

GEOG 7840/CV ENG 7165  
GIS I  
Project Specifications

As a component of GEOG 7840/CV ENG 7165, you are required to obtain relevant GIS data or create your own, perform analysis on said data, develop a digital map exhibition based on a topic of your choice that is approved by the instructor, and present your findings to the class. The project approval quiz, the project poster, and the poster presentation are each graded separately, with the latter being a portion of your overall class presentation grade. The project accounts for a significant portion of your overall grade in this class and should be taken seriously from day one.

The project poster will be 48in x 36in in size (or 36in x 48in) and should include, as they are pertinent to the research: maps, figures, diagrams, and/or charts. A list of references and text describing the project are also required. **A minimum of 100 and a maximum of 200 words of text must be included.** Any project containing text beyond the 200-word maximum will receive a 10% reduction in your project grade. **Words not included in this limit include the title, captions, words on maps, figures, and tables, and the references.** Please select a font that is easily readable and a corresponding size that does not make one squint to read it. Assume that your readers will be viewing your digital poster from five feet.

There are three groups of analysis techniques that you must use to receive credit for the analysis portion of your project. They include data preprocessing, symbology development, and data analysis. The techniques that are included in each of the groups are listed in part below. Others will become clear as the semester progresses.

If you have never made a poster in PowerPoint before and need some guidance, use an internet browser and your favorite search engine and search for “how to make a poster in PowerPoint.” There are many websites and YouTube videos that can provide good examples for how to make a scholarly poster. I would recommend that you stick to educational websites as they are less likely to contain questionable content. See a good example here, [https://www.ndsu.edu/fileadmin/www.its.ndsu.edu/tlc/spongepdfs/Poster\\_Powerpoint/PlottingGuidelinesPP2013FinalSpring14.pdf](https://www.ndsu.edu/fileadmin/www.its.ndsu.edu/tlc/spongepdfs/Poster_Powerpoint/PlottingGuidelinesPP2013FinalSpring14.pdf)

The presentation will be conducted similarly to a conference presentation, where the presenter will have 15-20 minutes to present their material, including a few minutes allowed for questions (time limits will be strictly adhered to). Presentations will be done in person for face-to-face classes and via Zoom for online classes. It is expected that on the day you present, you will remain in the Zoom meeting until all your peers are finished presenting.

The draft of your digital posters must be submitted electronically (emailed) to the instructor prior to the presentation date selected in the form of a high-resolution PowerPoint file. You should make edits on your digital poster after your presentation, based on the feedback you receive during your presentation. ***The final submission for the project is December 14, 2023.***

Advice can be found by consulting the text after the \*.

**\*Remember that this is scholarly research that we are conducting. Scholarly research is not written in the first person (<https://www.grammarly.com/blog/first-second-and-third-person/>). Use of first-person language will result in an automatic 10% reduction in your project grade.**

**\*\*Be sure to click on the Project Presentation Date link under the People tab on Canvas to sign up for a presentation time. An announcement will go out when the sign up is ready.**

**\*\*\*The project proposal quiz is setup to help you with your project. You have unlimited access to the project proposal quiz. Make sure to look at it early and use it to formulate questions for conversations with your teaching assistants and the professor.**

Your research poster must contain all the following items to be eligible for maximum consideration. Pay close attention to the word limits mentioned above as any words beyond 200 will negatively impact your final project grade.

#### *Introduction*

What is it that you are going to do and why would someone care? Include a concise statement of the problem you are addressing. This is not an abstract, but an overview of the problem you are going to solve.

#### *Methodology*

A description of the methodology you are going to use to test your hypothesis, this includes the use of several data analysis techniques in three categories. They include:

**Data preprocessing:** This will include any tool that you may need to run to prepare your data for analysis. Examples include clip, project, editing the data set in any way, etc. At least one is needed here.

**Symbology development:** Changing the color, switching from single symbol to graduated colors, graduated symbols etc. At least one is needed here.

**Data analysis:** This is where the data for your project is altered, or new data is created from old. Techniques include buffer, spatial joins, union, intersect, the raster calculator, etc. At least two are needed here.

This list of techniques above is simply a sample of the multitude of options available within ArcGIS Pro.

**\*\*\*\*Failure to satisfy the analysis techniques requirement will result in an automatic 20% reduction in your project grade**

### *Results*

What did you observe as the outcomes from your analysis?

### *Discussion/Conclusion*

Sum up what you did and how it all turned out. Did your digital poster tell the story you were hoping it would tell? What are the implications of your research and what recommendations would you make regarding future research in the area? How does your work compare to the work others have published in the literature?

### *References*

A **minimum of five peer reviewed journal articles** that speak to problem you are addressing are required. Consult <https://icaci.org/publications/> or <http://www.aboutgis.com/gis-and-remote-sensing-journal-list-with-impact-factors/> for a list of pertinent GIS journals. The articles you choose should be related to the project you are trying to implement, but do not need to be addressing the exact problem you are working on. The journals do not have to be GIS journals but covering subject matter that is related to your project. **Non-refereed articles, websites, or data citations do not satisfy this requirement.** If you have questions about your references, ask.

**\*\*\*\*\*Use of non-referred journal articles or failure to provide references will result in an automatic 2% reduction, per article, in your project grade (10% maximum reduction)**