncomfortable or disagree with certain ideas or opinions expressed by others or with certain topics in the class. You may also find you share perspectives or experiences with others. The classroom should be a lively and interactive place where information is shared, ideas tested, and issues debated. The expression of ideas grounded in facts and logical reasoning falls under the principle of academic freedom. To facilitate the exchange of ideas for educational purposes, all class participants must engage with each other respectfully. Moreover, students must be afforded a reasonable amount of confidentiality within the classroom: please do not share others' comments without their permission. As a student, you should expect the professor of the course to be prepared for each class and to treat each student with respect and compassion. Students will in turn come to each class prepared to engage, complete readings and assignments on time, and will adhere to the university's academic standards including those governing student conduct and academic dishonesty. The following link will provide further guidance on the Universities student rules and policies: <https://www.sfu.ca/policies/gazette/student.html>.