

SSCI 594a | Master's Thesis Preparation

Units: 2

Term-Day-Time: Summer, 2015, Asynchronous Online

Location: Spatial Sciences Institute, Online

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Course Description

This course and its successor, SSCI 594b, are required for the Master of Science degree program; they are not applicable to the GIST Graduate Certificate program. The purpose of these courses is to accomplish a project demonstrating ability (PDA) in the Spatial Sciences, culminating the student's experience at USC/SSI and validating them as a master practitioner. The PDA 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 PDAs culminate in a thesis manuscript that is available at the USC Libraries and on the Spatial Sciences Institute (SSI) website.

Since the undertaking of a thesis is a very personal process, by the time students get to this course, progress on the thesis 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 abandon it for a new topic, and a few others may just now begin embarking on developing their thesis 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.

Learning Objectives

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

- Distinguish different styles and qualities of writing, critically evaluate your own and others' writing, and write better yourself;
- Understand the research process, be aware of research obligations and pitfalls, and design a credible, meaningful research project for yourself;
- Utilize the Microsoft Office™ software suite and a bibliographic reference manager competently and efficiently to produce documents that meet GIST program requirements and show your work to advantage;
- Understand the competencies that must be demonstrated in the form of a Master's Thesis manuscript in the GIST program; and
- Describe your Master's PDA 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 also students who did not complete a prospectus in SSCI 587 or who want to start again 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* along with Turabian et al.’s *A Manual for Writer* along with completed theses from our program. Other readings of varying lengths and styles, including encyclopedia entries, journal articles, and book chapters will be 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*. There will be optional guest lectures (recorded) featuring ongoing spatial science research at USC.

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). However, 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 my USC account (noted above) to your USC account is forwarded to an address you use regularly and does not go into your junk mail!

While I am usually on-line and will probably respond to emails from students relatively quickly, I generally endeavor to respond to all email within 24 hours of receipt, aiming for no more than 72 hours delay. In the rare case when I expect to be off-line for more than 24 hours, I will post an announcement on the 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 there.

Workload – This is a two credit, one semester course. Frankly, however, as you will aim to accomplish nearly half of your thesis work in this semester you should plan to spend an average of 10-15 hours per week and an average of 1-2 hours per week in Adobe Connect sessions in weeks where Seminars are listed. I will provide scheduling options to help fit into your weekday, evening, and weekend availability.

Faculty Review Juries – Three times during the term, a committee of SSI faculty will be available to review documents you have submitted to assess whether your research ideas and preparation for the research you plan to do is sufficient to warrant your moving forward to the next step. This will provide you with valuable advice as you fine-tune your research plan and you will likely be asked to refine your ideas and revise your documents. 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.

For all students, the final deliverable in the course is the most important assignment.

Master's Thesis Proposal – We will utilize your preparation in both the required and elective courses in our program to help you develop a master's thesis proposal. The "final" in this course is a well-reasoned, well-written *master's thesis proposal* and accompanying *slide deck* and *abstract*. This constitutes essentially a complete draft of the first three chapters of your thesis manuscript, including a short report on data. It 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 also on how quickly you are able to develop and most importantly *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 SSCI594z) 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 thesis registration. Although all students in SSCI 594a receive an IP grade, student work in SSCI 594a is graded on a letter grade scale according to rubrics provided with 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

Absent a thesis proposal with accompanying slide deck and abstract that have 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 PDA itself. **In such a case, additional semesters (i.e., SSCI 594z) would most likely be required to complete the PDA, 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 Bb. Students are both free and encouraged to turn in assignments more quickly than the minimum deadlines in the course schedule. As soon as students have completed a proposal and passed the faculty jury review, they will be assigned a thesis supervisor and committee.

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. All software products required will be accessible over the Internet.

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. Subsequently, all learning materials, including formal correspondence and assignments from me will be posted on Bb. You should submit your work products back to me via Bb, too. There will be a brief outage of Bb this summer and I will give instructions at that time to use email as a replacement.

Discussion boards – Also, we will use Bb to host informal discussion boards relevant to various aspects of the course, particularly the exercises; these are our forums for “working together”, sharing hints and help as in a traditional classroom setting. 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 me if you have a question that needs an immediate answer.

Dropbox (Db) – We will use the cloud-based service Dropbox to organize and store materials for peer review. This will also provide an additional way to back up your developing thesis materials. A shared Db will be created early in the course and student’s may elect to install Db on their machines for simultaneous local and cloud storage or access the Db through the Db website. Deliverables to the instructor are always delivered via Bb for grading.

Live meetings, recorded meetings, & presentations – Adobe Connect 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 group discussions and presentations. It is best if you have both a phone (mobile or land line) and a computer with a fast internet connection available during our live meetings.

Telecommunications – Mobile or landline phones, usually supplemented with video and shared desktop via Adobe Connect, or Skype (if necessary), are the preferred technologies for individual chats with me.

GIST server and tech support – Unlike other courses in the GIST program, students in this course will utilize the SSI GIST Server, which is a virtual desktop, only for independent thesis work (e.g. to explore datasets and perform initial analysis). Relative to other courses in the program, work on ArcGIS on the server is not expected to be a major component of activity in this course. You can access the GIST 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 GIST Tech Support at gistsupport@dornsife.usc.edu and make sure to copy (cc) me on the email. GIST Tech Support is available Monday through Friday, 9:00 a.m.-5:00 p.m. PT. 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 the USC Bookstore or online outlets such as Amazon. Please purchase these immediately because reading assignments from these are required in Week 2 of the course:

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 the Spatial Sciences Institute Webpage or the USC Library (the link is also posted under the Readings tab on Bb):

- 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

The following assignments in this course will be assessed quickly and thoroughly to ensure progress in developing the thesis proposal.

Resume Assignment – 1 pt. We require 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 GIST 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 Blackboard discussion post, you will give a brief introduction about your background and professional aspirations, provide some initial thoughts about your thesis topic, and announce whether you intend to follow the prospectus or proposal track.

Thesis Sample Discussion – 3 pts. At the start of the course, 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 will be required to respond to several discussion questions and to comment on other students' postings.

Thesis Reviews – 2 for a total of 10 pts. You will read two previously completed theses (inside or outside the GIST program), all chosen by you for their relevance to your thesis topic. You will submit short written summaries of these 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 to prepare you to quickly draft a Topic Prospectus. Only complete this assignment if you are writing a new prospectus.

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, your SSCI 594a instructor's comments, peer review, and learning since that time in elective courses, including additional thinking of your own.

Reading Assignment– 5 pts. This assignment reports back on reading assigned by your SSCI 594a instructor and/or the Faculty Jury to better situate your proposed project.

Research Design/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. It is an important deliverable for the Faculty Jury.

Report on Data Exploration – 5 pts. This assignment requires you to acquire and explore the data you need for your thesis work. As appropriate to the type of PDA 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 produce a short report according to a structure format provided.

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 deliver a slide presentation to the class via Adobe Connect to visually and orally communicate your end-of-term progress towards your topic prospectus or thesis proposal.

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 Proposal with Abstract and Slides – 30 pts. You will polish all the pieces and put together a final package.

Faculty Jury Assessments

The faculty juries will review written materials submitted by each SSCI 594a 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 of SSCI 594a.

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 and other GIST courses. The following table summarizes the SSCI 594a course assignments and their point distribution.

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
Reading Assignment	1	5
Research Design/Methods Outline	1	5
Report on Data Exploration	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 & Slides	1	30
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. One known exception is the Final Thesis Proposal, which will be due on the last day of Summer 2015 classes: August 14, 2015.

Additional Policies

Finally, it is important to note from the outset that: (1) late postings and assignments will be docked one point, and no grade will be given for postings or assignments turned in more than one week late; and (2) if the topic prospectus or drafts of Chapters 1-3, abstract, and slide presentation are not delivered by 5:00 p.m. on the last day of classes for review by the committee on thesis committee formation, the student may not obtain a thesis committee. This likely would result in additional semesters of thesis work and delaying and/or failing graduation with an M.S. degree.

Course Schedule: A Weekly Breakdown

	Topics/Daily Activities	Readings and homework	Deliverables (Due on Sundays)
Week 1 20-May	Introduction: Introduction to the course and to the research process. Online discussion of expectations for the GIST Thesis.	Montello and Sutton (2013), Ch.1 Oulton (2012) thesis	Resume; Introduction; Thesis Sample Online Discussion
Week2 26-May	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 and White (2000) (all) Turabian et al. (2013), Ch. 1 Montello (2001)	Initial StoRI
Week 3 1-Jun	Thinking about research: Systematic processes to develop and focus your research questions/objectives	Turabian et al. (2013), Ch. 2 -4 Ch. Montello and Sutton (2013), Ch. 2 GIST Thesis	Thesis Review #1
Week 4 8-Jun	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 .5-14,	Expanded StoRI
Week 5 15-Jun	Improving a report: Key ideas about the process and importance of revision in writing.	Turabian et al. (2013), Ch. 10-14 GIST Thesis	Thesis Review #2

Week 6 22-Jun	Scientific communication: Understanding of the structure of scientific reports, including “what goes where” in the GIST Thesis.	Montello and Sutton (2013) Ch.3	Prospectus or Revised Prospectus (Note: Faculty Jury Review)
Week 7 29-Jun	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 Guidelines GIST Thesis Template	Reading Assignment & Research Design/Methods Outline
Week 8 6-Jul	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 own thesis project. Use the assigned readings as appropriate to support your project.	Montello and Sutton (2013), Ch. 4-7	Report on Data Exploration
Week 9 13-Jul	Research design: Different structures of research designs to better understand the context of your own research design.	Montello and Sutton (2013), Ch. 8	Draft Related Work Chapter (“Chapter 2”) (Note: Faculty Jury Review)
Week 10 20-Jul	Sampling: Introduction to theory and forms of sampling if required for your project. Attend Seminar #4 to discuss progress.	Montello and Sutton (2013), Ch. 9	Draft Methods Chapter (“Chapter 3”)
Week 11 27-Jul	Analysis/Validation: Basic introduction to analysis, data display, and data validation if required for your project.	Montello and Sutton (2013), Ch 10-13	Draft Slide Presentation & Draft Introduction Chapter (“Chapter 1”)
Week 12 3-Aug	Ethics: Overview of ethics in scientific research. Submit Intuitional Review Board (IRB) application if required for your project. Attend Seminar #5 for proposal presentations.	Montello and Sutton (2013), Ch.14	Draft Abstract (Note: Faculty Jury Review)
Week 13 10-Aug	Final Writing: Revise and pull together all the draft chapters into one final submission.		Final Thesis Proposal

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://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>. 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://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. 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 Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> 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.