# Geography 686

## Fall 2021

## Project Guidelines

The final project should be viewed as an opportunity to perform an insightful <spatial> analysis on the research topic and data of each student's MGIS project or equivalent, if applicable. If this is not possible (e.g., CGIS students), other datasets can be used, but **it is strongly recommended** that the topic and data are relevant to the student's main research interests. I believe that only this choice will ensure:

- In-depth understanding of the research question
- Optimal choice of the most appropriate analytical technique(s)
- Full appreciation of the potential and critical issues of the selected analytical tool(s)

Further, your Geog680 instructor (Dr. D. Sjogren) and I strongly encourage you to use the same topic and data for your Geog680 and Geog686 projects, as outlined also in Dr. Sjogren's guidelines. Please see additional information in the paragraph "Final Report".
You may have some data already available; if you do not, the library's SANDS desk is an excellent resource.
**Make sure to choose a topic for which you can find data, that the data are of the appropriate type (e.g. ratio, interval, etc.) and that you have enough variables and observations to perform your analysis.**

The project consists of two main parts:

1. Project Proposal (written report + short powerpoint presentation)
2. Final Report. (written report + powerpoint presentation)

The Proposal is due on **Thursday, November 18th, by 8.00 am**. A live session will be held on Thursday, November 18th, from 8.30 to 11.30 am, for the proposal presentations. Students who are unable to attend will submit a recorded video that will be played during the session.

- A digital copy of the document, along with A Powerpoint (or equivalent) file must be submitted via D2L before 8.00 am on November 16th.

The Final Report is due on **Thursday, December 2nd, by 8.00 am**.

- A digital copy of the document, along with A Powerpoint (or equivalent) file must be submitted via D2L before 8.00 am on December 2nd.

Special A/V or other requirements should be discussed with the instructor, at least 1 week prior to the scheduled presentation date.
Each student is expected to present every part of his/her project to the class.
Presentations of Proposals are scheduled on **Thursday, November 18th**.
Presentations of the Final Report are scheduled in the weeks of November 29th and December 6th. Live sessions will be scheduled on Thursday, December 2nd, Tuesday, December 7th, and

Thursday, December 9th, 8.30 to 11.00. Date preferences will be submitted after the proposal presentations. Students who are unable to attend will submit a recorded video that will be played during the session.

## Class Presentations

Each student is allocated a **minimum of 3 minutes and a maximum of 5 minutes for the proposal presentation**. Presentations will be followed by a brief question period.
Each student is allocated a **minimum of 7 minutes and a maximum of 10 minutes for final presentation.** Presentations will be followed by a question period.
The presentations are oral, and must be supplemented with slides (e.g., Powerpoint). They should:

- Convey the main ideas
- Be intended to share interesting ideas with the rest of the class
- Stimulate new ideas and input from others

### Grading

The grade for each part of the project represents a comprehensive evaluation of the written report and the class presentation. Critical issues are:

- Competence
- Consistency
- Completeness
- Clarity
- Critical judgment

## Project Proposal

This is a *proposal*, i.e. it is preliminary; students are not expected to have a comprehensive knowledge of the technique they are proposing and the results of their implementation. However, **students are expected to**:

- **Have a research question**, e.g.: is the location of grocery stores in Calgary independent on the population density? The question must be stated clearly in the proposal, and will be addressed in the final report.
- **Have** (or expect to obtain **very** shortly) an **appropriate dataset**. **Important**: Some analytical tools may require *multiple* datasets, e.g. grocery stores and population density. In such cases, an appropriate dataset contains all the required sets.
- Select an **analytical tool** among those learned in class (the use of tools not covered in class should be discussed with the instructor **before** submitting the proposal). A project may contain more than one analytical tool, and/or the comparison of 2 or more techniques; however, it is important that students do not exceed the scope of a term paper, and that they understand in depth the tools they are using.

- The proposal must be **minimum 1/2 page and maximum 1 page** in length. Type and page settings: **Times New Roman, size 12; line spacing 1.5; all margins 1 inch; double-sided**.

**Final Report**

- **This is your 686 project: it must be substantially different from ANY other class project ever submitted by yourself or by other students!**
- If you choose, as suggested, to use the same topic and data for Geog680 and Geog686, the two projects shall still be substantially different, in that the Geog686 project shall focus on the statistical analysis, whereas the Geog680 project shall focus on the cartography. You may wish to present maps in Geog686 to illustrate your study area and/or results. They may be the same maps you present in Geog680 and I will not grade them from a cartographic perspective, I will only consider them illustrative. We recommend that you present your Geog686 abstract (see below) as part of your Geog680 project, to summarize the analytical work associated with your cartographic product.
- All the guidelines in this document refer to your Geog686 project and are not directly applicable to Geog680 (please refer to Geog680).
- The paper must be **a minimum of 4 and a maximum of 6 pages in length** (see above formatting guidelines).
- The paper must contain the following sections:
    - Abstract (250 words maximum)
    - Introduction
    - Methods
    - Results
    - Discussion
    - Conclusion
    - References
    - Appendices (optional)
- Maps, tables, diagrams, illustrative material and references are all extra. **A maximum of 5 extra pages is allowed** (see above formatting guidelines). All maps, plots, tables, output, and any appendices must fit in these 5 pages. **Each item, i.e., map, diagram, output, etc., must be large enough to be legible without difficulties**. Each of these items must be numbered and cross-referenced in the main text.
- The paper should have a meaningful title describing its contents.
- **The paper must focus on the statistical analysis of a data set.** You should analyze it using some technique that we have covered in the course. The dataset can come from a variety of source, as long as it is public, or you have permission to use it, including ethics, as appropriate. It should be an academically interesting data set.

- The paper should contain a section explaining your data, including preparation and discussion of their characteristics. You should explain why you are doing the analysis and what you expect to find. You should include all ***relevant*** computational steps, formulae, and results. You should explain the results of the analysis and what they mean in substantive terms as far as the data go (i.e. not just a statistical explanation). Your critical interpretation of the analysis is perhaps your more important contribution.
- The paper must contain all the appropriate references.
- References may come from journal articles, or books. Conference proceedings and published reports are acceptable.
- Journals should be relevant to statistical analysis and/or the implementation context (e.g. retail location).
- It is important to have some recent references, although textbooks and theoretical work may be older.
- The paper must have references and references must be cited in the text and listed in the bibliography using a consistent style, e. g., APA. Referencing the appropriate technical and applied literature relevant to the technique(s) you use is an essential part of the paper.
- **If you cite any other person's work the quoted work must be within quotation marks and the source indicated, otherwise it is plagiarism and it will be reported as appropriate**.