M.S. IN GEOGRAPHIC INFORMATION SCIENCE AND TECHNOLOGY PROGRAM

THESIS WRITING RUBRIC

This rubric outlines the criteria by which the writing of a thesis in the USC M.S. in Geographic Information Science and Technology (GIST) Program will be evaluated.

I.   ARTICULATION

A well-constructed thesis explicates the thesis goals and methodology, which are supported by the results and conclusion, structured as follows:

- **Title page:** Sets forth a carefully considered title, your name as it should appear for Commencement and thesis publication purposes, and full and accurate reference to the M.S. in Geographic Information Science and Technology Program.

- **Abstract:** This should be one paragraph, with all sentences written in active voice.
  - A concisely written topic sentence conveys key elements.
  - One sentence describes the importance of the thesis topic.
  - One or two sentences describes the methods.
  - Two or three sentences describe the results.

- **Chapter 1: Introduction:** This should be 5-10 double-spaced pages, 12-point font. This chapter should introduce readers to your topic and reasons for its importance. You should explain why your research is significant and/or important in the scientific literature and for the world. Include citations to back up your statements. Clearly state your research objectives, questions and/or hypotheses. You might usefully divide these into one main question and several specific sub-questions. Briefly explain your research design and project stages.

- **Chapter 2: Related Work:** This should be 10-20 double-spaced pages, 12-point font, delineating what others have done with regard to your topic and their successes and/or failures with it, and contextualizing your topic within the domain

of geographic information science and society. As much as possible, this section should compare and contrast existing literature and previous research to indicate how your study is similar to or different from what has already been published. This section should also include discussion of key literature you build on throughout your thesis (e.g., scopes of existing studies in the case of meta-analysis, references to specific approaches for research designs, etc.). Often, you will have drawn on some of the same literature that is in the introduction chapter.

- **Chapter 3: Data and Methods:** This should be 15-20 double-spaced pages, 12-point font, explaining the conceptual framework for what you did to produce your thesis (including workflow and work timeline). As appropriate for your particular topic, it should contain subsections for items such as:

  o Research design: Begin with a restatement of your research objective. What cases did you study and how did you sample them? What materials like equipment, surveys, or ArcGIS toolsets did you use? What were the major variables in your model and how were they defined and/or measured?

  o Data requirements/Data sources: What were your data and/or data quality requirements? What sources of data did you use and how did these match what was needed for your research design? Thoroughly document the data you used and describe any limitations.

  o Procedures/Analysis: Narrative of what you did to make a model. What were your expected outcomes? Include equations, weighting schemes, or whatever was useful to thoroughly describe your approach. Specify and defend any assumptions or limitations used in your analysis.

- **Chapter 4: Results:** This should be 15-20 double-spaced pages, 12-point font, which clearly communicates your findings and main claims in answer to your research questions or project objectives. In this chapter, state the facts that you have discovered, the evidence you have compiled, and the outcome of any hypothesis testing. This chapter should include maps, tables, or other figures as appropriate to supplement the writing. This chapter should stick to the facts and findings uncovered by your project as a direct outcome of your methods outlined in Chapter 3. Save the discussion of the broader implications of your claims and findings for Chapter 5.

- **Chapter 5: Discussion and Conclusions:** This should be 10 -15 double-spaced pages, 12-point font, that discusses your findings and main claims in light of the ideas communicated in the entire thesis manuscript, with particular reference to the related work covered in Chapter 2. This chapter also typically clearly states the limitations of what was accomplished in your project as well as opportunities for

future research. The chapter should also concisely summarize the key contributions of your project to the field.

Assessment metrics

STRONG: The analysis of the thesis receives judicious, in-depth, and convincing support.

ACCEPTABLE: The analysis recognizes the complexities of the issues and receives credible support.

WEAK: The analysis treats the issues in a superficial, simplistic, or disjointed manner and is implausible, unclear, incomplete, or inconsistent.

II.   STRUCTURE

A well-constructed thesis makes effective use of sentence and paragraph structure by:

- having effective topic sentences;
- having paragraphs which flow from the preceding paragraph and lead into the following paragraph;
- using "navigational text" which signal interior structure; and
- having sentences within each paragraph which build and deliver the main concept of that paragraph.

Assessment metrics

STRONG: The structure contributes to the thesis effectiveness.

ACCEPTABLE: The structure has few flaws and delivers on the thesis goals.

WEAK: The structure has many flaws which undermines the thesis effectiveness.

III.   STYLE

A well-constructed thesis employs a style which:

- engages the professional and scientific audience**;**
- uses active voice, and not passive voice;
- develops a narrative (i.e., "tells a story" and answers the audience's question of "why should I care?");
- uses a variety of sentence structures;
- employs appropriate word choice; and
- maintains a consistent, appropriately professional tone.

Assessment metrics

STRONG: The style enhances the thesis effectiveness and reinforces its purpose.

ACCEPTABLE: The style contributes to the thesis effectiveness and adequately supports its purpose.

WEAK: The style detracts from the thesis effectiveness and/or is inappropriate to its purpose.

IV.   MECHANICS

A well-constructed thesis observes grammatical mechanics of:

- syntax (such as subject-verb agreement, correct use of pronouns, adjectives, and adverbs);
- spelling;
- punctuation; and
- format.

Assessment metrics

STRONG: The thesis is nearly impeccable in its syntax, spelling, punctuation, format, and all other aspects of grammar.

ACCEPTABLE: The grammatical errors do not seriously detract from the thesis effectiveness.

WEAK: The grammatical errors detract from the thesis effectiveness.

V.   CITATIONS

A well-constructed thesis:

- has at least 30 sources cited;
- has citations where needed, and does not have citations where they are not needed; and
- has all citations in the correct *Chicago Manual of Style* format.

Assessment metrics

STRONG: The thesis is nearly impeccable in its use and presentation of citations which contribute to the thesis effectiveness.

ACCEPTABLE: The use and presentation of citations do not detract from the thesis effectiveness.

WEAK: The use and presentation of citations detract from the thesis effectiveness.

As of 11/19/15