

USC Dornsife

Dana and David Dornsife
College of Letters, Arts and Sciences
Spatial Sciences Institute

SSCI 594a Master's Thesis

Syllabus

Units: 2

Term — Day — Time: Fall 2018, Online

Location: Online

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Office Hours: Mondays 12-1 pm and Tuesdays 2-3 pm PT.
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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 spatial analysis application or research project, 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 move all students towards the goal of a successful thesis by helping them craft a project plan that is accepted by the faculty of the Spatial Sciences Institute and write a project proposal that consists of preliminary drafts of the Introduction, Background and (proposed) Methodology chapters of the thesis document by the close of this semester.

Learning Objectives

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

- Identify different styles and qualities of writing, critically evaluate written work, including one's own, and improve one's own writing;
- Outline the steps of the research process, state key research obligations and pitfalls, and design a credible, meaningful research project;
- Use the Microsoft Office™ software suite and manage academic sources and citations to competently and efficiently produce documents that meet GIST requirements;
- State and demonstrate the competencies that are required to prepare a Master's Thesis manuscript in the GIST program; and
- Describe their 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, students will determine during the first week whether they will continue on with their SSCI 587 prospectus or start the 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 – During the course, students will read 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. The faculty and students in the course will discuss points to learn from these texts for shaping the thesis project development in on-line discussions, small group teleconference sessions, and instructor office hours.

Research Methods – Participants in the course will read sections from Montello & Sutton's *An Introduction to Scientific Research Methods in Geography & Environmental Studies*. Methods will be discussed in seminars as students narrow down from project ideas to specific workflows.

Technical Tools – Course participants 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. Participants will also learn to prepare documents using 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 interactions, listed below as "Seminars," will be synchronous (at the same time). Scheduling options will be offered to help fit these seminars into students' weekday and evening availability. All assignments given and all materials to be handed in will still be handled via Blackboard. The instructor will also create and monitor Blackboard discussion forums through which students can discuss issues and assignments as needed.

Students should read as soon as possible all email sent from Blackboard or from course instructor(s). Also, students who do not regularly use their USC email accounts should double check to be sure that mail sent from both the USC Blackboard accounts and the instructor's

account (noted above) to your USC account is forwarded to an address used regularly and does not go into junk mail.

The 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, students are expected to login to Blackboard regularly to check for Announcements.

Workload – This is a two credit, one semester course. However, as students aim to accomplish about half of the thesis work in this semester, they should plan to spend at least 10-15 hours per week working independently and 1-2 hours 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. The instructor will pair students based on similarity of topic, methods, and/or progress towards completion. The expectation is that students will share drafts of written work with the peer review partner at least a few days prior to any due date, thoughtfully review one another's work, and improve one's writing based on comments received prior to submission to the instructor.

Faculty Review Juries – Three times during the term, a committee of SSI faculty will review student submissions. To pass the jury review process, each student's 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 students with valuable advice to fine tune the planning of the thesis research. After students pass the faculty jury, they will be assigned a thesis advisor with whom they will work in SSCI 594b.

Final Deliverable – The most important deliverable in the course is a Proposal for the thesis project that contains preliminary drafts of the first three chapters of the thesis manuscript and an abstract, which each student will submit to Blackboard during the final week of the semester. To achieve this goal will require early commitment to a viable thesis topic and sustained effort on all assignments throughout the term. The precise length of each chapter in this working draft varies depending on the nature of the project and on how quickly each student is able to develop and focus the project idea.

Advisor Meeting – Also in the final week of the term, each student will present a short slide presentation to the assigned thesis advisor. In addition to details of the project work to be undertaken, this presentation must contain a complete and viable plan for finishing the thesis by the end of SSCI 594b.

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 student's 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.
- Every student must have a functional webcam for use whenever a presentation or meeting is scheduled.

The technologies that facilitate coursework and interactions include:

Blackboard (Bb) – If a student is registered for this course, it will automatically show up on Bb in one's 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 students are required to submit their work via Bb.

Discussion forums – The course will use Bb to host two graded discussion forums. Unlike some other GIST courses, the course will not use Bb discussion forums for general course questions. Each student should use email to reach out to classmates or peer review partners. A roster of emails will be provided for this purpose on Bb. Students should use email to reach the instructor if a question needs an immediate answer.

Google Drive – The course 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 video and shared desktop capabilities between two or more people; this is the primary forum for 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 computer 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. If a student is unable to connect to the server or experiences any type of technical issue, they should send an email to SSI server support staff at spatial_support@usc.edu (spatial underscore support at usc dot edu), making sure to copy (cc) the instructor on the email. Students should be sure to be specific with respect to the problem being experienced, 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. They should be purchased immediately.

1. Strunk, William and E.B. White. 2000. *The elements of style*. 4th ed. Needham Heights, MA: Allyn and Bacon. (~\$7 paper; ISBN: 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: 0226816389)
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: 1446200752)

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

- Holzer, Richard. 2017. "Evaluating Minneapolis Neighborhood Revitalization Program's Effect on Neighborhoods." 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 relevant to each student's chosen thesis topic.

Description and Assessment of Assignments

This course has many assignments; each furthers progress towards successful completion of a Proposal containing drafts of the first three thesis chapters and the assignment of a thesis advisor by the end of the semester. Each assignment will be assessed quickly and thoroughly to help each student move towards their goal swiftly. Deadlines are provided in the course schedule, but students are encouraged to work ahead on assignments whenever possible.

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 permission, student photos and resumes will be posted to the Spatial Sciences Institute website and resumes 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, our graduates' skills, experience, and professional aspirations.

Introduction – 1 pt. Using a Bb forum post, each student will give a brief introduction to their background and professional aspirations, provide some initial thoughts on their thesis topic, and announce whether they intend to build on the 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. Each student is required to respond to several questions and comment on other students' posts.

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

Initial Statement of Research Interest (StoRI) – 0 pts. The Initial StoRI is a formal statement of each student's ideas about a research topic for the project, written according to a structured format. Students will only complete this assignment if they are writing a new prospectus.

Expanded StoRI – 0 pts. This is a major revision and expansion of the Initial StoRI, designed to help prepare each student to quickly draft a Topic Prospectus. This should only be completed if a new prospectus is necessary.

Related Work Investigation – 5 pts. Each student will create an annotated bibliography organized in subsections to situate their proposed project amongst existing scholarly or professional work and as preparation to write the draft related work chapter. Each student will research the literature with guidance from the instructor and the faculty juries.

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

Methods Outline – 5 pts. This is a detailed outline of the proposed workflow and represents the core of what will become the Methods Chapter (Chapter 3) of the 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 each student to acquire and explore data needed for the thesis work. As appropriate to the type of project proposed, this task may include importing datasets into ArcGIS or other software and completing initial analysis, programming activities, and/or defining fieldwork procedures. Each student will prepare a short slide deck demonstrating these results.

Proposal with Related Work Chapter – 5 pts. Building on all of the input received during the term, each student will combine and revise all of the content previously prepared and place it into the GIST Thesis format. In this proposal of the thesis, students will pay particular attention to the related work chapter (Chapter 2 of the Proposal and Thesis).

Proposal with Draft Methods Chapter – 5 pts. Building on all of the input received during the term, each student will prepare a draft of the methods chapter (Chapter 3 of the Proposal and Thesis).

Proposal with Introductory Chapter – 5 pts. Building on all of the input received during the term, each student will prepare a draft of the introductory chapter (Chapter 1 of the Proposal and Thesis).

Proposal Slide Presentation – 15 pts. Each student will create and submit to Bb a slide presentation using the SSI template. All students will present these slides during Seminar #4 and they will be the basis for the presentation of the thesis work completed to date and plans for completion to be given to each student's appointed thesis advisor via BlueJeans at the end of the semester.

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

Final Proposal with Abstract – 20 pts. Each student will polish all the pieces and put together a final written package, including drafts of the first three chapters and abstract.

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 by the end of the semester. Both criteria must be met to warrant a pass and a pass is required in order for a student to be assigned a thesis advisor.

Research Question/Design – Graded Pass or Fail. A pass indicates that in the opinion of the faculty the research questions or programming objectives are viable to answer within the student's 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 needed to implement the research design are available or can be acquired with a reasonable expenditure of time and effort, and thus that the proposed project is feasible.

Grading

It is important to note that the final type of grading in a thesis course is different from the type of grading in other GIST courses. 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 on the transcript, student work in SSCI 594a is graded for points on each assignment. 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, aiming for “A” work throughout (i.e. at least 90% of available points).

Equally important, students must successfully pass the faculty jury during the SSCI 594a term or they will not be assigned a thesis committee. In this no pass case, the successor SSCI 594b must be used to establish this prerequisite before proceeding with the capstone project itself. **In such cases, additional semesters (i.e., SSCI 594z) will most likely be required to complete the project, delaying the ultimate goal of obtaining the M.S. degree.**

Grading Breakdown

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
Proposal with Related Work Chapter	1	5
Proposal with Methods Chapter	1	5
Proposal with Revised Introduction Chapter	1	5
Slide Presentation	1	15
Proposal Abstract	1	5
Final Proposal with Abstract	1	20
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 p.m. PT on the Sunday at the end of the week in which they are listed on the syllabus. The Final Thesis Proposal is due no later than 5 p.m. on the last day of classes as noted on the Course Schedule below. Students are encouraged to submit assignments more quickly than the minimum deadlines.

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.

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 encouraged to submit assignments more quickly than the minimum deadlines in the course schedule. Careful planning and, consistent commitment will be required for each student to be successful.

Course Schedule: A Weekly Breakdown

Week	Topic	Readings and Assignments	Deliverables
Week 1 8/20	Introduction: Introduction to the course and to the research process. Online discussion of expectations for the GIST Thesis.	Montello & Sutton, Ch 1 Holzer (2017) thesis	Resume; Introduction; Thesis Sample Online Discussion
Week 2 8/27	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, all Turabian et al., Ch 1	Initial StoRI or Prospectus
Week 3 9/4* *Mon 9/3 is holiday	Thinking about research: Systematic processes to develop and focus your research questions/objectives	Turabian et al., Ch 2-4 Montello & Sutton, Ch 2 GIST Thesis	Thesis Review #1
Week 4 9/10	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., Ch 5-9	Expanded StoRI
Week 5 9/17	Improving a report: Key ideas about the process and importance of revision in writing.	Turabian et al., Ch 10-14 GIST Thesis	Prospectus or Revised Prospectus
Week 6 9/24	Scientific communication: Understanding of the structure of scientific reports, including “what goes where” in the GIST Thesis.	Montello & Sutton, Ch 3	Thesis Review #2 Note: Faculty Jury Review
Week 7 10/1	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., Ch 15, 17-19 GIST Thesis Style Guide GIST Thesis Template	Research Design/ Methods Outline Related Work Investigation
Week 8* 10/8	Getting started with research: Different types of data and how to gather data if required for your project. From Week 8, work will be highly customized to your project.	Montello & Sutton, Ch 4-7	Data Exploration Slide Presentation
Week 9 10/15	Engaging sources: Tips on how to develop and structure the literature review	Turabian et al., Ch 4	Proposal with Related Work Chapter (Chapter 2)
Week 10 10/22	Research design: Different structures of research designs to better understand the context of your own research design.	Montello & Sutton, Ch 8	Note: Faculty Jury Review

Week	Topic	Readings and Assignments	Deliverables
Week 11 10/29	Sampling: Introduction to theory and forms of sampling if required for your project. Attend Seminar #4 to discuss progress.	Montello & Sutton, Ch 9	Proposal with Methods Chapter (Chapter 3)
Week 12 11/5	Analysis/Validation: Basic introduction to analysis, data display, and data validation if required for your project.	Montello & Sutton, Ch 10 & 12	Proposal with Introduction Chapter (Chapter 1)
Week 13 11/12	Data Display: Tips for effective presentations Video on Scientific Presentations	Montello & Sutton, Ch 11 Turabian et al., Ch 26	Proposal Abstract Note: Faculty Jury Review
Week 14 11/19* 11/21-25 is holiday	Ethics: Overview of ethics in scientific research. Prepare Institutional Review Board (IRB) application if required for your project	Montello & Sutton, Ch 14	Slide Presentation
Week 15 11/26	Final Writing: Revise and pull together all the draft chapters into one final submission		Proposal with First 3 Chapters and Abstract Due at 5:00 p.m. on 11/30, 2018
Final Exams 12/5-12	Oral Slide Presentation: Present revised slides to SSCI 594b advisor		To be scheduled with SSCI 594b thesis advisor during 12/5-12

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 Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/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>.

Support Systems

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs

Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.

Provides overall safety to USC community. dps.usc.edu

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.