

SSCI 594a, Master's Thesis

Syllabus

Units: 2

Term — Day — Time: Summer 2017, Online

Location: Online

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1-2 p.m. PT. Also available by appointment via email.

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Course Description

This course and its successor, SSCI 594b, are required for the GIST M.S. degree program; they are not applicable to the GIST Graduate Certificate program. The purpose of these courses is to accomplish a capstone project in the Spatial Sciences, culminating students' experiences at USC/SSI and validating them as master practitioners. The project can be a traditional thesis, a cartographic portfolio, a GIS programming implementation (e.g. web GIS, mobile GIS), or some other sizable, professional study based in the spatial sciences or their application to another field. Although the content varies widely depending on the subject, all capstone projects culminate in a thesis manuscript that upon completion becomes publicly available at the USC Libraries and on the Spatial Sciences Institute (SSI) website.

Since the undertaking of a thesis project is a very personal process, by the time students get to this course, progress on the project varies significantly. Some students may already have in-hand a well-drafted prospectus that they would like to develop further. Others may have written a prospectus in SSCI 587, but they have decided to try a new topic, and a few others may just now begin embarking on developing their project ideas. This course is designed to help all of you move forward towards the goal of completion by crafting *a thesis proposal* that is accepted by the faculty of the Spatial Sciences Institute and which constitutes complete drafts of the first three chapters of your thesis document.

Learning Objectives

On completion of this course, students will be able to:

- Identify different styles and qualities of writing, critically evaluate written work, including your own, and improve your own writing;
- Outline the steps of the research process, state key research obligations and pitfalls, and design a credible, meaningful research project for yourself;
- Use the Microsoft Office™ software suite and manage academic sources and citations to competently and efficiently produce documents that meet GIST requirements and show your work to advantage;
- State and demonstrate the competencies that are required to prepare a Master's Thesis manuscript in the GIST program; and
- Describe your Master's project succinctly, in written and oral forms, to faculty, mentors, and potential sponsors.

Prerequisite(s): None

Co-Requisite (s): None

Concurrent Enrollment: None

Recommended Preparation: Students must be enrolled in the M.S. in Geographic Information Science and Technology (GIST) program and ideally they should have completed all the required courses and most electives before enrolling in this course.

Course Notes

As a result of individual student thesis work existing in various stages of development, this course accommodates both students who will further develop the prospectus they completed in SSCI 587 and those who did not complete a prospectus in SSCI 587 or want to take on a new topic. In discussions with the instructor, you will determine during the first week whether you will stick with your SSCI 587 prospectus or start this term by rapidly developing a new prospectus.

In addition to specific individual work on thesis projects, all students in this class will participate in several common components during the semester:

Reading and Writing – We will read in their entirety Strunk & White’s *The Elements of Style* and Turabian et al.’s *A Manual for Writers* along with completed theses from our program. Other readings of varying lengths and styles, including encyclopedia entries, journal articles, and book chapters are indicated in the syllabus and also decided upon individually with each student depending on his or her topic development. We will discuss points to learn from these texts for shaping your thesis project development in on-line discussions, small group teleconference sessions, and instructor office hours.

Research Methods – We will read sections from Montello & Sutton’s *An Introduction to Scientific Research Methods in Geography & Environmental Studies*. We will discuss methods in our seminars as we narrow down to project ideas to specific workflows.

Technical Tools – We will learn/brush-up on modern technical tools for publication, including the MS Office suite (Word, Excel, and PowerPoint), and its interfaces with add-ins for bibliographies, equations, illustrations, and automated citation tracking tools. We will also become aware of the details of the required document format and citation style for GIST thesis manuscripts.

Communications – This is a distance-learning course, but in a departure from other courses in the GIST program, many of our interactions, listed below as “Seminars,” will be synchronous (at the same time). Scheduling options will be posted to help fit these seminars into your weekday, evening, and weekend availability. All assignments given and all materials to be handed in will still be handled via Blackboard. I will also create and monitor Blackboard discussion forums through which we can discuss issues and assignments as needed.

Please be sure that you read as soon as possible all email sent from Blackboard or from your course instructor(s). Also, if you don’t regularly use your USC email account, please double check to be sure that mail sent from both the USC Blackboard accounts and your instructor’s account (noted above) to your USC account is forwarded to an address you use regularly and does not go into your junk mail!

Your instructor will endeavor to respond to all email within 24 hours of receipt, aiming for no more than 72 hours delay. In the rare case that an instructor is off-line for an extended period of time, an announcement will be posted to the class Blackboard site.

Due to the asynchronous nature of this course, it is each student's responsibility to stay informed and connected with others in our course. In addition to email, you are expected to login to Blackboard regularly to check for Announcements.

Workload – This is a two credit, one semester course. However, as you will aim to accomplish about half of your thesis work in this semester you should plan to spend an average of 10-15 hours per week working independently and an average of 1-2 hours per week in synchronous online sessions in weeks where Seminars are scheduled.

Peer Review – Early in the semester, students will be paired for reviewing and constructively critiquing each other's work. Your instructor will pair you based on similarity of topic, methods, and/or progress towards completion. The expectation is that you will share drafts of written work with your peer review partner prior to submission at least a few days prior to any due date, thoughtfully review your partner's work, and improve your own writing based on comments received prior to submission to your instructor.

Faculty Review Juries – Three times during the term, a committee of SSI faculty will review student submissions. To pass the jury review process, your proposed project must meet the two specific criteria detailed below. Typically, the faculty jury will view a student's documents 2-3 times, requesting refinements and revisions each time, before a passing mark is obtained. The jury will provide you with valuable advice as you fine-tune your research plan. After you pass a faculty jury, you will be assigned a thesis advisor with whom you will work for SSCI 594b.

For all students, the final deliverable in the course, the *Master's Thesis Proposal*, is the most important assignment.

Master's Thesis Proposal –The Master's thesis proposal is a complete draft of the first three chapters of your thesis manuscript and an abstract. In the final week of the term, you will submit the proposal to Blackboard and present a short slide deck to your assigned thesis advisor. You must present a complete and viable plan for finishing the thesis by the end of SSCI 594b. Getting a proposal accomplished this semester will require early commitment to a viable thesis topic and a high level of achievement on all the assignments. The precise length of the proposal may vary depending on the nature of the project and on how quickly you are able to develop and *focus* your project idea.

It is important to note that the final **type of grading** in a thesis course is different from the type of grading normally assigned by the University. An In-Progress (IP) grade is automatically assigned for SSCI 594a; this converts to Passing (P) when SSCI 594b (and if necessary SSCI 594z) is/are completed. It is possible to drop from SSCI 594a by the drop/add date and receive a tuition refund. However, in SSCI 594a after the drop/add date there is no "W" grade recorded if

a student drops the course. Instead, an IP grade is recorded and students incur a requirement for ongoing registration. Although all students in SSCI 594a receive an IP grade, student work in SSCI 594a is graded on a letter grade scale. Students should utilize this adherence to standard grading protocols as a signal, throughout the semester, as to whether they are “on track” towards successful completion of the thesis.

Absent a thesis proposal that has received a passing mark from the faculty jury, a thesis committee may fail to be recruited. Without appointment of a thesis committee at the end of SSCI 594a, the successor SSCI 594b *must* be used to establish those prerequisites before proceeding with the capstone project itself. **In such a case, additional semesters (i.e., SSCI 594z) would most likely be required to complete the project, delaying the ultimate goal of obtaining the M.S. degree.**

How to Read and Use the Course Schedule

Students who did not complete a prospectus in SSCI 587 or who want to start again on a new topic will start from the very beginning of the assignment schedule with the Initial Statement of Research Interest (StoRI) and the Expanded StoRI. Students who will further develop a prospectus from SSCI 587 will start by revising their SSCI 587 prospectus with the SSCI 594a instructor’s guidance. For students working from their SSCI 587 prospectus, the Initial StoRI and Expanded StoRI are not required.

In either case, the assignment deadlines in the course schedule should be read as a *minimum* set of expectations. All assignments will be posted at the start of the first week of classes on Blackboard. Students are free and encouraged to submit assignments more quickly than the minimum deadlines in the course schedule.

Technological Proficiency and Hardware/Software Required

All course materials will be organized through Blackboard. The main theoretical concepts will be provided through assigned readings. The editing and writing exercises are designed to improve your writing skills as necessary for completion of the thesis.

There are two technology requirements:

- Every student must have a computer with a fast Internet connection (DSL at a minimum).
- Every student must have a functional webcam for use whenever a presentation or meeting is scheduled.

The technologies that facilitate our coursework and interactions include:

Blackboard (Bb) – If you are registered for this course, it will automatically show up on Bb in your list of available classes no later than 12:00 noon PT on the first day of classes. All course materials will be posted on Bb, and you are required to submit your work Bb.

Discussion forums – We will use Bb to host informal discussion forums relevant to various aspects of the course, particularly the exercises. These threads are mainly meant as a forum for student-to-student discussion. Since these threads are designed for students, please use email to reach your instructor if you have a question that needs an immediate answer.

Google Drive – We will use the cloud-based service Google Drive to organize and store materials for peer review. A shared folder will be created early in the course for students to share work with each other. Deliverables to the instructor are always delivered via Bb for grading.

Live meetings, recorded meetings, & presentations – BlueJeans is a browser-based service that facilitates synchronous, interactive sessions with voice/video and shared desktop capabilities between two or more people; this is the primary forum for our seminars and presentations. In addition to a web cam on a computer with a fast internet connection, it is useful to have a phone (mobile or landline) on hand in case there are issues with your computer's audio.

SSI server and tech support – Unlike other courses in the GIST program, students in this course will utilize the SSI Server only for independent thesis work (e.g. to explore datasets and perform initial analysis). Relative to other courses in the program, work with GIS tools on the server is not expected to be a major component of activity in this course. You can access the SSI Server at: <https://gistonline.usc.edu/>. If you are unable to connect to the server or experience any type of technical issues, send an email to SSI server support staff at spatial_support@usc.edu (spatial underscore support at usc dot edu) and make sure to copy (cc) your instructor on the email. Please be sure to be specific with respect to the problem you are experiencing as technical issues often vary according to each thesis project.

Required Readings and Supplementary Materials

The following three textbooks are required for this class; these are available from online outlets such as Amazon. Please purchase them immediately.

1. Strunk, William and E.B. White. 2000. *The elements of style*. 4th ed. Needham Heights, MA: Allyn and Bacon. (~\$7 paper; ISBN-10: 0205313426)
2. Turabian Kate L., Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams. 2013. *A manual for writers of research papers, theses, and dissertations*. 8th ed. Chicago, IL: University of Chicago Press. (~\$10 paper; ISBN-13: 978-0-226-81638)

3. Montello, Daniel R., and Paul C. Sutton. 2013. *An introduction to scientific research methods in geography and environmental studies*. 2nd ed. Los Angeles, CA: Sage. (~\$39 paper; ISBN-10: 1412902878)

The above materials will be supplemented with the following book chapter, posted on Blackboard under the Readings tab:

- Montello, Daniel R. 2001. "Scale in geography." In *International encyclopedia of the social and behavioral sciences*, edited by N.J. Smelser and P.B. Baltes, 13501-13504. Oxford, UK: Pergamon Press.

The final supplemental readings include existing M.S. GIST theses, which are found on the Spatial Sciences Institute Webpage or the USC Library (the link is also posted under the Readings tab on Bb). One that we will all read together is:

- Oulton, Alison. 2012. "Community Gardens for Social Capital: A Site Suitability Analysis in Akron, OH." Master's thesis, University of Southern California.

Note that supplemental readings will also include two additional existing M.S. theses (from the GIST program or others) and books and articles in the research literature to be decided with the instructor depending on your specific thesis topic.

Description and Assessment of Assignments

This course has many assignments, all of them intended to ensure your progress towards successful completion of a thesis proposal and the assignment of a thesis advisor by the end of the semester. Each assignment will be assessed quickly and thoroughly to help you move towards your goal quickly. A suggested timetable for completion is provided in the course schedule.

Resume Assignment – 1 pt. SSI requires all current students to post and maintain a public resume, short biography and recent photo on our shared GIST Student Community Blackboard site. With your permission, your photo and resume will be posted to the Spatial Sciences Institute website and your resume will be included in the SSI Resume Book. The latter is compiled annually and, along with our web presence, is used to promote our programs and more importantly, your skills, experience, and professional aspirations.

Introduction – 1 pt. Using a Bb forum post, you will give a brief introduction to your background and professional aspirations, provide some initial thoughts on your thesis topic, and announce whether you intend to build on your original 587 prospectus or to work on a new topic.

Thesis Sample Discussion – 3 pts. The class will discuss one previously completed GIST thesis in a Bb discussion forum. This helps to develop a common understanding of thesis expectations. You are required to respond to several questions and comment on other students' posts.

Thesis Reviews – 2 for a total of 10 pts. You will read two previously completed theses (inside or outside the GIST program), chosen by you for their relevance to your thesis topic. For the first thesis review you can choose based on your general topic of interest, but for the second thesis review you will locate a thesis that serves as closely as possible as an “exemplar” or “model” of what you are aiming to produce. You will submit short written summaries, following questions provided by the instructor.

Initial Statement of Research Interest (StoRI) – 0 pts. The Initial StoRI is a formal statement of your ideas about a research topic for your project, written according to a structured format. Only complete this assignment if you are writing a new prospectus.

Expanded StoRI – 0 pts. This is a major revision and expansion of your Initial StoRI, designed to help prepare you to quickly draft a Topic Prospectus. Only complete this assignment if you are writing a new prospectus.

Related Work Investigation – 5 pts. You will create an annotated bibliography organized in subsections to situate your proposed project amongst existing scholarly or professional work and as preparation to write your draft related work chapter. The literature will be researched by you with guidance from your instructor and the faculty juries.

Topic Prospectus or Revised Topic Prospectus – 15 pts. You will either turn in a new prospectus or you will revise your prospectus from SSCI 587. The revision will be based on your SSCI 587 instructor's comments, learning acquired in your elective SSCI courses, your SSCI 594a instructor's comments, peer review, and your own additional research.

Methods Outline – 5 pts. This is a detailed outline of what will become the Methods Chapter (Chapter 3) of your thesis, completed according to a structured assignment. This is an important deliverable for the faculty juries.

Data Exploration Slide Presentation – 5 pts. This assignment requires you to acquire and explore the data you need for your thesis work. As appropriate to the type of project proposed, this task may include importing datasets to ArcGIS or other software and completing initial analysis, programming activities, and/or defining fieldwork procedures (as appropriate). You will prepare a short slide deck and present it in a class seminar.

Draft Methods Chapter – 5 pts. Building on all of the input you have received during this term, you will prepare a draft of your methods chapter (Chapter 3 of the thesis).

Draft Related Work Chapter – 5 pts. Building on all of the input you have received during this term, you will prepare a draft of your related work chapter (Chapter 2 of the thesis).

Draft Introductory Chapter – 5 pts. Building on all of the input you have received during this term, you will prepare a draft of your introductory chapter (Chapter 1 of the thesis).

Draft Slide Presentation – 5 pts. You will create and submit to Bb a draft slide presentation using the SSI template. Your instructor will give feedback in preparation for your end of term presentation to your thesis advisor (see below “*Oral Slide Presentation*”)

Draft Abstract – 5 pts. A clear abstract is absolutely critical to communicating the intention for your thesis project to the entire USC SSI and SSI-affiliated faculty.

Final Thesis Proposal with Abstract – 20 pts. You will polish all the pieces and put together a final written package.

Oral Slide Presentation – 10 pts. During the final week of the term, you will deliver a slide presentation covering your thesis proposal to your appointed SSCI 594b thesis advisor via BlueJeans to visually and orally communicate your thesis proposal and gain feedback. If scheduling allows, and at the discretion of your SSCI 594b thesis advisor, the presentation may include one or both of your committee members.

Faculty Jury Assessments

The faculty juries will review written materials submitted by each student and will use the two criteria stated below to decide whether to pass a student before the end of the term. Both criteria must be met to warrant a pass.

Research Question/Design – Graded Pass or Fail. A pass indicates that in the opinion of the faculty your research questions or programming objectives are viable to answer within your skill set and the timeframe allotted to the thesis.

Data Needs – Graded Pass or Fail. A pass indicates that in the opinion of the faculty the data type and quality that you need to implement the research design are available or can be acquired with a reasonable expenditure of time and effort, and thus that your proposed project is feasible.

Grading Breakdown

Careful planning and a serious, consistent commitment will be required for you to successfully navigate the various deliverables in this as with your other GIST courses. The following table summarizes the SSCI 594a course assignments and their point distribution. Use your accumulation of points as an indication of your progress through this course.

Assignments	Number	Total Points (% of Grade)
Resume Assignment	1	1
Introduction	1	1
Thesis Sample Discussion	1	3
Thesis Review	2	10
Initial StoRI	1	0
Expanded StoRI	1	0
Prospectus or Revised Prospectus	1	15
Related Work Investigation	1	5
Methods Outline	1	5
Data Exploration Slide Presentation	1	5
Draft Methods Chapter	1	5
Draft Related Work Chapter	1	5
Draft Introductory Chapter	1	5
Draft Slide Presentation	1	5
Draft Abstract	1	5
Final Proposal with Abstract	1	20
Oral Slide Presentation	1	10
Totals	17	100

Assignment Submission Policy

Assignments will be submitted for grading via Bb using the dates specified in the Course Schedule below. Unless otherwise noted, all assignments are due no later than 11:59 pm PT on the Sunday at the end of the week in which they are listed on the syllabus. Two known exceptions are the Final Thesis Proposal, which is due no later than 5 pm on the last day of classes as noted on the Course Schedule below and the Oral Slide Presentation, which you will present to your 594b advisor at a mutually agreed upon time during the final week of classes.

Additional Policies

Finally, it is important to note from the outset if the written thesis proposal is not submitted by 5:00 p.m. on the last day of classes, the student may not obtain a thesis committee. This is likely to result in additional semesters of thesis work and delaying and/or failing graduation with an M.S. degree.

Course Schedule: A Weekly Breakdown

	Topics and Activities	Readings	Deliverables Due on Sunday
Week 1 5/17	Introduction: Introduction to the course and to the research process. Online discussion of expectations for the GIST Thesis.	Montello & Sutton, (2013), Ch 1 Oulton (2012) thesis	Resume; Introduction; Thesis Sample Online Discussion
Week 2 5/23	Guidelines for writing well: Discussion of common writing pitfalls and the use of MS-Office writing tools. Discussion of your thesis projects. Attend Seminar #1.	Strunk & White (2000), all Turabian et al. (2013), Ch. 1 Montello (2001)	Initial StoRI or Prospectus
Week 3 5/30* *Monday, 5/30 is university holiday	Thinking about research: Systematic processes to develop and focus your research questions/objectives	Turabian et al. (2013), Ch 2-4 Montello & Sutton (2013), Ch 2 GIST Thesis	Thesis Review #1
Week 4 6/5	Presenting a topic: How to write a good report including discussion of pitfalls in long-form writing and the use of referencing tools. Further discussion of your thesis projects. Attend Seminar #2.	Turabian et al. (2013), Ch 5-9	Expanded StoRI / Related Work Investigation
Week 5 6/12	Improving a report: Key ideas about the process and importance of revision in writing.	Turabian et al. (2013), Ch 10-14 GIST Thesis	Prospectus or Revised Prospectus
Week 6 6/19	Scientific communication: Understanding of the structure of scientific reports, including “what goes where” in the GIST Thesis.	Montello & Sutton (2013), Ch 3	Thesis Review #2 Note: Faculty Jury Review
Week 7 6/26	Citations and references: Careful review of the GIST citation requirements and thesis format guidelines and template. Discuss feedback from faculty jury. Attend Seminar #3.	Turabian et al. (2013), Ch 15, 17-19 GIST Thesis Style Guide GIST Thesis Template	Research Design/ Methods Outline
Week 8 7/3* *Tuesday, 7/3 is university holiday	Getting started with research: Different types of data and how to gather data if required for your project. From Week 8 on work will be highly customized to your project.	Montello & Sutton (2013), Ch 4-7	Report on Data Exploration
Week 9 7/10	Engaging sources: Tips on how to develop and structure the literature review.	Turabian et al. (2013), Ch 4	Draft Proposal with revised Related Work Chapter (Chapter 2)

	Topics and Activities	Readings	Deliverables Due on Sunday
Week 10 7/17	Research design: Different structures of research designs to better understand the context of your own research design. Introduction to theory and forms of sampling if required for your project. Attend Seminar #4.	Montello & Sutton (2013), Ch 8-9	Draft Methods Chapter (Chapter 3) Note: Faculty Jury Review
Week 11 7/24	Analysis/Validation: Basic introduction to analysis, data display, and data validation if required for your project.	Montello & Sutton (2013), Ch 10 & 12	Draft Introduction Chapter (Chapter 1) & Draft Slide Presentation
Week 12 7/31	Ethics: Overview of ethics in scientific research. Prepare Institutional Review Board (IRB) application if required for your project.	Montello & Sutton (2013), Ch 14	Draft Abstract Note: Faculty Jury Review
Week 13 8/7* *Friday, 8/11 is last day of class	Final Writing: Revise and pull together all the draft chapters into one final submission Oral Slide Presentation: Revise and present your slides to your SSCI 594b advisor.	Montello & Sutton (2013), Ch 11 Turabian et al. (2013), Ch 26	Final (Written) Thesis Proposal Due at 5:00 p.m. on August 11, 2016 Present slides to your 594b advisor during 8/7-11

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://policy.usc.edu/student/scampus/part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu> or to the *Department of Public Safety* <http://adminopsnet.usc.edu/department/departement-public-safety>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Relationship and Sexual Violence Prevention Services* <http://engemannshc.usc.edu/rsvp/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

Resources for Online Students

The Course Blackboard page and the GIST Community Blackboard page have many resources available for distance students enrolled in our graduate programs. In addition, all registered students can access electronic library resources through the link <https://libraries.usc.edu/>. Also, the USC Libraries have many important resources available for distance students through the link: <https://libraries.usc.edu/faculty-students/distance-learners>. This includes instructional videos, remote access to university resources, and other key contact information for distance students.